

DAS 9100 SERIES

SERVICE MANUAL WITH OPTIONS

VOL. II

This Tektronix manual supports all products listed below. It revises the original manual (issued January 1982, part numbers 070-3625-00 and 070-3836-00) by incorporating service information for the DAS9129 Color Mainframe throughout all sections.

MAINFRAMES

DAS9129 - Color
DAS9109 - Basic
DAS9119 - ATE

INSTRUMENT MODULES

91A32 - Data Acquisition
91A08 - Data Acquisition
91P16 - Pattern Generator
91P32 - Pattern Generator

OPTIONS

Option 01 - Tapedrive
Option 02 - I/O Interface
Option 03, 04 - +5 V Power Supply
Option 05 - Rackmount

**PLEASE CHECK FOR CHANGE INFORMATION
AT THE REAR OF THIS MANUAL.**

WARNING

THE FOLLOWING SERVICING INSTRUCTIONS ARE FOR USE BY QUALIFIED PERSONNEL ONLY. TO AVOID PERSONAL INJURY, DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.

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This manual supports the following versions of this product: All

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PREFACE

The DAS 9100 Series Service Manual is organized in two volumes. The first volume contains the specifications, the theory of operation, and other instrument familiarization information. The second volume contains the information most likely to be used directly while repairing or maintaining a DAS module or system. Note, however, that both of the volumes are required to complete a repair because the Verification and Adjustment Procedures are contained in the first volume.

This manual is designed for use by a qualified service technician with moderate experience with high-speed digital circuitry. Familiarity with both the TTL and ECL logic families is assumed. Familiarity with, and the ability to operate, standard test instruments used on digital circuitry, like high-speed oscilloscopes and logic analyzers, is also assumed.

The DAS 9100 Series contains some complicated and/or non-standard circuits. For most effective use or repair time, it is wise to become familiar with the operation of the instrument, both the hardware and the firmware. The Theory of Operation is organized as a learning guide to the structure and function of the instrument.

Since, in many cases familiarity with the instrument is not feasible, the Maintenance: General Information and the Maintenance: Troubleshooting sections in volume two give the required information to complete most repairs in a short time. This will prove useful to the technician who does not often have occasion to repair a DAS 9100 Series instrument.

WHAT THIS MANUAL CONTAINS

The Service Manual is divided into twelve sections that are located in two binders. The third binder is available for Addenda to the Service Manual.

Volume I

Section 1—Introduction and Specifications. This section describes the DAS 9100, its modes of operation, products and options, standard and optional accessories, and electrical and physical specifications.

Section 2—Options. This section lists the options that are available with the DAS 9100 Series of instruments.

Section 3—Operating Instructions. This section describes the DAS 9100 power requirements, module installation procedures, probe connections, and the keyboard. There is also an overview of the menus used by the operator to control the system. Refer to the DAS 9100 Series Operator's Manual for complete operating instructions.

Section 4—Theory of Operation. This section contains a discussion of the basic operation of the DAS 9100 Series instruments, a block diagram description of the DAS, and detailed circuit descriptions of all parts of the mainframe, modules, probes, and options.

Section 5—Verification and Adjustment Procedures. This section contains the functional check procedures, the adjustment procedures and the performance check procedures for all parts of the DAS.

Volume II

Section 6—Maintenance: General Information. This section of the manual contains information necessary to maintain the DAS. General precautions, disassembly procedures, and general maintenance information is included in this section.

Section 7—Maintenance: Troubleshooting. This section contains troubleshooting trees and information.

Section 8—Maintenance: Diagnostic Test Descriptions. This section gives detailed instructions for using the Diagnostics menu. It also provides detailed descriptions of the operation of each test used by the diagnostics.

Section 9—Reference Material. This section provides quick reference material for use while troubleshooting or adjusting any part of the DAS.

Section 10—Replaceable Electrical Parts. This section contains a list (including Tektronix part numbers) of all replaceable electrical parts in the DAS.

Section 11—Diagrams. This section contains all schematics for the DAS as well as board and component locator diagrams and tables.

Section 12—Replaceable Mechanical Parts. This section contains lists (including part numbers) of all replaceable mechanical parts in the DAS and provides illustrations to show the location of each of these parts.

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OPERATOR'S SAFETY SUMMARY

The general safety information in this summary is for both operator and service personnel. Specific cautions and warnings are placed throughout the manual where they apply but may not appear in this summary.

TERMS IN THIS MANUAL

CAUTION statements identify conditions or practices that could result in damage to the equipment or other property.

WARNING statements identify conditions or practices that could result in personal injury or loss of life.

TERMS AS MARKED ON EQUIPMENT

CAUTION indicates a personal injury hazard not immediately accessible as one reads the marking, or a hazard to property, including the equipment itself.

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

SYMBOLS AS MARKED ON EQUIPMENT



DANGER—high voltage



Protective ground (earth) terminal.



ATTENTION—refer to manual.

GROUNDING THE PRODUCT

This product is intended to operate from a power source that does not apply more than 250 volts rms between the supply conductors or between either supply conductor and ground.

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting it to the product. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

DANGER ARISING FROM LOSS OF GROUND

Upon loss of the protective-ground connection, all accessible conductive parts (including keys and controls that may appear to be insulating) can render an electrical shock.

USE THE PROPER POWER CORD

Use only the power cord and connector specified for this product, and be sure it is in good condition.

Refer to the Operating Instructions section of this manual for information on power cords and connectors.

USE THE PROPER FUSE

To avoid fire hazard, use only a fuse of the correct type, voltage rating, and current rating as specified in the parts list for this product.

DO NOT OPERATE IN EXPLOSIVE ATMOSPHERES

To avoid explosion, do not operate this product in an explosive atmosphere unless it has been specifically certified for such operation.

SERVICE SAFETY SUMMARY

FOR QUALIFIED SERVICE PERSONNEL ONLY
Refer also to the preceding Operator's Safety Summary.

DO NOT SERVICE ALONE

Do not perform internal service or adjustment of this product unless another person capable of rendering first aid and resuscitation is present.

USE CARE WHEN SERVICING WITH POWER ON

Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on. Do not wear metal neck chains, wristbands or other metal jewelry while power is on and connections and components are exposed.

Disconnect power before removing protective panels, soldering, or replacing components.

USE CAUTION WHEN SERVICING THE CRT

The CRT should be serviced only by qualified personnel familiar with CRT servicing procedures and precautions.

CRTs retain hazardous voltages for long periods of time after power-down. Before attempting any work inside the monitor, discharge the CRT by shorting the anode connection to chassis ground. When discharging, connect to ground, then to anode.

Use extreme caution when handling the CRT. Rough handling may cause it to implode. Do not nick or scratch the glass or subject it to undue pressure during removal or installation. When handling the CRT, wear safety goggles and heavy gloves for protection.

REMOVE LOOSE OBJECTS

During disassembly or installation procedures, screws or other small objects may fall to the bottom of the mainframe. To avoid shorting out the primary power supply, do not power up the instrument until such objects have been removed.

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MAINTENANCE: GENERAL INFORMATION

Unless otherwise specified (by **MONOCHROME ONLY** or **COLOR ONLY**), the following procedures, tables, and figures apply to both the monochrome and color DAS mainframes.

Tektronix maintains repair and recalibration facilities at its local Field Service Centers and the Factory Service Center. For further information or assistance, contact your local Tektronix Field Office or representative.

MAINTENANCE PRECAUTIONS

SOLDERING

Most of the components in the instrument are soldered in place. If it is necessary to replace a soldered part, use a 15 W soldering iron to prevent heat damage to the circuit board or components. Excessive heat will lift circuit runs on the circuit board.

The flux in the solder may leave a residue on the circuit board which can provide a high resistance leakage path and affect instrument operation. Be sure to clean off this residue. Isopropyl alcohol may be used.

LIGHT-EMITTING DIODES (LEDS)

To avoid damage to the LEDs always keep soldering time and temperature to a minimum. Do not bend the leads or apply force when inserting the leads into circuit board holes. Clean the circuit board holes of all excess solder before attempting to install a new LED.

NOTE

Damage to the LEDs may not be immediately apparent. Always follow the precautionary measures listed above when handling the LEDs.

STATIC PRECAUTIONS



Static discharge can damage any semiconductor in this instrument.

This instrument contains electrical components that are susceptible to damage from static discharge. See Table 6-1 for the relative susceptibility of various classes of semiconductors. Static voltages of 1—30 kV are common in unprotected environments.

Observe the following precautions to avoid damage:

1. Minimize handling of static-sensitive components.
2. Transport and store static-sensitive components or assemblies in their original containers, on a metal rail, or on conductive foam. Label any package that contains static-sensitive components or assemblies.
3. Discharge the static voltage from your body by wearing a wrist strap while handling these components. Servicing static-sensitive assemblies should be performed only in a static-free work station by qualified service personnel.
4. Nothing capable of generating or holding a static charge should be allowed on the work station surface.
5. Keep the component leads shorted together whenever possible.
6. Pick up components by the body, never by the leads.
7. Do not slide the components over any surface.
8. Avoid handling components in areas that have a floor or work-surface covering capable of generating a static charge.
9. Use a soldering iron that is connected to earth ground.
10. Use only special anti-static suction type or wick type desoldering tools.

NOTE

Damage to electrical components may not be immediately apparent. Always follow the precautionary measures listed above when handling static-sensitive components.

**Table 6-1
Relative Susceptibility of Semiconductors to Static Discharge Damage**

Semiconductor Class	Danger Voltage^a
MOS or CMOS	100 - 500 V
ECL	200 - 500 V
Schottky signal diodes	250 V
Schottky TTL	500 V
High frequency bipolar transistors	400 - 600 V
JFETs	600 - 800 V
Linear microcircuits	400 - 1000 V
Low-power Schottky TTL	1200 V

^aVoltage discharged from a 100 pF capacitor through a resistance of 100 Ω.

TEST EQUIPMENT REQUIRED FOR MAINTENANCE

Test equipment required to service the instrument is listed under Troubleshooting Equipment in the Maintenance: Troubleshooting section of this manual.

TOOLS REQUIRED FOR MAINTENANCE

The following tools are those most often needed when servicing the instrument:

<u>Tool</u>	<u>Tektronix Part No.</u>
1. Soldering iron, (15 W)	
2. Rosin core solder, 60/40	
3. Isopropyl alcohol	
4. Lint-free dust cloth	
5. Soft-bristle brush	
6. IC extractor	
7. Desolder tool	
8. Solder wick	
9. Magnetic screwdrivers, 7 inch shank and 4 inch shank	
10. POZIDRIV-type magnetic bits, 2 inch and 1 inch	
11. TORX-type magnetic bit, size T-20	003-0866-00
12. Angled tweezers, 6 inch	
13. Long-nose pliers	
14. 1/4 inch combination open/box wrench	
15. Plastic alignment tool, 5 inches	
16. Fiber adjustment tool, 9 inches	
17. Open end wrench, 7/16 inch	
18. Allen wrenches, 0.050 inch, 1/16 inch and 5/64 inch	
19. Circuit board ejector	214-3154-00

DISASSEMBLY/INSTALLATION PROCEDURES

WARNING

Dangerous electric-shock hazards inside the mainframe may be exposed when the covers are removed. Be sure power is off and the power cord is disconnected before removing the covers. Disassembly procedures should only be attempted by qualified service personnel.

Reassembly procedures are the reverse of the disassembly procedures in most cases. Separate reassembly instructions are provided only when necessary.

Unless otherwise noted, screws mentioned in the text are the pan-head, POZIDRIV type. Size specifications are provided for most screws.

In the following procedures, directional terms (top, bottom, left, right, etc.) are based on the assumption that the DAS is in a normal, upright position and the user is facing the front of the instrument.

GENERAL DISASSEMBLY PRECAUTIONS

- DO NOT attempt any disassembly or installation procedures if power is on.
- DO NOT disconnect probes from the back of the mainframe by pulling on the cables; pull only on the plastic cable holders.
- DO NOT remove connectors between circuit boards by pulling on the wires; pull only on the connectors.
- DO NOT press or pull on components when manipulating circuit boards.
- GUARD against static discharge damage by following the precautions listed in Maintenance Precautions in this section.

REMOVING PANELS AND COVERS

Top Panel

Figure 6-1 illustrates how to remove the top panel and the module compartment cover.

1. Loosen the two large slotted screws in the upper corners of the back panel. Rotate the brackets behind these screws until they no longer block the edge of the top panel.
2. Press backward on the ridges at the front of the top panel. Simultaneously, pull on the rear edge until the front edge disengages.
3. Lift the panel up and off the mainframe.
4. Loosen the slotted-head screws that secure the module compartment cover until approximately 1/4 inch of each screw is exposed. Grasp the front edge of the cover and lift it off the mainframe.

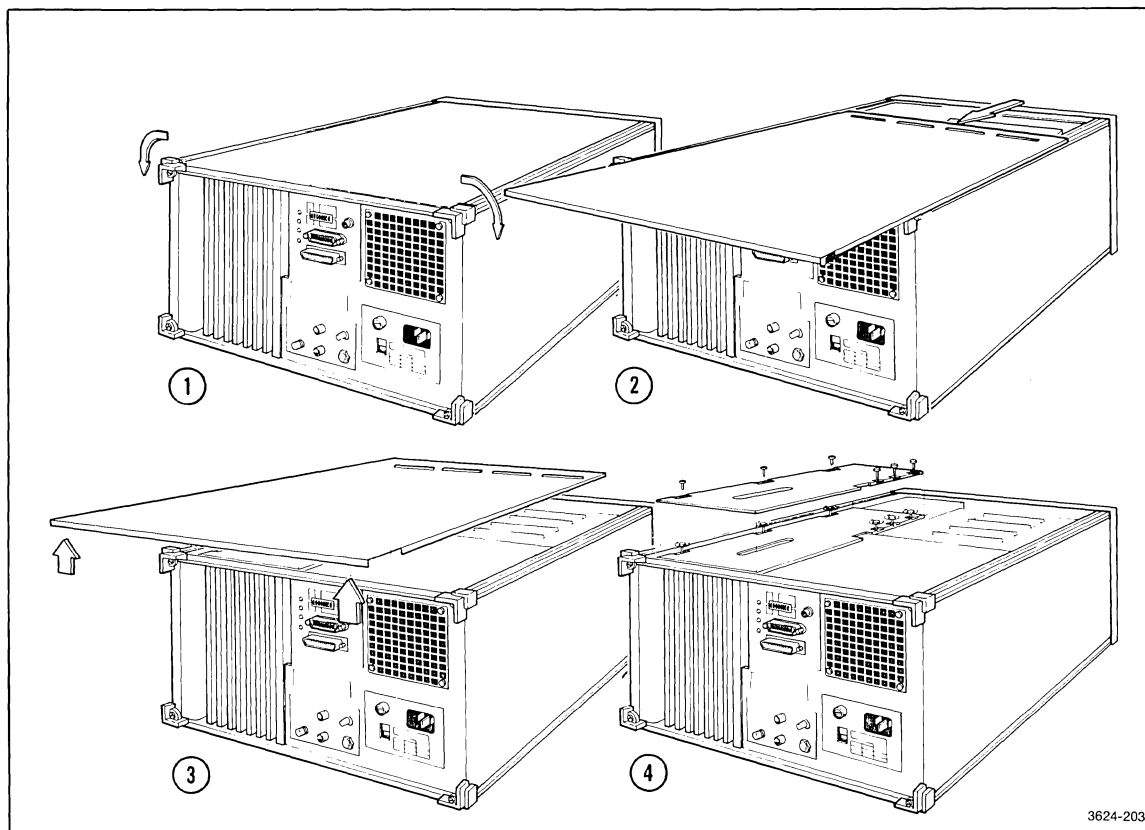


Figure 6-1. Removing the top panel and the module compartment cover. (This figure shows the Monochrome DAS. The Color DAS is similar.)

Power Supply Cover

WARNING

The power supply cover should be removed only by qualified service personnel. Hazardous voltages may be present; use extreme caution. Be sure power is off and the power cord is disconnected before removing the cover.

There are three holes located in the power supply cover. Chrome pins show through these holes to indicate the position of +5 V power supply modules currently installed.

- The +5 V power supply module in the left position (adjacent to the main power supply) provides power to bus slots 1 and 2; this power supply module is provided as a part of the basic DAS mainframe.
- The +5 V power supply module in the center position provides power to bus slots 5 and 6.
- The +5 V power supply in the right position (closest to the instrument modules) provides power to bus slots 3 and 4.

WARNING

DANGEROUS VOLTAGES ARE PRESENT ON THE CAPACITOR BRACKET BOARD DURING OPERATION AND FOR FIVE MINUTES AFTER POWER-DOWN. Each filtering capacitor can hold a 160 V charge. Wait at least five minutes for the capacitors to discharge before accessing the power supplies or related assemblies.

A blinking neon lamp on the capacitor bracket board, visible beneath a Plexiglas panel, indicates that an extremely dangerous charge is present in the capacitors. This lamp continues to blink for approximately 45 seconds after power is turned off. Wait at least five minutes after the lamp stops flashing before accessing the power supplies.

1. Remove the flat-head, POZIDRIV screws that secure the power supply cover.
2. Lift the cover up and off.

Side Panels

1. Loosen the two large slotted screws on the appropriate side corners of the back panel. Rotate the plastic brackets until they no longer block the edge of the side panel to be removed.
2. Slide the panel straight out backwards.

Bottom Panel

When the bottom panel is removed, two windows in the chassis frame provide access to portions of the interconnect board. Figure 6-2 shows which components are accessible on the monochrome mainframe. Figure 6-3 shows which components are accessible on the color mainframe.

Perform the following procedure to remove the bottom panel.

1. Loosen the two large slotted screws in the lower corners of the back panel. Rotate the plastic brackets until they no longer block the edge of the bottom panel.
2. Slide the panel straight out backwards.

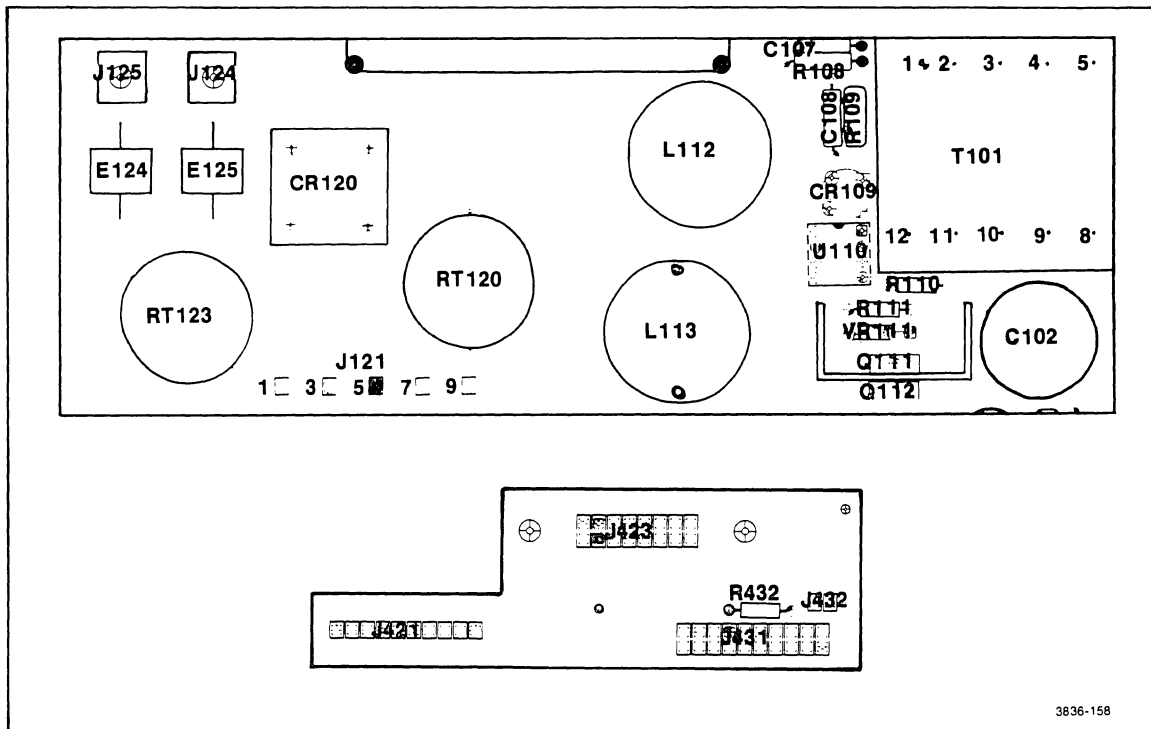


Figure 6-2. Interconnect board components are accessible when the bottom panel is removed (MONOCHROME ONLY).

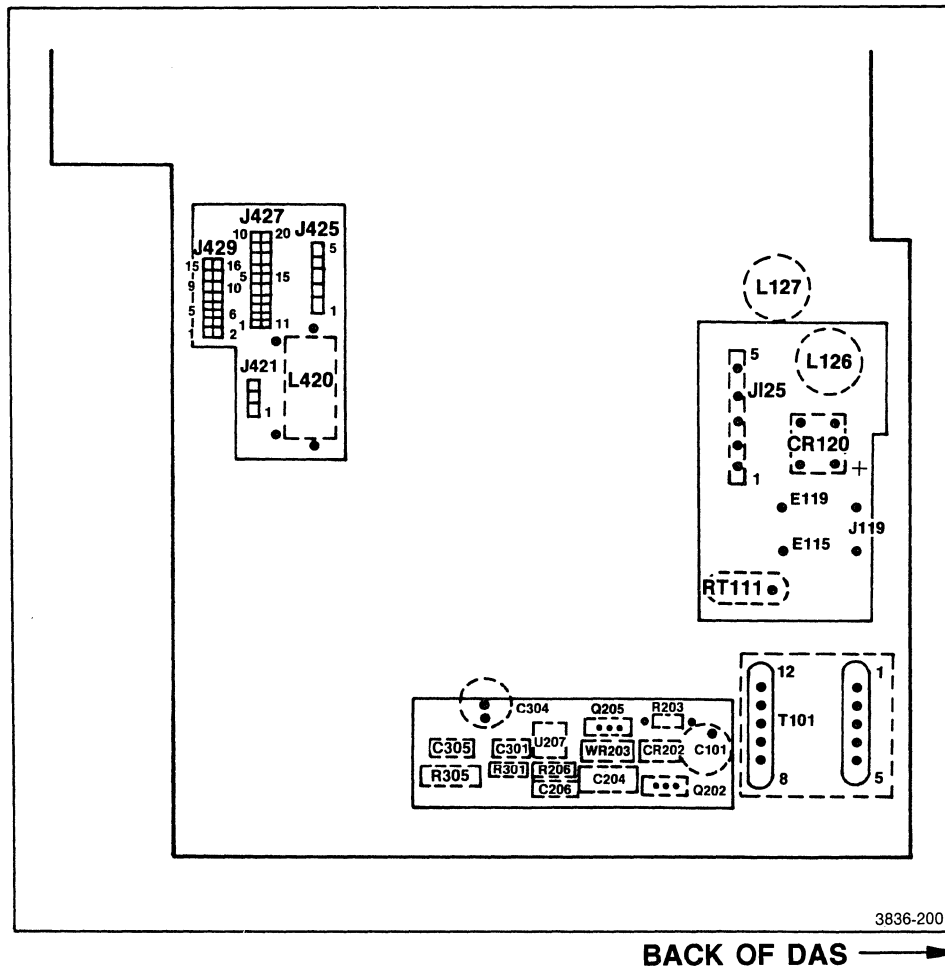


Figure 6-3. Interconnect board components are accessible when the bottom panel is removed (COLOR ONLY).

Removing the Back Panel (MONOCHROME ONLY)

Figure 6-4 shows the parts which must be removed to free the back panel. Remove the back panel when service requires access to the filtering capacitors, the power supply fan, or the power supply portion of the interconnect board. This procedure also makes the heat sink accessible.

WARNING

Hazardous voltages may be exposed when the back panel is removed. Be sure power is off and the power cord is disconnected. After power-down, wait five minutes before starting this procedure to allow the filtering capacitors to discharge.

1. Remove the top panel and module and power supply compartment covers.

2. Disconnect the 9-pin and 3-pin connectors between the heat sink and the main power supply board. Remove the connectors at the main power supply end. Do not pull on the wires.
3. Remove the I/O connector panel by removing the four screws (4-40 x 0.312) in the corners of the panel. (In Mainframes without the I/O Interface (Option 02), this panel is blank.)
4. Remove the two flat-head, POZIDRIV screws (4-40 x 0.438) in the upper edge of the back panel. One screw is in the upper left corner (not shown in figure) and the other is near the center.
5. Remove the four screws (6-32 x 0.375) surrounding the module configuration label. These screws attach the capacitor frame to the back panel.
6. Remove the three screws (4-40 x 0.312) along the right side of the back panel, the screw (4-40 x 0.312) in the center bottom, and the two screws (6-32 x 0.375) on the left side of the back panel.
7. Carefully pull the panel away from the mainframe. The power supply fan and the heat sink will come away with the panel.

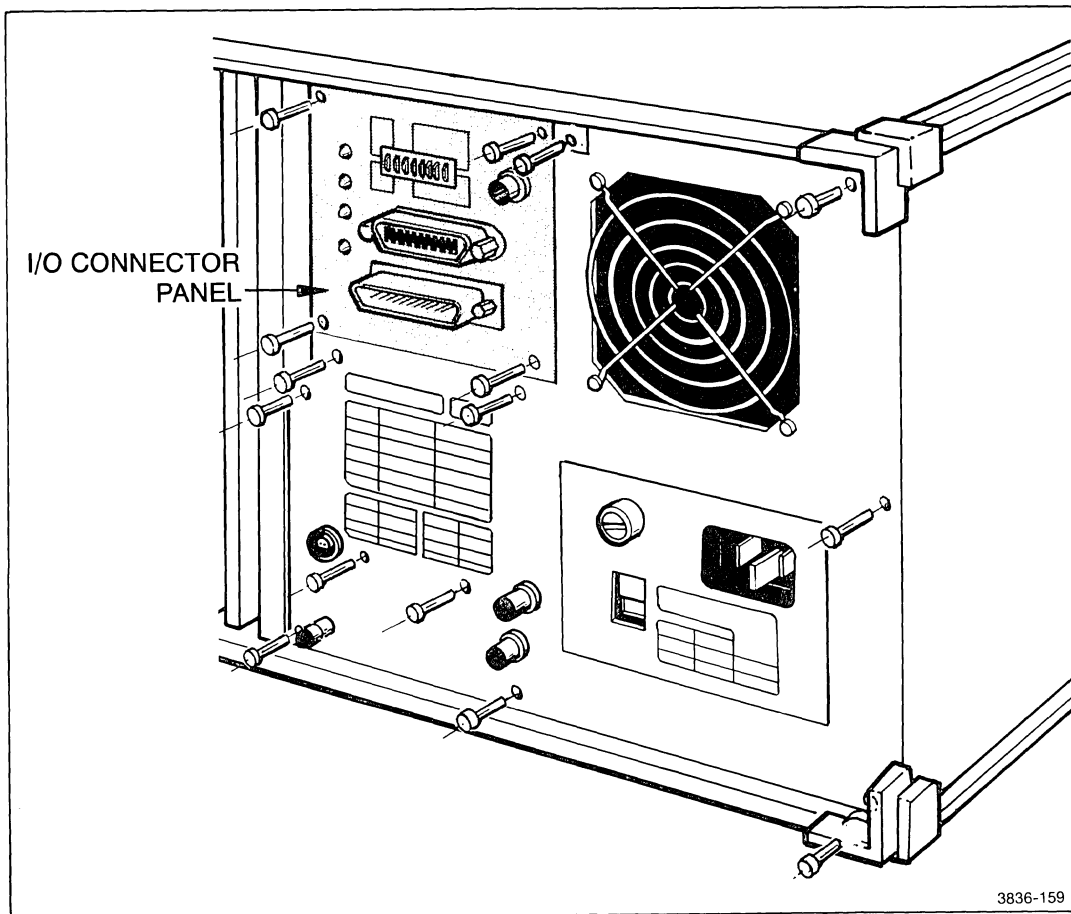


Figure 6-4. Removing the back panel (MONOCHROME ONLY).

To reassemble the back panel (MONOCHROME ONLY):

1. Attach the back panel to the frame with one of the flat-head screws at the top and one of the POZIDRIV screws (4-40 x 0.312) in the lower right corner.
2. Insert the two screws (6-32 x 0.375) in the left side of the panel.
3. Insert the remaining flat-head screw in the upper edge of the panel. Also insert the remaining two screws (4-40 x 0.312) in the right side and the screw (4-40 x 0.312) in the center bottom of the panel.
4. Reattach the I/O connector panel to the back panel. It is secured by four screws (4-40 x 0.312). Refer to Figure 6-8 for placement of the ribbon cable along the I/O board.
5. Insert the four screws (6-32 x 0.375) that secure the capacitor frame to the back panel.

Removing the Back Panel (COLOR ONLY)

The back of the color DAS is a one-piece casting and does not have a removable back panel like that used on the monochrome DAS. Removal of the color DAS back casting is required only when the interconnect board is to be removed. Removal of the back casting and the interconnect board is described later in this section.

INSTALLING/REMOVING INSTRUMENT MODULES

Module Installation

Figure 6-5 illustrates the steps used when installing a module in the mainframe.

1. Position the module over the bus slot, with the ejector tab toward the front of the mainframe. Make sure this tab is parallel to the top of the module.
2. Insert the module between the guide slots at the top of the mainframe. This procedure is easiest if you align the module with the rear guide first.
3. Slide the module down through the slots until its connectors are resting on top of the bus slot connectors on the interconnect board.
4. Push the module down into the bus slot connectors. Press firmly on the board but do not press on components.

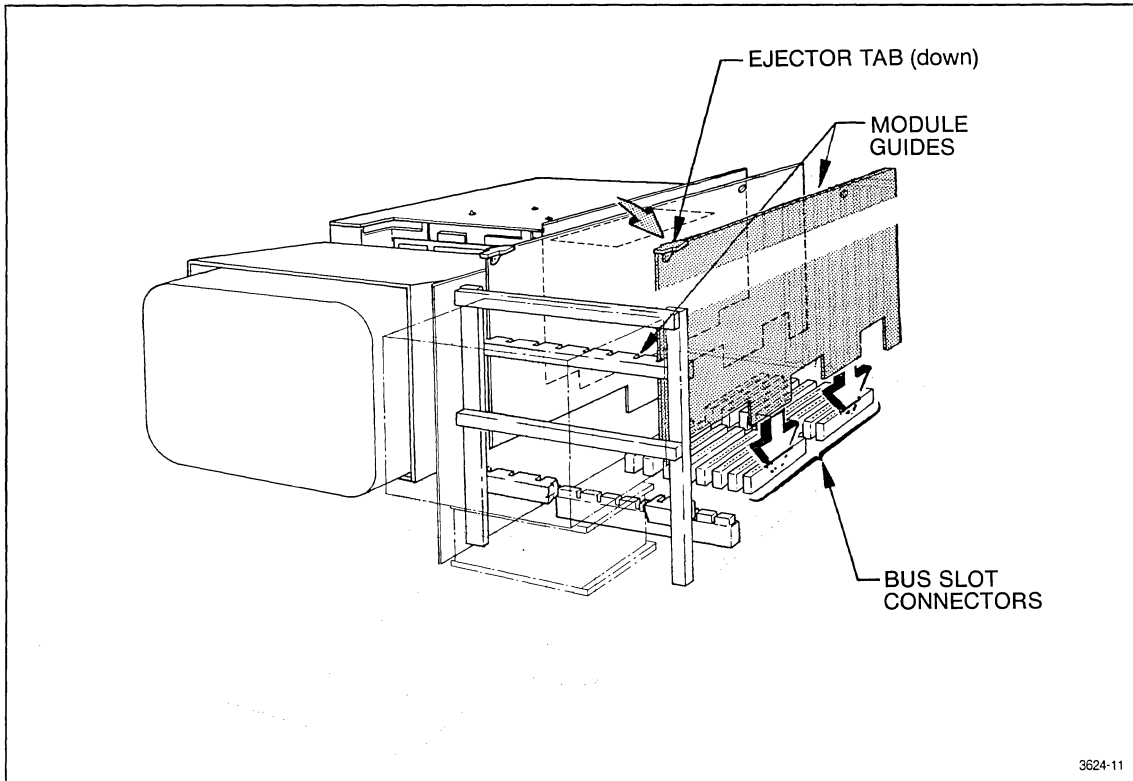


Figure 6-5. Installing an instrument module in the mainframe . (This figure shows the Monochrome DAS. The Color DAS is similar.)

Module Removal

Figure 6-6 illustrates the procedure for removing a module from the mainframe.

CAUTION

Probes must be disconnected from the rear of the instrument modules before attempting to remove the modules. Failure to observe this precaution can damage connectors on probes and modules.

1. Disconnect and remove probes from the rear of the instrument modules.
2. Insert the circuit board ejector tool in the small hole located in the upper rear corner of the module, then brace it against the rear edge of the mainframe.
3. Use the ejector tool to pry up the back end of the module. Simultaneously, pull up on the inside edge of the module's ejector tab. You will feel the module disengage from the bus slot connectors.
4. Grasp the top of the module and pull it straight up. Do not pull on components.

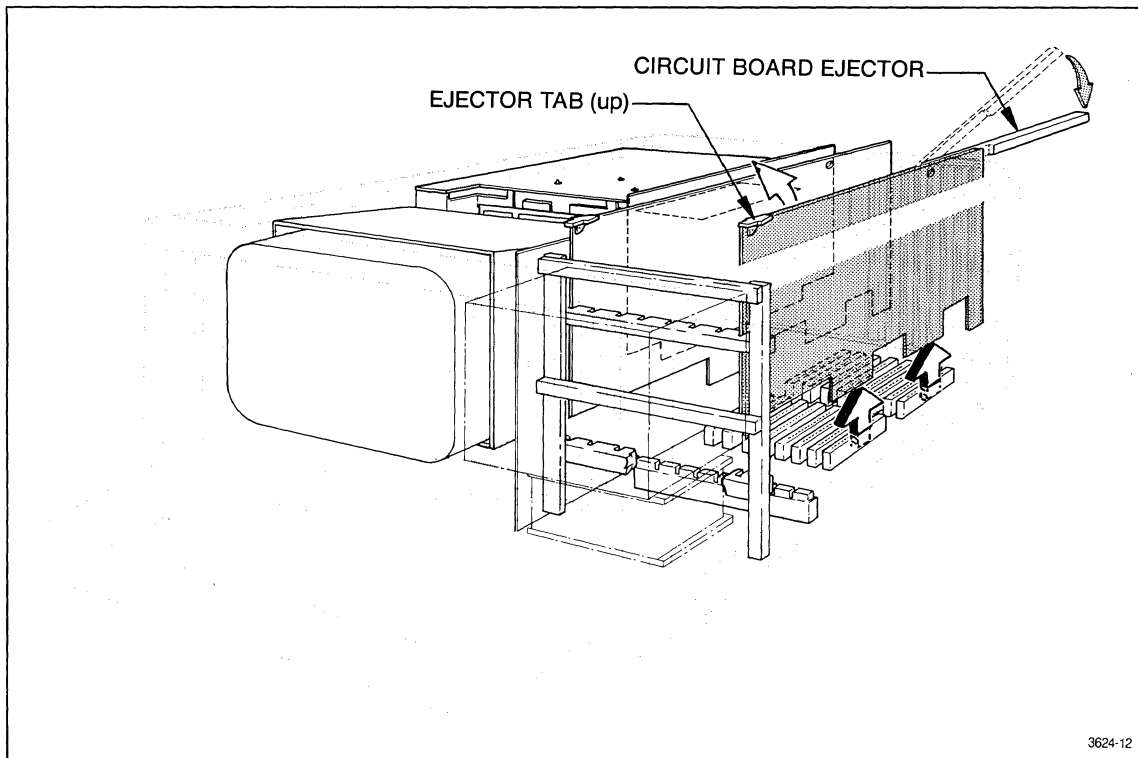


Figure 6-6. Removing an instrument module from the mainframe . (This figure shows the Monochrome DAS. The Color DAS is similar.)

Installing the I/O Interface (Option 02)

The I/O interface option consists of a plug-in circuit board and a back panel insert with appropriate connectors and plugs. Install the panel first. Refer to Figure 6-7.

WARNING

Hazardous voltages may be exposed when the I/O panel and circuit board are installed. Be sure power is off and the power cord is disconnected. After power-down, wait five minutes before starting this procedure to allow the filtering capacitors to discharge.

1. Unplug the unit.
2. Remove the top panel, the module compartment cover, and the power supply compartment cover. Wait five minutes after the warning lamp on the capacitor bracket board stops flashing before proceeding to the next step.
3. Remove the four screws (6-32 x 0.250) in the blank section of the back panel immediately to the left of the power supply fan cover, and remove the blank panel.
4. Install the I/O connector panel using the screws removed from the blank panel. Position the ribbon cable as shown in Figure 6-7.

5. Insert the I/O circuit board in the guide slots. Lower the board until the ribbon cable connector can be attached to J121.
6. Attach the connector to J121. Be sure to align the pins properly; pin 1 is marked on the board, and is identified on the plug.
7. Slide the circuit board down the guide slots until its connectors rest on top of the bus slot connectors.
8. Press the board down evenly and firmly. Do not press on components.

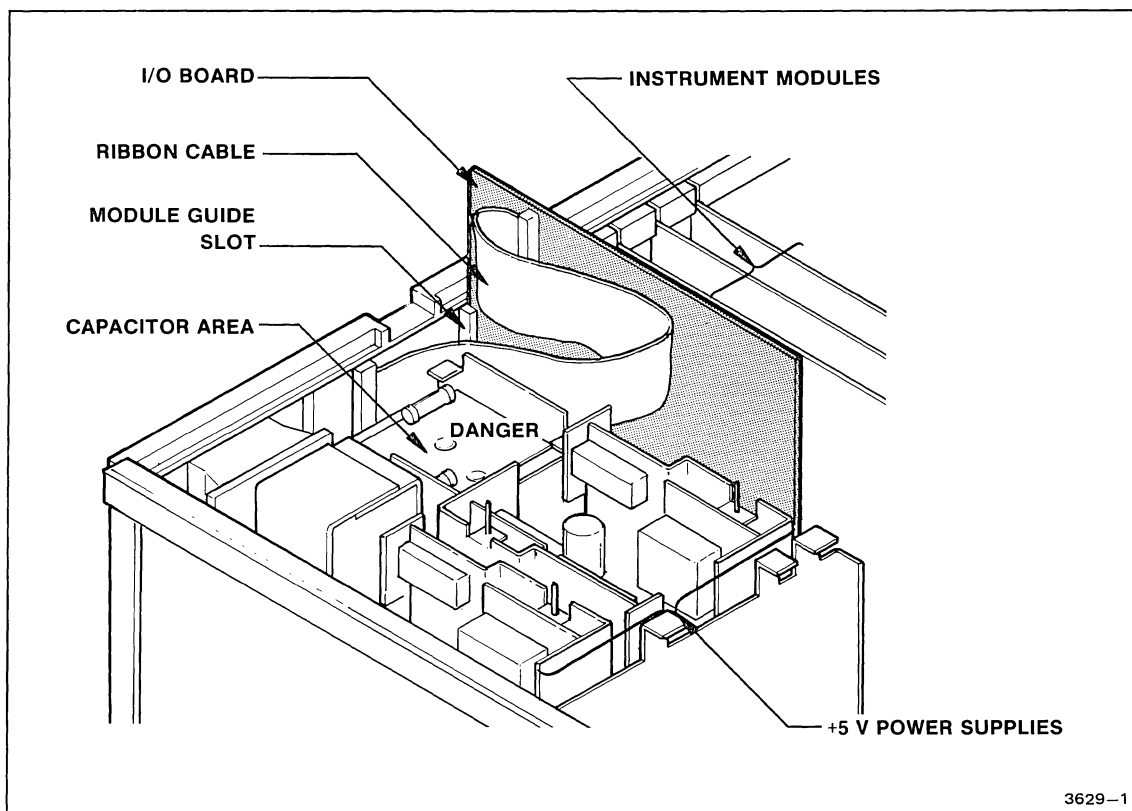


Figure 6-7. Installing the I/O Board. (This figure shows the Monochrome DAS. The Color DAS is similar.)

Removing the I/O Circuit Board (Option 02)

Figure 6-8 illustrates the procedure for removing the I/O circuit board.

1. Unplug the unit.
2. Remove the top panel, the module compartment cover, and the power supply compartment cover. Wait five minutes after the warning lamp on the capacitor bracket board stops flashing before proceeding to the next step.

3. Insert the end of the circuit board ejector tool in the small hole in the upper rear corner of the circuit board.
4. Brace the ejector tool against the back edge of the mainframe, then pry up the back end of the circuit board.
5. Grasp the top of the board and lift straight up a few inches until the ribbon cable connector is accessible. Do not pull on components.
6. Disconnect the ribbon cable from the circuit board.
7. Pull the board out of the mainframe.

To remove the I/O (Option 02) rear panel:

1. Remove the four screws (6-32 x 0.250) securing the I/O rear panel to the mainframe rear casting.
2. Pull the I/O panel out, taking care not to damage the ribbon cable.

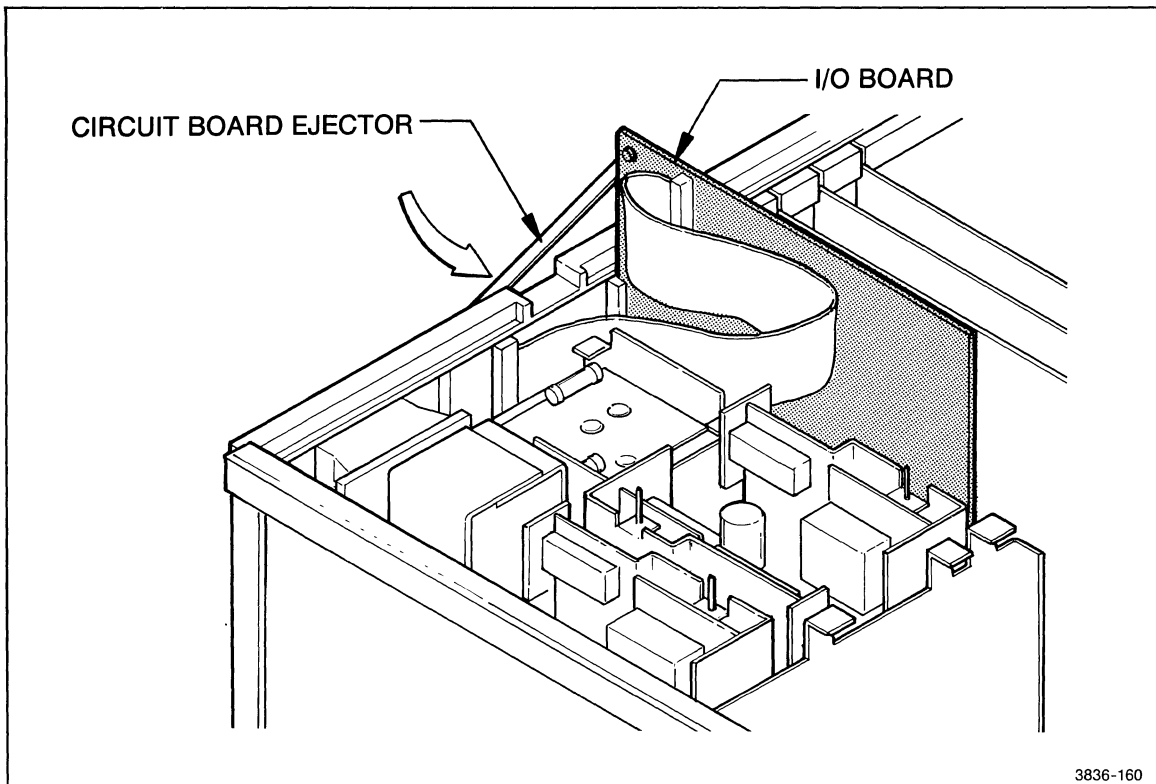


Figure 6-8. Removing the I/O board. (This figure shows the Monochrome DAS. The Color DAS is similar.)

REMOVING/INSTALLING POWER SUPPLIES AND RELATED ASSEMBLIES

WARNING

DANGEROUS VOLTAGES ARE PRESENT ON THE CAPACITOR BRACKET BOARD DURING OPERATION AND FOR FIVE MINUTES AFTER POWER-DOWN. Each filtering capacitor can hold a 160 V charge. Wait at least five minutes for the capacitors to discharge before accessing the power supplies or related assemblies.

A blinking neon lamp on the capacitor bracket board, visible beneath a Plexiglas panel, indicates that an extremely dangerous charge is present in the capacitors. This lamp continues to blink for approximately 45 seconds after power-down. Wait at least five minutes after the lamp stops flashing before accessing the power supplies or related assemblies.

NOTE

Use a 7/16 inch open end wrench to remove/install stud-mounted diodes on the +5 V power modules and the main power supply.

+5 V Power Supply Module Removal

Refer to Figure 6-9. This basic procedure applies to all three +5 V power supply modules.

1. Unplug the unit.
2. Remove the top panel and the power supply cover. Wait five minutes after the warning lamp on the capacitor bracket board stops flashing before proceeding to the next step.
3. Loosen the two, 1/4 inch hex head screws securing the module to the frame. (It is not necessary to remove the screws.)
4. Lift the module up and out.

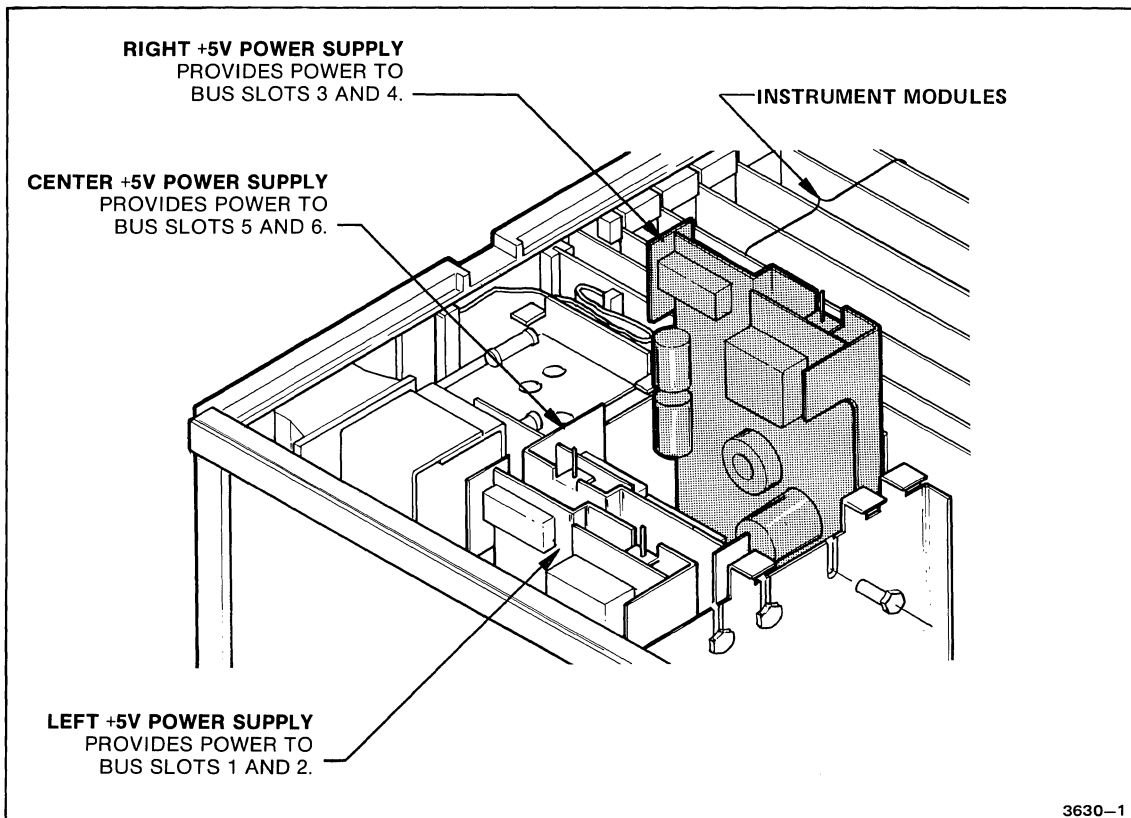


Figure 6-9. Removing a +5 V power supply module. (This figure shows the Monochrome DAS. The Color DAS is similar.)

+5 V Power Supply Module Installation

Figure 6-9 shows the required orientation of +5 V power supply modules in the left, center, and right positions. The modules in the left and right slots have the same placement; the center module has the reverse orientation.

1. Unplug the unit.
2. Remove the top panel and the power supply cover. Wait five minutes after the warning lamp on the capacitor bracket board stops flashing before proceeding to the next step.
3. Slide the +5 V power supply module into the mainframe in the appropriate position (left, center, or right). The position is determined by which instrument module bus slots require power. Be sure to install the module in the correct orientation.
4. Carefully align the connector on the power supply with the pins on the interconnect board. Press down firmly. Do not press on components.
5. Secure the module to the frame with the two hex-head screws. Do not over-tighten the screws.

CAUTION

Instrument damage may occur if power is applied to a +5 V power supply module installed in an incorrect orientation.

Instrument damage is also possible if power is applied to a +5 V module that is not properly aligned with its pins on the interconnect board.

Main Power Supply Removal

Figure 6-10 illustrates the procedure for removing the main power supply board.

1. Unplug the unit. Remove the top panel and the side panel adjoining the power supplies. Remove the power supply cover, and wait five minutes after the warning lamp on the CRT bracket board stops flashing before proceeding to the next step.
2. Remove the three screws securing the main power supply board to the mainframe.
3. Disconnect the 9-pin and 3-pin connectors between the heat sink and the main power supply board. Pull the connectors at the power supply end. Do not pull on the wires.
4. Use the plastic loop attached to the board to pull it up and out of the mainframe. Pull evenly and firmly.

CAUTION

To avoid instrument damage, do not pull up on components to remove the main power supply board. Specifically avoid pulling on the power transistor housing in the upper front corner of the board.

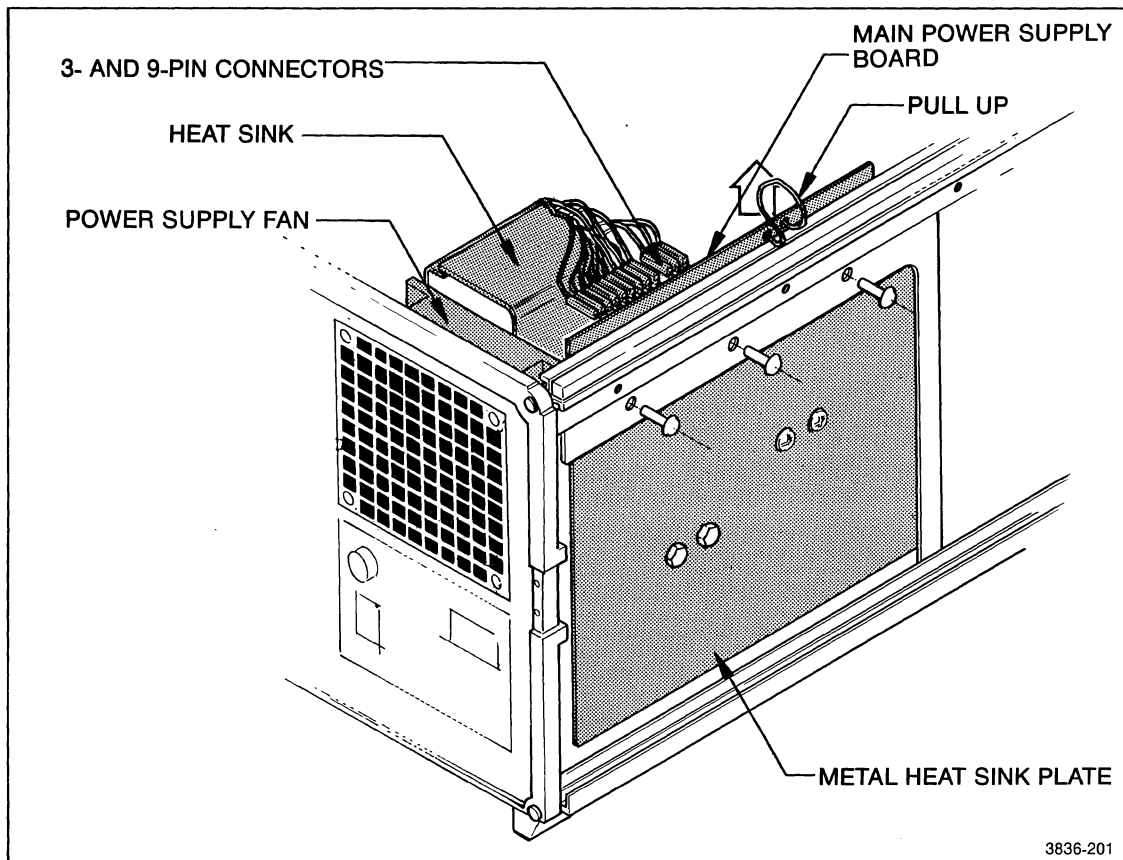


Figure 6-10. Removing the main power supply board.

Main Power Supply Installation

CAUTION

Instrument damage may occur if power is applied when the main power supply board is not properly connected with the pins on the interconnect board.

1. Position the board with components facing away from the left side of the mainframe. Carefully align the three connectors on the board with the three sets of pins on the interconnect board.
2. Press down firmly. Do not press on components. If the board is properly positioned on the interconnect pins, the screw holes in the side support strip will align with the corresponding holes in the board.
3. Secure the board to the support strip with the three screws (6-32 x 0.312).
4. Connect the 3-pin and 9-pin connectors from the heat sink to J155 and J165.

Filtering Capacitor Removal (MONOCHROME ONLY)

The filtering capacitors are C305 and C125, 2000 μ F each.

1. Remove the back panel.
2. Remove the three screws (4-40 x 0.250) in the Plexiglas cover over the capacitor bracket board. Lift the cover off.
3. Remove the four screws (10-32 x 0.312) in the capacitor bracket board (labeled as capacitor terminals). These screws secure the capacitor bracket board to the capacitors.
4. Remove the connector at J1010 and lift the board out.
5. Remove the two screws (10-32 x 0.375 with internal star washers) that secure the capacitor to the top of the frame.
6. Remove the two screws (6-32 x 0.250) on the front part of the capacitor frame near the +5 V power supplies. (These screws can be seen in Figure 6-16.)
7. Carefully lift the frame and capacitors out of the mainframe. It may be necessary to detach the connectors attaching the capacitors to the interconnect board.
8. Loosen the screw (equipped with external star washer and nut) that holds the circular clamp around the capacitor. It is not necessary to remove the screw. Pull the capacitor down through the loosened clamp.

Filtering Capacitor Removal (COLOR ONLY)

The filtering capacitors are C305 and C125, 2000 μ F each.

1. Remove the I/O Interface (Option 02) board and panel.
2. Remove the three screws (6-32 x 0.250) in the Plexiglas cover over the capacitor bracket board. Lift the cover off.
3. Remove the connector at J101 on the capacitor bracket board and lift the board out. (Squeeze on the ends of the connector to disengage it.)
4. Remove the four screws (10-32 x 0.312) in the capacitor bracket board. These screws secure the capacitor bracket board to the capacitors.
5. Remove the two screws (6.32 x 0.312), one near each end of the rear-panel CAUTION decal.
6. Remove the two screws (6-32 x 0.250) that secure the capacitor bracket to the +5 V power supply frame.
7. Carefully lift the frame and capacitors out of the mainframe.

Heat Sink Removal (MONOCHROME ONLY)

The heat sink is adjacent to the main power supply and directly in front of the power supply fan. It is shown in Figure 6-10. The heat sink can be accessed by removing the back panel or by the following procedure:

1. Disconnect the 9-pin and 3-pin connectors attaching the heat sink to the main power supply board at J165 and J153. Detach the connectors at the main power supply end. Do not pull on the wires.
2. Remove the three screws (6-32 x 2.000) in the left side and the lower right corner of the power supply fan cover on the back panel. These screws pass through the fan to the heat sink. DO NOT remove the screw in the upper right corner of the power supply fan.
3. Carefully lift the heat sink up and out of the mainframe.

Heat Sink Removal (COLOR ONLY)

The heat sink is adjacent to the main power supply and directly in front of the power supply fan. It is shown in Figure 6-10. The heat sink can be accessed by the following procedure:

1. Disconnect the 9-pin and 3-pin connectors attaching the heat sink to the main power supply board at J165 and J153. Detach the connectors at the main power supply end. Do not pull on the wires.
2. Loosen the four screws (6-32 x 2.000) at the corners of the power supply fan cover on the back panel until the heat sink is free of the fan assembly. These screws pass through the fan to the heat sink.
3. Carefully lift the heat sink up and out of the mainframe, leaving the fan assembly hanging on the four screws.

REMOVING THE MONITOR (MONOCHROME ONLY)

WARNING

CRTs RETAIN HAZARDOUS VOLTAGES FOR LONG PERIODS OF TIME AFTER POWER-DOWN. The monitor should be serviced only by qualified personnel familiar with CRT servicing procedures and precautions.

USE EXTREME CAUTION WHEN HANDLING THE CRT. Rough handling may cause it to violently implode. Do not nick or scratch the glass or subject it to undue pressures during removal or installation. When handling the CRT, wear safety goggles and heavy gloves for protection.

Figure 6-11 shows the locations of the two circuit boards in the monitor. It also calls out the parts that must be disconnected or removed in order to remove the circuit boards.

1. Unplug the unit and wait five minutes before proceeding to the next step.
2. Remove the top panel and the side panel adjoining the power supplies and the monitor.
3. Remove the module compartment cover and the modules in slots 0 and 1.
4. Two metal framing pieces on either side of the monitor provide added support. The right piece is approximately 5 inches long and connects to the top-front casting, the metal frame behind the front fan, and the monitor cover. The left piece is a small rectangular piece that is positioned between the left, top side rail and the monitor cover. Remove the screw (6-32 x 0.375) from the center of the right support piece. This screw connects the metal piece to the monitor cover. Also, remove the two flat-head POZIDRIV screws (4-40 x 0.375) from the ends of the frame support.
5. Remove the two screws (top, 6-32 x 0.250; bottom, 6-32 x 0.875) from the left frame support.
6. Remove the four screws (two front, 10-32 x 0.312; two rear, 8-32 x 0.375) securing the monitor to the bottom of the mainframe. Use a screwdriver with a 7 inch shank to access the screws on the inner side of the monitor. (A magnetic screwdriver is very helpful.) A small window in the metal wall between the monitor and the module section permits access to the screw in the right, back position.
7. Disconnect the ribbon cable connecting the monitor to the interconnect board at J421.
8. Lift the monitor by the two plastic loops in the metal cover. Raise the monitor slowly; take care not to jar the monitor on the mainframe rims.
9. The metal cover is secured to the monitor frame by six pan-head, POZIDRIV screws (6-32 x 0.188). Four of these screws rim the back edge of the cover, and the other two are in the top of the cover, toward the front. The cover is also secured to the monitor frame by two hex-head screws (8-24 x 0.250 with flat washers) on the lower front corners of the cover.

Remove these eight screws and lift the cover off, pulling out the sides to avoid other screw heads.

WARNING

CRTs RETAIN HAZARDOUS VOLTAGES FOR LONG PERIODS OF TIME AFTER POWER-DOWN. Before attempting any work inside the monitor, discharge the CRT by shorting the anode connection to chassis ground. When discharging, go from ground to anode.

10. BEFORE REMOVING ANY BOARDS, BE SURE TO DISCHARGE THE CRT BY SHORTING THE ANODE CONNECTION TO CHASSIS GROUND. Attach a grounding strap to the frame for ground, then attach the strap to a metal probe. Carefully insert the probe beneath the plastic anode connector insulator on the side of the CRT (refer to Figure 6-11).

NOTE

Instead of probing the anode connector, you can protect yourself from high voltage in the monitor by separating the two halves of the high voltage rectifier. Gently grasp the two plastic insulator guards and pull in opposite directions. This part is labeled in Figure 6-11.

When reconnecting the high voltage rectifier, simply press the two parts together until the spring (visible through the plastic insulator) is compressed.

To remove the deflection board and signal board (MONOCHROME ONLY):

11. To remove the two monitor circuit boards, the back frame of the monitor must be removed. Do this by removing the screw (6-32 x 0.188) in the top rear corner of each side of the frame.
12. Remove all connectors between the CRT and both boards and between the deflection board and the choke coil. Take note of the position of wire colors before pulling any connectors. The deflection board is connected to the CRT yoke by four single connectors and to the CRT socket at the end of the yoke by five wires. One yellow wire connects the CRT socket to the signal board. Pull the CRT socket straight out, away from the end of the yoke. A 3-wire harmonica connector, next to the high voltage power transformer, attaches the choke coil to the deflection board. Refer to Figure 6-11.
13. Remove the two screws (8-32 x 0.375 with captive lock washers) that secure the deflection board to the monitor frame.
14. Carefully pull up on the deflection board to free it from the connector on the signal board.
15. Slide the signal board out of the back of the monitor frame.
16. If it is necessary to adjust or replace the CRT yoke, first loosen the slotted head screw holding the clamp.

WARNING

When removing or replacing connectors and other parts on the boards, do not provide leverage by pressing on any part of the CRT.

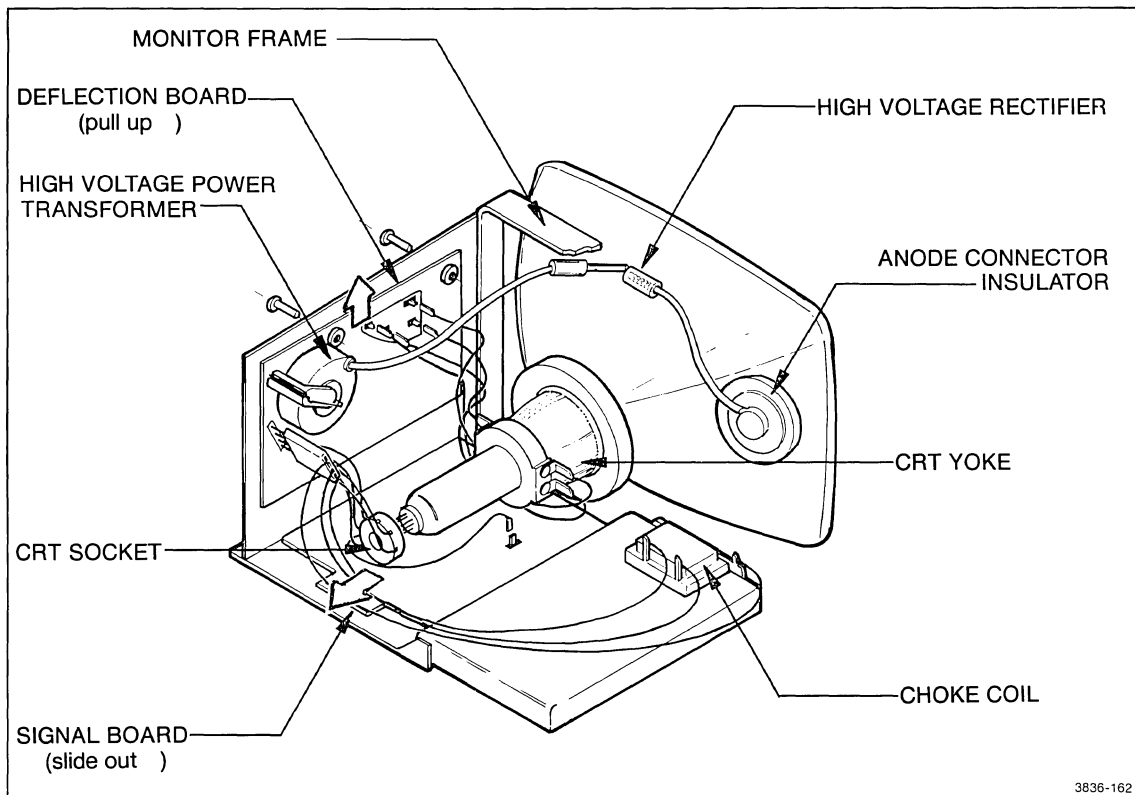


Figure 6-11. Item locations for monitor disassembly (MONOCHROME ONLY).

REMOVING THE MONITOR (COLOR ONLY)

WARNING

CRTs RETAIN HAZARDOUS VOLTAGES FOR LONG PERIODS OF TIME AFTER POWER-DOWN. The monitor should be serviced only by qualified personnel familiar with CRT servicing procedures and precautions.

Before attempting any work inside the monitor, discharge the CRT by shorting the anode to ground through a 1 M Ω resistor. When discharging, connect to ground first, then through a lead and a 1 M Ω resistor to the anode, making sure all conductive materials on the connection are well insulated. Allow at least five minutes for discharge of dielectric materials. Repeat this discharge process several times because dielectric soak-in charges tend to build up again after they are discharged.

USE EXTREME CAUTION WHEN HANDLING THE CRT. Rough handling may cause it to violently implode. Do not nick or scratch the glass or subject it to undue pressures during removal or installation. When handling the CRT, wear safety goggles and heavy gloves for protection.

Figure 6-12 shows the locations of the circuit boards in the monitor. It also calls out the parts that must be disconnected or removed in order to remove the circuit boards.

1. Unplug the unit.
2. Remove the top and bottom panels, the left side panel, the power supply cover, and the instrument module cover. Wait five minutes after the warning lamp on the capacitor bracket board stops flashing before proceeding to the next step.
3. Remove the eight screws (6-32 x 0.250) securing the monitor cover to the top of the monitor. Do not try to lift the cover off yet.
4. Remove the three screws (6-32 x 0.250) securing the side of the monitor cover to the top rail of the mainframe.
5. Remove the two screws (6-32 x 0.250) securing the side of the monitor cover to the bottom rail of the mainframe.
6. Lift the black-enamelled cover and the mu-metal shield out of the mainframe. Observe that the tapered end of the mu-metal shield is toward the rear of the mainframe.
7. Close and latch the keyboard into the face of the mainframe.
8. Place the mainframe face-down on the work surface.
9. Remove the four screws (6-32 x 0.250) from the indents in the bottom of the mainframe.



Use care in pulling the monitor out of the mainframe. The cables connecting the monitor to the mainframe can be damaged by snagging on mainframe components.

10. Carefully pull the monitor straight out of the top of the mainframe.
11. Disconnect the cables from J422 and J410 on the interconnect board near the rear of the monitor, and disconnect the cable from J645 from the monitor deflection board just under the rear of the CRT.
12. Return the mainframe to its normal position (flat) on the work surface.
13. To perform tests and adjustments on the monitor, reconnect the cables, open the keyboard and power up the DAS.

To remove the Z-axis board, deflection board and CRT socket board (COLOR ONLY):

WARNING

CRTs RETAIN HAZARDOUS VOLTAGES FOR LONG PERIODS OF TIME AFTER POWER-DOWN. Before attempting any work inside the monitor, discharge the CRT by shorting the anode connection to chassis ground. When discharging, go from ground to anode.

When removing or replacing connectors and other parts on the monitor boards, do not provide leverage by pressing on any part of the CRT.

1. BEFORE REMOVING ANY BOARDS, BE SURE TO DISCHARGE THE CRT BY SHORTING THE ANODE CONNECTION TO CHASSIS GROUND. Attach a grounding strap to chassis ground, then attach the other end of the strap to a metal probe. Carefully insert the probe beneath the plastic anode connector insulator on the side of the CRT (refer to Figure 6-12).
2. Disconnect the cable from P820 near the center of the signal board and mark it for identification.
3. Remove the three screws (6-32 x 0.250) from the top center of the Z-axis board.
4. Using a circuit board ejector tool, carefully lift straight up on the Z-axis board.
5. Disconnect the cables from the rear of the deflection board and mark each for identification.

CAUTION

Before removing the deflection board, the Z-axis board must be either removed or pulled up clear of the connector pins connecting it to the deflection board. Failure to observe this precaution can break these pins.

Do not move or remove any of the neck components on the CRT. These are convergence and purity adjustments which are factory set by the CRT vendor. Any attempt to move or adjust these components can destroy color capability of the unit.

6. Remove the CRT socket board from the CRT by pulling the socket to the rear. Pull on the socket, not the board.
7. Slide the CRT socket board through the monitor frame so that it is positioned loosely on top of the CRT.
8. Remove the screw (6-32 x 0.250) securing the top rear of the high-voltage transformer shield to the monitor frame.
9. Remove the two screws (6-32 x 0.250) securing the bottom rear of the high-voltage transformer shield to the bottom of the monitor frame.

10. Remove the screw (6-32 x 0.250) securing the deflection board to the bottom of the monitor on the side nearest the Z-axis board connectors.

CAUTION

Use care in sliding the deflection board out of the monitor frame. The metal shield around the high-voltage transformer can catch on its mounting bracket and cause damage to the deflection board at the base of the transformer. Also, the CRT socket board can be damaged by snagging on the monitor frame or CRT yoke.

11. Press on the deflection board on the side nearest the Z-axis board connectors while pulling on the opposite side with a board ejector tool (hole for pulling is under front corner of high-voltage transformer shield).

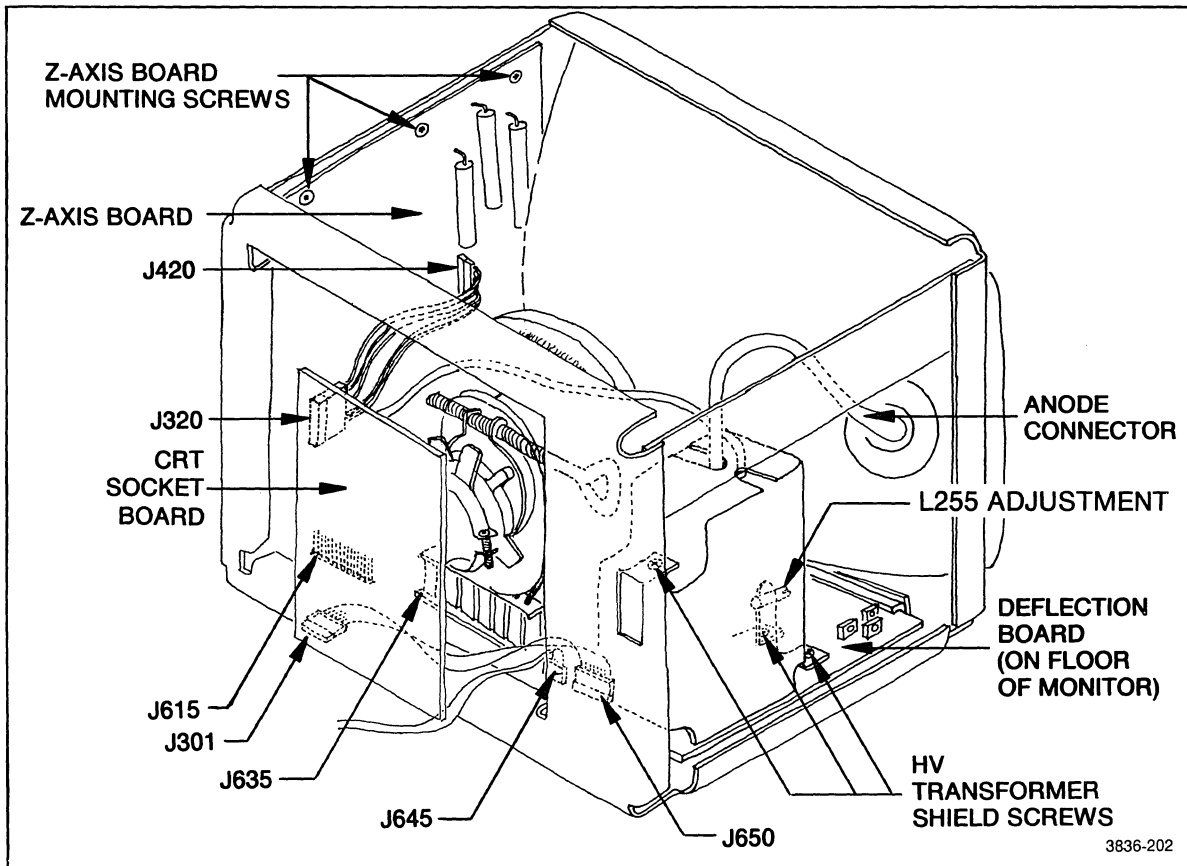


Figure 6-12. Item locations for monitor disassembly (COLOR ONLY).

REMOVING THE KEYBOARD

Figures 6-13 and 6-14 illustrate the steps required for removing the keyboard from the mainframe. Figure 6-15 demonstrates how to dismantle the keyboard to remove the circuit board. Refer to these figures while reading the following instructions.

1. Pull one of the side panels 6 to 10 inches back from the front of the mainframe.
2. The rear keyboard frame rests on two metal bars (angled approximately 30°) inside the front molding. Each metal bar is anchored by two socket-head set screws. As shown in Figure 6-14, these screws are inside the mainframe, directly behind the bar assembly. Another socket-head set screw in the side, front casting permits adjustment of the keyboard's horizontal position by controlling how far the bar assembly recedes into the side casting.

Loosen the side set screw with a 0.050 Allen wrench until about 1/4 inch of the screw is exposed. It is not necessary to remove the screw.

3. Loosen the two recessed set screws behind the bar assembly with a 1/16 Allen wrench. These screws are accessible when the side panel is moved back.
4. Push the keyboard toward the loosened bar assembly. The bar will move deeper into the side casting.
5. Lift the front edge of the keyboard approximately 30° as shown in Figure 6-14. Pull the keyboard away from the mainframe a few inches. The keyboard cable will slide out of a slot beneath the screen.
6. Disconnect the connector from the keyboard. Do not pull on the cable.

NOTE

Examine the corner castings of the keyboard frame. The structure of the castings allows the keyboard to move up and down freely on the angled metal bars on the front of the mainframe.

7. Remove the two socket-head cap screws (2-56 x 0.188) on the sides of the keyboard frame near the corner castings (see Figure 6-15). Use a 5/64 Allen wrench.
8. Carefully pull the plastic housing away from the metal keyboard frame and the faceplate and circuit board.
9. Remove the two flat-head, POZIDRIV screws (4-40 x 0.312) from the bottom of the keyboard frame.
10. Pull the metal frame away from the faceplate and circuit board. Notice that the two side rails have guide slots for the circuit board.
11. To remove the keyboard panel (faceplate) from the circuit board, remove the 10 screws (4-40 x 0.312 with washers) securing the two parts.

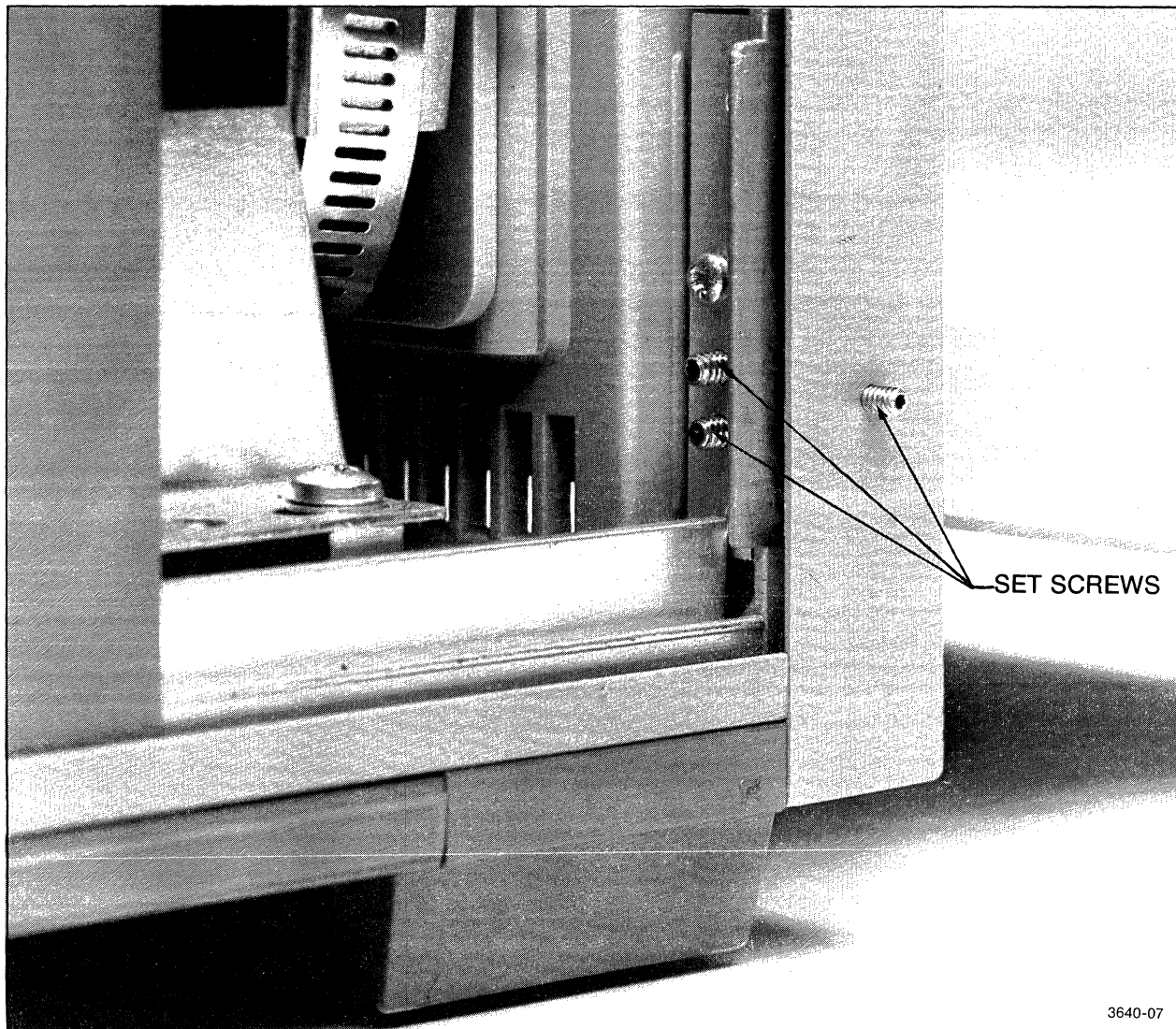


Figure 6-13. Socket-head set screws secure the rear keyboard frame to an angled metal bar on the front casting.

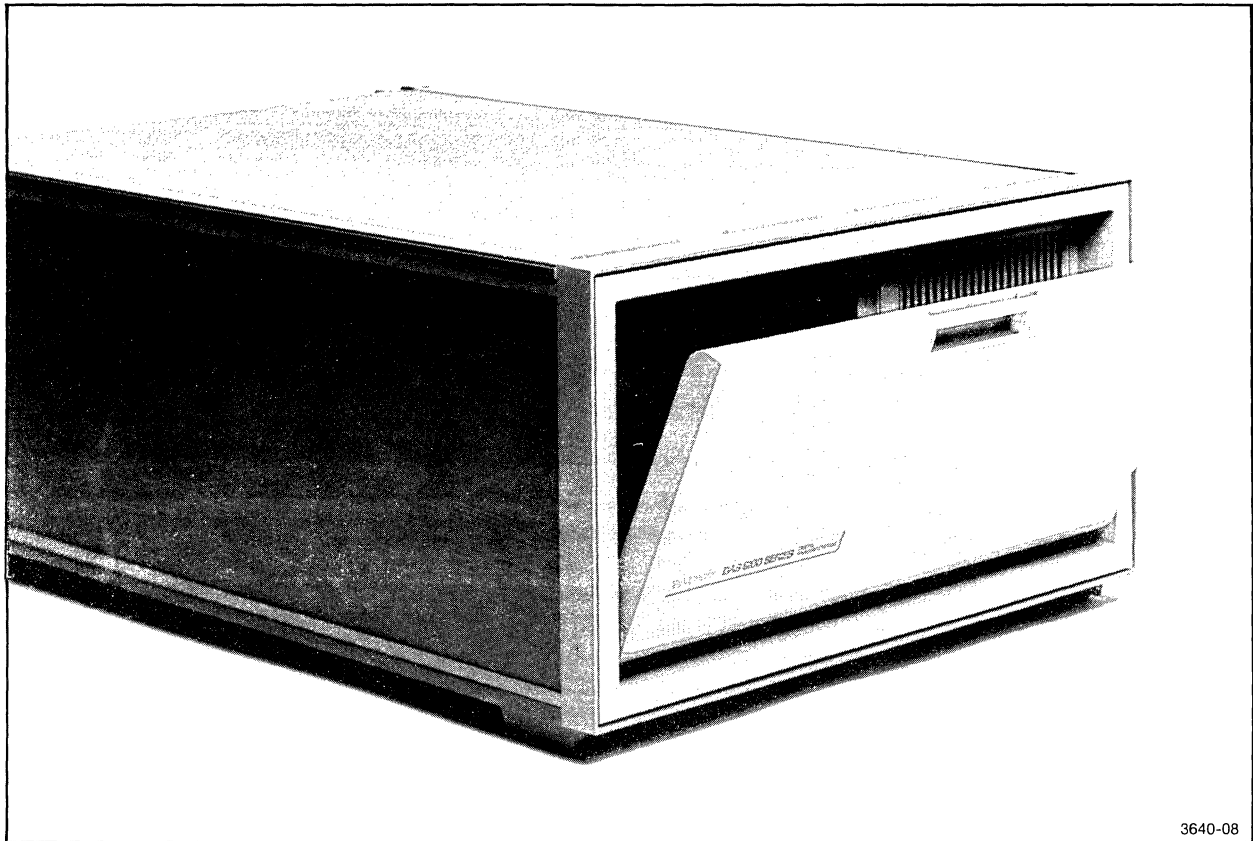


Figure 6-14. Lift the front edge of the keyboard 30°, then pull it away from the mainframe.

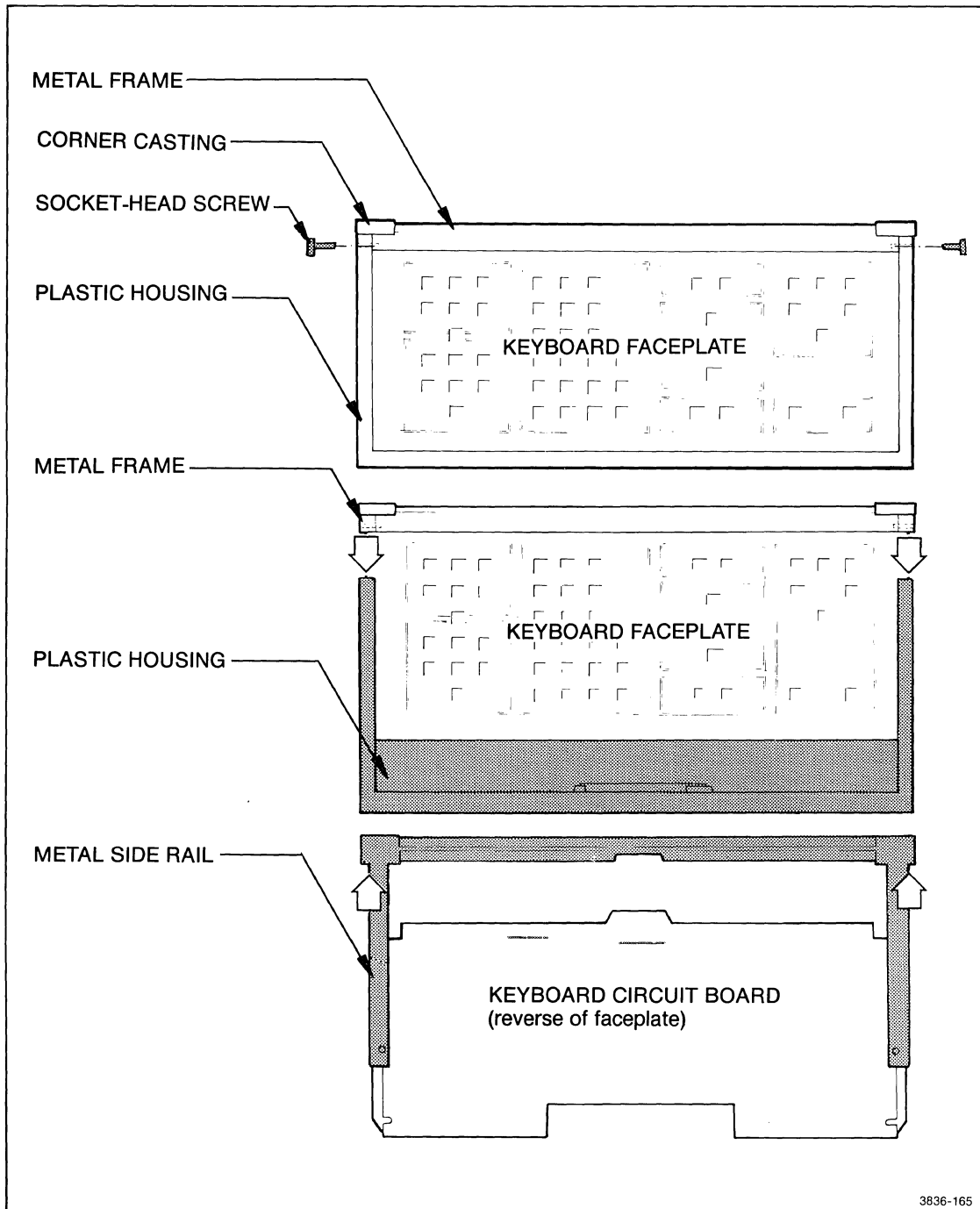


Figure 6-15. Dismantle the keyboard to access the circuit board.

To reassemble the keyboard:

1. Secure the circuit board to the face plate with the ten screws (4-40 x 0.312 with washers).
2. Position the metal frame so that the guide slots in the side rails align with the circuit board.
3. Slide the faceplate and circuit board into the frame.
4. Secure the circuit board to the metal frame with the two flat-head, POZIDRIV screws (4-40 x 0.312).
5. Press the metal frame, with faceplate and circuit board, into the plastic housing until the screw holes on the side of the frame are aligned with the screw holes on the side of the housing. It may be necessary to gently pry back the top, side edges of the plastic housing to let the corner castings slip down completely.
6. Insert the socket-head cap screws (2-56 x 0.188) into the side of the frame.
7. Attach the keyboard cable connector to the circuit board. The connector is a polarized type and can be joined in only one way.
8. Move the keyboard toward the mainframe, pushing the keyboard cable back into the slot as you go.
9. Tilt the bottom of the keyboard up until the corner castings slip over the angled metal bars on the front of the mainframe. Lower the keyboard to its normal position.
10. Tighten the set screw on the side molding until it is flush with the surface.
11. Tighten the two set screws inside the mainframe, behind the bar assembly.
12. Replace the side panel.

REMOVING THE INTERCONNECT BOARD (MONOCHROME ONLY)

WARNING

Hazardous voltages may be exposed during this disassembly procedure. Be sure power is off and the power cord is disconnected. After power-down, wait five minutes before starting this procedure to allow the filtering capacitors to discharge.

Figure 6-16 illustrates the procedures for removing the rear casting so that the interconnect board can be removed from the mainframe.

NOTE

Unless otherwise noted, screws mentioned in the text are the pan-head, POZIDRIV type.

1. Remove the four large slotted screws located in the four corners of the back panel. Also, remove the plastic brackets and springs.
2. Remove the top panel and both side panels. Move the bottom panel back a few inches to expose a set of screws. Also remove the module and power supply compartment covers.
3. Remove all instrument modules and power supplies.
4. Remove the three screws (6-32 x 0.250) that secure the rear casting to the vertical panel dividing the instrument modules from the power supplies.
5. Remove the three screws (4-40 x 0.188) inside the mainframe on the floor of the module compartment that secure the rear casting to the bottom of the mainframe.
6. Remove the Plexiglas cover over the capacitor board.
7. Remove the two screws (6-32 x 0.250) on the top, front part of the capacitor frame, just beyond the front edge of the capacitor bracket board, and the screw (6-32 x 0.250) on the outside of the capacitor frame that connects the frame to the power supplies.
8. Remove the two screws (6-32 x 1.000) in the center of the lower edge of the rear casting. These screws are not visible if the bottom panel is in place.
9. Remove the four TORX screws (8-32 x 1.38) at the four corners of the rear casting.
10. Carefully lower the rear casting. The power supply fan, heat sink, and capacitor frame will come away with it.
11. Remove the connectors between the filtering capacitors and the interconnect board at J124 and J125 (quick-release) and J121 (harmonica).
12. All remaining connectors on the interconnect board are in the section directly behind the monitor. Note the position of the connectors, then remove them.
13. Remove the 17 screws (4-40 x 0.250 with washers) that secure the interconnect board to the bottom of the mainframe.
14. Remove the nut in the lower back, right corner of the mainframe that secures the green and yellow chassis ground wire.
15. Carefully lift the large, plastic-wrapped cable harness away from the interconnect board.
16. Lift the entire rear casting and set it on top of the mainframe.
17. Carefully move the interconnect board out of the back of the mainframe.

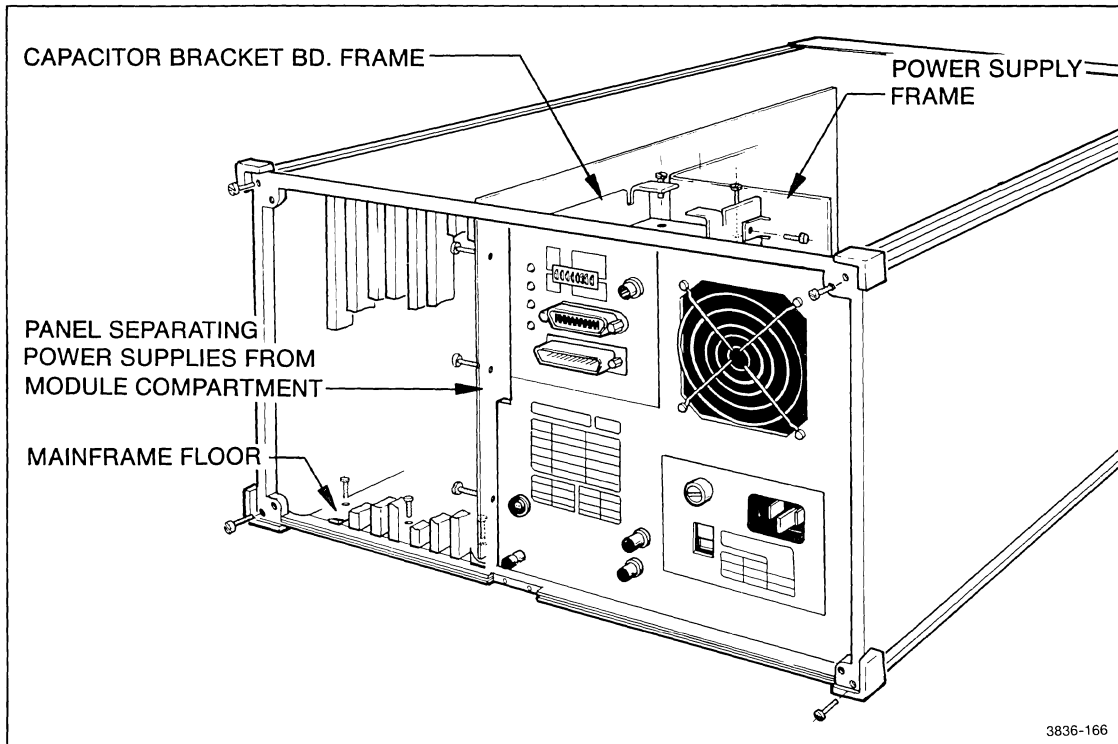


Figure 6-16. Removing the rear casting so the interconnect board can be removed from the mainframe (MONO-CHROME ONLY).

REMOVING THE INTERCONNECT BOARD (COLOR ONLY)

WARNING

Hazardous voltages may be exposed during this disassembly procedure. Be sure power is off and the power cord is disconnected before starting this procedure.

Figure 6-17 illustrates the procedures for removing the rear casting so that the interconnect board can be removed from the mainframe.

NOTE

Unless otherwise noted, screws mentioned in the text are the pan-head, POZIDRIV type.

1. Remove the four large slotted screws located in the four corners of the back panel. Also, remove the plastic brackets and springs.
2. Remove the top panel, both side panels, and the bottom panel. Also remove the instrument module and power supply compartment covers. **WAIT UNTIL THE WARNING LAMP ON THE CAPACITOR BRACKET BOARD STOPS FLASHING BEFORE PROCEEDING TO THE NEXT STEP.**

3. Remove all instrument modules and power supplies.
4. Remove the three screws (6-32 x 0.250) that secure the rear casting to the vertical panel that divides the instrument modules from the power supplies.
5. Remove the Plexiglas cover over the capacitor board.
6. Remove the two screws (6-32 x 0.250) on the top, front part of the capacitor frame, just beyond the front edge of the capacitor bracket board.
7. Remove the two screws (6-32 x 1.000) in the center of the lower edge of the rear casting. These screws are not visible if the bottom panel is in place.
8. Remove the four TORX screws (8-32 x 1.38) at the four corners of the rear casting.
9. Carefully lower the rear casting. The power supply fan, heat sink, and capacitor frame will come away with it. Place the rear panel to one side so that wires that remain connected are out of the way.
10. Note the position of all connectors at the rear of the interconnect board, disconnect them and disconnect the cable leading to the degaussing switch on the rear panel.
11. Remove the screw (4-40 x 0.312) securing the power supply cage to the floor of the mainframe.
12. Remove four screws (6-32 x 0.250) securing the power supply cage to the mainframe center divider.
13. Remove three screws (6-32 x 0.250) securing the power supply cage to the upper-outside rail of the mainframe.
14. Remove one screw (6-32 x 0.250) securing the power supply cage to the lower-outside rail near the center of the mainframe.
15. Carefully lift the +5 V power supply frame out of the top of the mainframe.
16. All remaining connectors on the interconnect board are in the section directly behind the monitor. Note the position of the connectors, then remove them.
17. Remove the 17 screws (4-40 x 0.250 with washers) that secure the interconnect board to the bottom of the mainframe.
18. Remove the nut in the lower back, right corner of the mainframe that secures the green and yellow chassis ground wire, and remove the nut at the lower center of the mainframe that secures the shielding to chassis ground.
19. Carefully lift the degaussing cable harness away from the interconnect board.
20. Disconnect the single black and white wire from the WORD RECOGNIZER OUTPUT connector on the inside of the rear casting.

21. Disconnect the single blue and white wire from the TRIGGER INPUT connector on the inside of the rear casting.
22. Lift the entire rear casting and set it on top of the mainframe.
23. Carefully move the interconnect board out of the back of the mainframe.

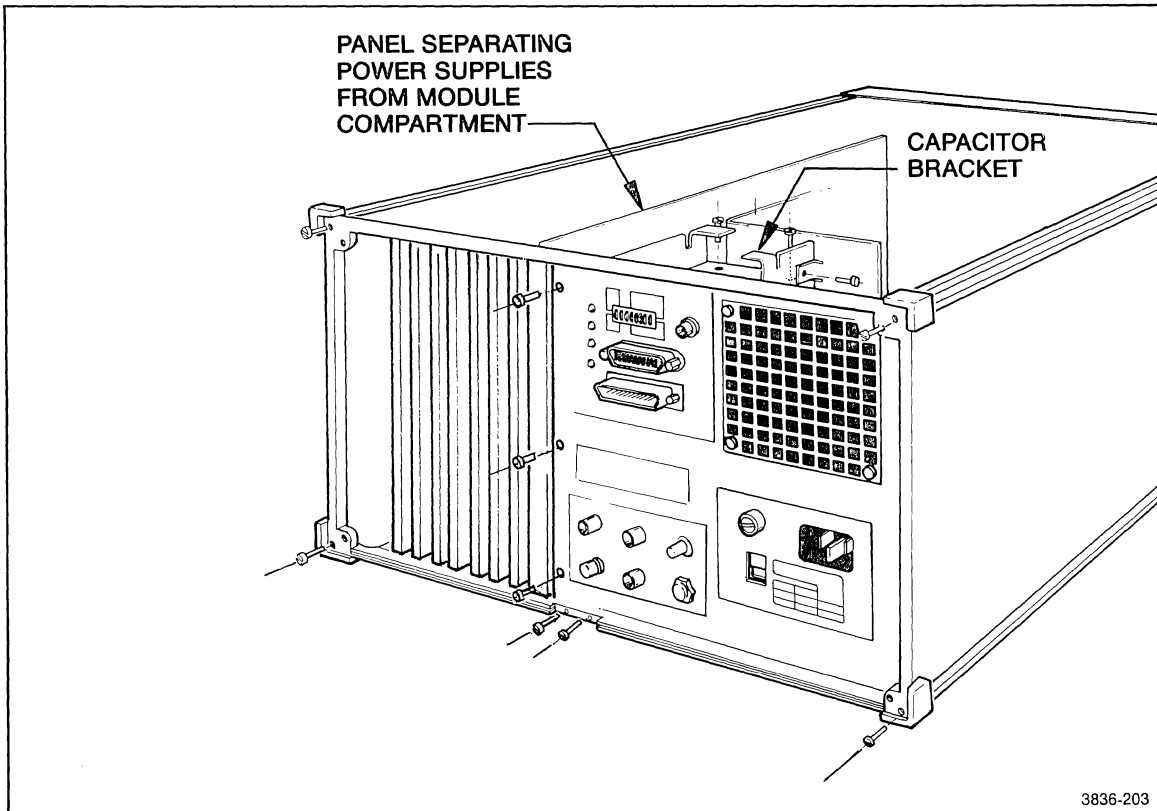


Figure 6-17. Removing the rear casting so the interconnect board can be removed from the mainframe (COLOR ONLY).

REMOVING THE FRONT FAN AND THE POWER SWITCH (MONOCHROME ONLY)

Removing the Front Fan (MONOCHROME ONLY)

1. Remove the top panel, the module compartment cover, and all instrument modules. Removing the side panel adjoining the fan is helpful but not necessary.
2. Remove the two screws (6-32 x 0.875) in the horizontal metal bar located between the two plastic module guide bars. Refer to Figure 6-18.

3. Pull the fan housing up from the mainframe. Place the fan on top of the monitor cover. Unless the wires connecting the fan to the mainframe are disconnected, the fan cannot be moved farther.
4. If you need to replace the fan or disconnect the wires joining it to the mainframe, remove the four screws (8-32 x 2.000 with nut and assembled lockwasher) that secure the fan assembly to the housing.
5. Lift the fan assembly out of the housing until the connectors attaching the power wires to the fan can be removed.
6. Make a note of the position of the different wire colors then pull the connectors. Long-nose pliers are helpful.
7. Thread the wires back through the hole in the housing to free the fan assembly from the housing and the entire unit from the mainframe.

Removing the Power Switch (MONOCHROME ONLY)

1. Remove the top panel and the module compartment cover.
2. Remove the front fan.
3. If a tape drive (Option 01) is installed in the mainframe, remove the tape drive data board.
4. Remove the plastic power switch knob on the front of the mainframe. This is accomplished by unscrewing the knob while holding the shaft to the switch assembly steady with long-nose pliers.
5. To remove the power switch bracket and expose the toggle switch, remove the two screws (4-40 x 0.250) at the back of the bracket.
6. To free the entire switch assembly from the mainframe, remove the three screws (4-40 x 0.312) on the outer edges of the assembly. There are two screws on the front of the assembly and one on the rear.

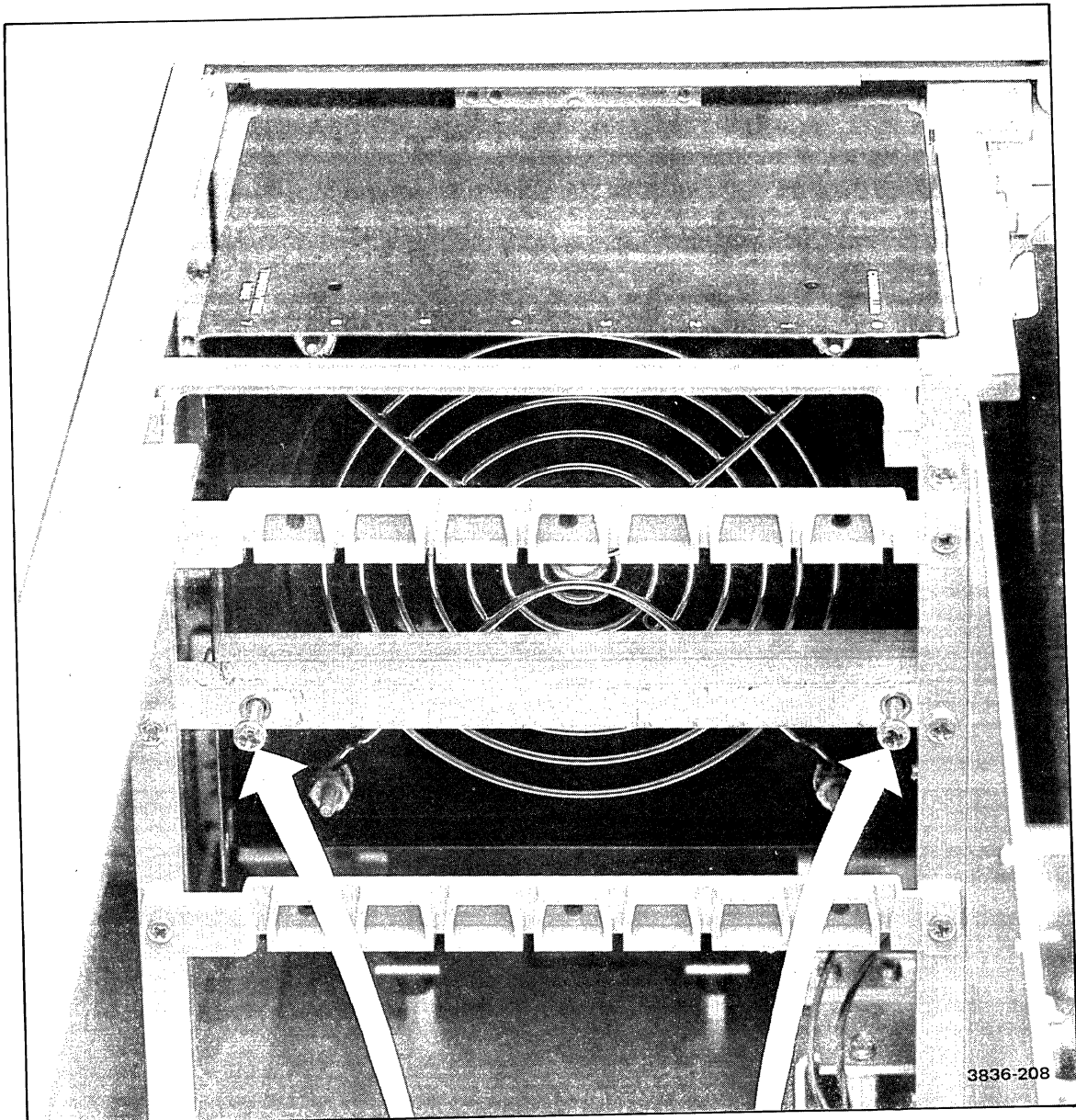


Figure 6-18. Location of the screws that attach the front fan to the mainframe (MONOCHROME ONLY).

REMOVING THE FRONT FAN AND THE POWER SWITCH (COLOR ONLY)

Removing the Front Fan (COLOR ONLY)

1. Remove the top panel, the module compartment cover, and all instrument modules. Removing the side panel adjoining the fan is helpful but not necessary. Also, removing the eight top screws from the monitor cover helps clear the wires leading to the front fan assembly. (It is not necessary to entirely remove the monitor cover.)
2. Remove the four screws (6-32 x 0.250) securing the fan to mainframe (refer to Figure 6-19). These screws are accessed through the instrument module compartment.
3. Pull the fan housing up from the mainframe. Place the fan on top of the monitor cover. Unless the wires connecting the fan to the mainframe at J419 (just behind the monitor) are disconnected, the fan cannot be moved farther.
4. If you need to replace the fan or disconnect the wires joining it to the mainframe, remove the four screws (8-32 x 2.000 with nut and assembled lockwasher) that secure the fan assembly to the housing.
5. Lift the fan assembly out of the housing until the connectors attaching the power wires to the fan can be removed.
6. Make a note of the position of the different wire colors then pull the connectors. Long-nose pliers are helpful.
7. Thread the wires back through the hole in the housing to free the fan assembly from the housing and the entire unit from the mainframe.

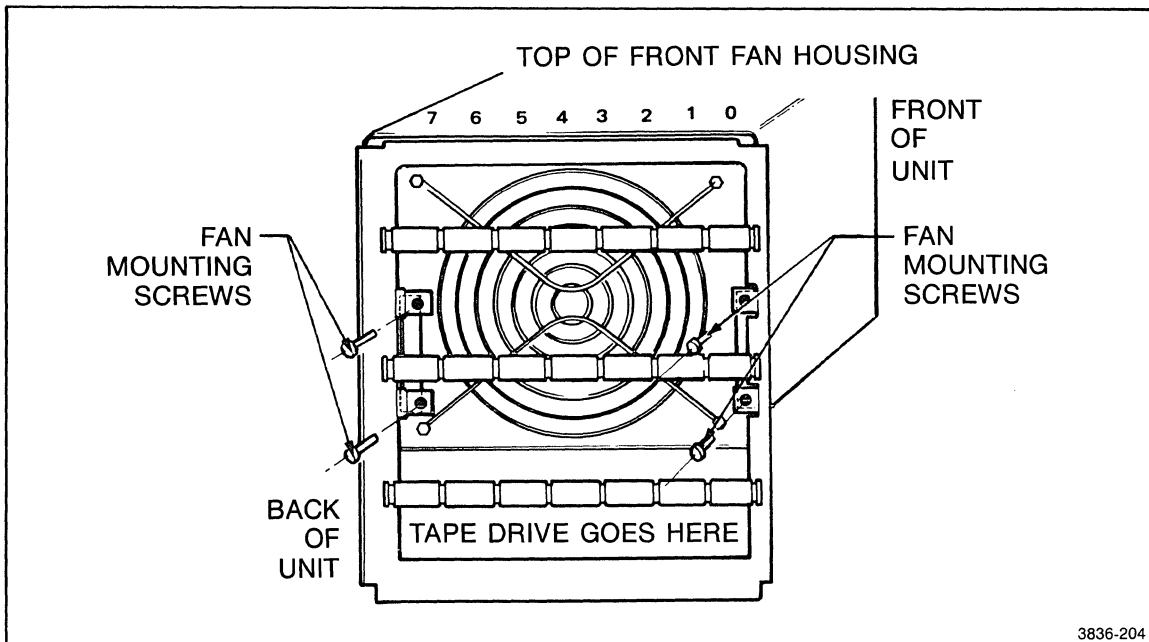


Figure 6-19. Location of the screws that attach the front fan to the mainframe (COLOR ONLY).

Removing the Power Switch (COLOR ONLY)

If the color monitor has been removed from the mainframe, start this procedure at step 5. If it has not been removed, begin at step 1.

1. Remove the top panel, bottom panel, and the module compartment cover.
2. Remove the front fan.
3. If a tape drive (Option 01) is installed in the mainframe, remove the tape drive data board.
4. Unscrew the plastic power switch knob on the front of the mainframe.
5. Place the mainframe on its side.
6. Hold onto the switch assembly with one hand. With the other, remove the two screws (6-32 x 0.250) on the bottom of the mainframe that secure the power switch assembly to the mainframe.
7. Lift the switch free of the mainframe, note the color coding of the four wires connected to the switch, and disconnect those wires.
8. Remove the rear screw (6-32 x 0.5000) securing the two parts of the switch bracket and separate the sliding portion from the stationary portion.

NOTE

When this screw is reinstalled during reassembly, adjust the screw so that the on-off action of the switch assembly is firm but does not bind.

9. Squeeze on the ends of the switch assembly and slide it out through the top of the bracket.

REMOVING THE TAPE DRIVE (OPTION 01)

Figure 6-20 shows the positions of the four circuit boards and the tape transport assembly in the tape drive.

1. Remove the top panel, the bottom panel, the module compartment cover, the side panel nearest the tape drive, and all instrument modules.
2. Remove the front fan assembly.

To remove the tape drive data board:

1. Note the position of the six colored connectors at the edge of the board, then disconnect them.
2. Remove the two screws (4-40 x 0.250 with washers) securing the tape drive data board to the tape transport assembly; lift the board out of the mainframe.

To remove the servo board:

1. Disconnect J131, J132, and J351 from the servo board.
2. Remove the four screws (4-40 x 0.250 with washers) that secure the board to the bottom of the mainframe. Lift the board out of the mainframe.

To remove the tape transport assembly (MONOCHROME ONLY):

1. Remove the tape drive data board.
2. Disconnect the 2-pin connector on the servo board at J367. No other connectors need be removed.
3. Remove the two screws (6-32 x 0.625) in the base of the transport assembly that attach the assembly to the mainframe. Lift the unit composed of the tape transport assembly, the status board, and the sensor board out of the mainframe.

To remove the tape transport assembly (COLOR ONLY):

1. Remove the tape drive data board.
2. Disconnect the 2-pin connector on the servo board at J367. No other connectors need be removed.
3. Place the mainframe on its side.
4. Hold onto the tape transport assembly with one hand. With the other, remove the four screws (6-32 x 0.250) that secure the transport assembly to the mainframe. (These screws are accessed on the bottom of the mainframe.)
5. Lift the unit composed of the tape transport assembly, the status board, and the sensor board out of the mainframe.

To remove the sensor board:

1. Remove the tape transport assembly.
2. Pull the connector between the sensor board and the status board at J11 on the sensor board.
3. Remove the screw (4-40 x 0.250) that attaches the sensor board to the tape transport assembly.

To remove the status board:

1. Remove the tape transport assembly.
2. Disconnect the 8-pin connector at J2 on the status board.
3. Carefully remove DS2 from its holder beneath the status board with angled tweezers.

4. Remove the thread-forming screw (2-32 x 0.312) on the edge of the board between S1 and S2.
5. Remove the screw (4-40 x 0.312 with washer) near J2 that secures the status board to the tape transport assembly.



Do not bend the gold switch arms on S1 and S2. Keep clothing and tools away from these delicate parts.

To remove the motor from the tape transport assembly:

Figure 6-21 is an exploded-view of the tape drive, and is the reference for disassembly and reassembly of the tape drive.

NOTE

Numbers following the drive components correspond to the labels in the exploded-view figure.

1. Remove the tape transport assembly from the mainframe.
2. Remove the sensor board.
3. Use long-nose pliers to remove the motor support springs (4) located on each side of the motor (3). See Figure 6-21.
4. Remove the eject spring (7) on the side of the transport assembly.
5. Remove the four screws (two 4-40 x 0.312 and two 4-40 x 0.625 with washers) (5) (6) in the corners of the bottom of the transport assembly that hold the two halves together.
6. As you separate the two halves of the tape transport assembly, the motor can be removed. Be very careful not to damage the tach wheel (1).

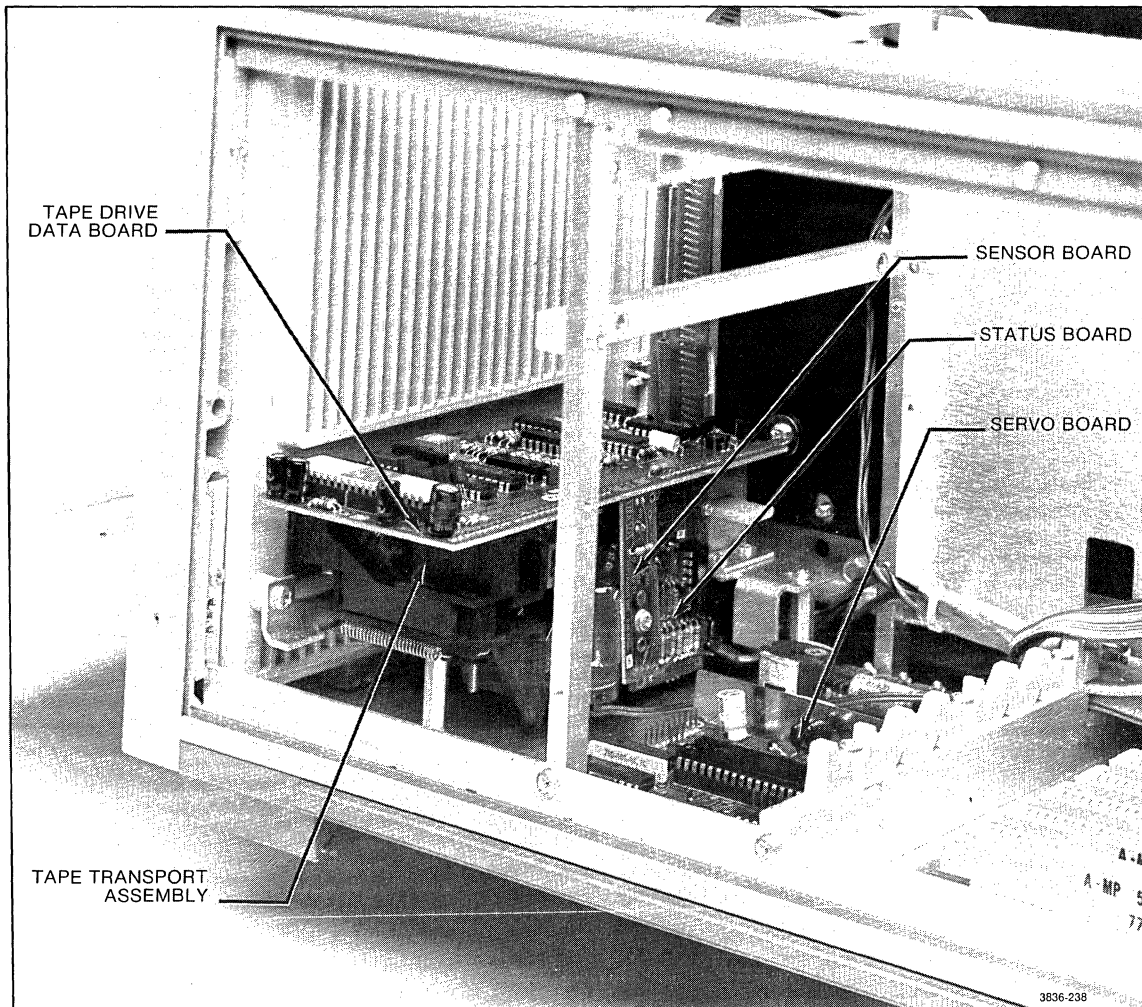


Figure 6-20. Location of the four circuit boards and the tape transport assembly in the tape drive. (This figure shows the Monochrome DAS. The Color DAS is similar.)

To reassemble the tape transport assembly:

1. Position the tach wheel in the upper half of the assembly.
2. Carefully move the lower half of the assembly around the motor and up to join the upper half. Secure the two halves with the four screws (two 4-40 x 0.312 and two 4-40 x 0.625 with washers) (5) (6); the longer screws belong nearest the motor.
3. Replace the motor support springs (4) and the eject spring (7).
4. Replace the sensor board (2). Replace the connector at J11. The tape transport unit is now ready to be reinstalled in the mainframe.

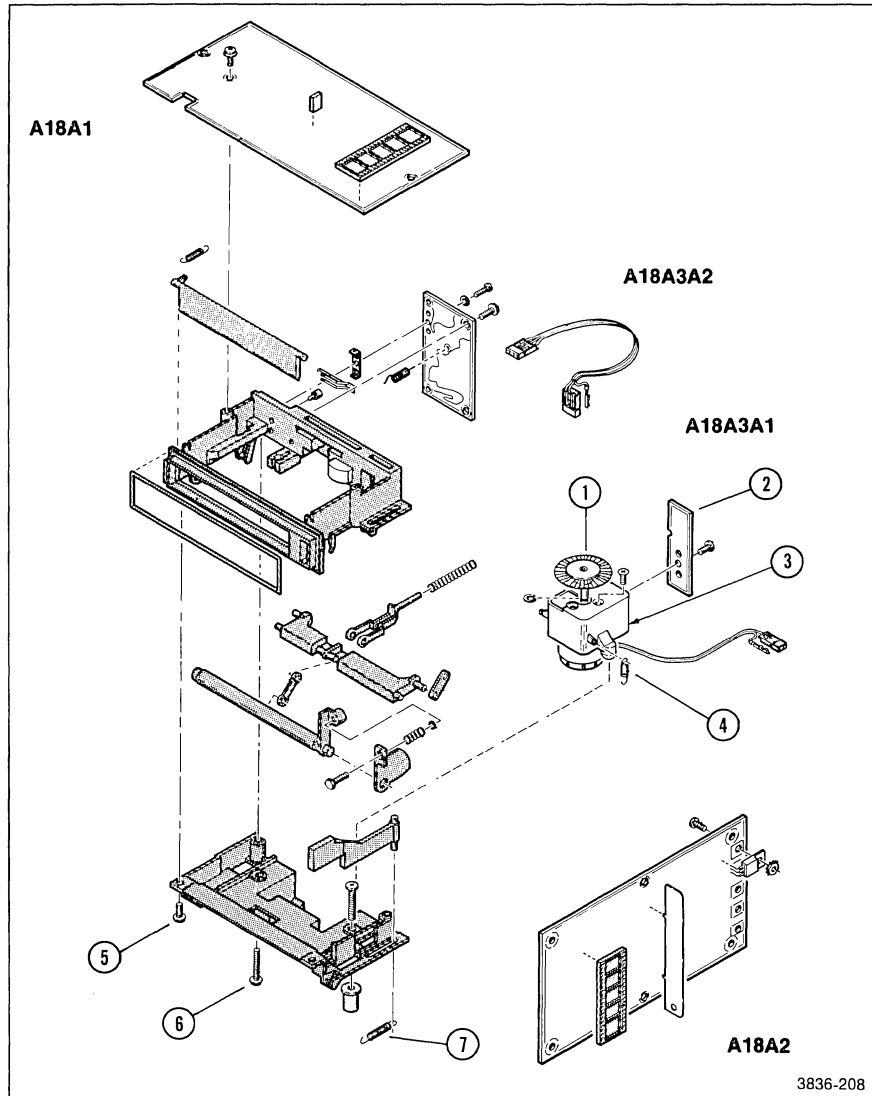


Figure 6-21. Exploded view of tape drive mechanical parts.

PREVENTIVE MAINTENANCE

Preventive maintenance consists of periodic cleaning and inspection. When performed on a regular basis, instrument breakdown will be reduced and reliability will increase.

The severity of the conditions under which the instrument is operated will determine the frequency of preventive maintenance procedures. A convenient and appropriate time to perform these procedures is immediately prior to instrument adjustment.

TAPE DRIVE PREVENTIVE MAINTENANCE

In order to minimize oxide and foreign matter accumulation, the read/write head of the drive should be cleaned regularly. Frequency of cleaning depends on the frequency of use and upon the cleanliness of the area in which the drive is used. Recommended cleaning intervals are once a month for units that are used moderately; once a week for units that are used where high foreign matter accumulations occur. The read/write head should be cleaned with reagent grade 91% isopropyl alcohol and a cotton swab. Other solvents can damage the plastic of the read/write head and chassis. Refer to Figure 6-22 for the location of the read/write head.

CAUTION

Damage to the tape's read/write head may occur if any solvent other than isopropyl alcohol is used in cleaning.

The read/write head should also be de-magnetized periodically as part of the standard preventive maintenance routine. Use a standard cassette tape head demagnetizer and follow the instructions that come with it.

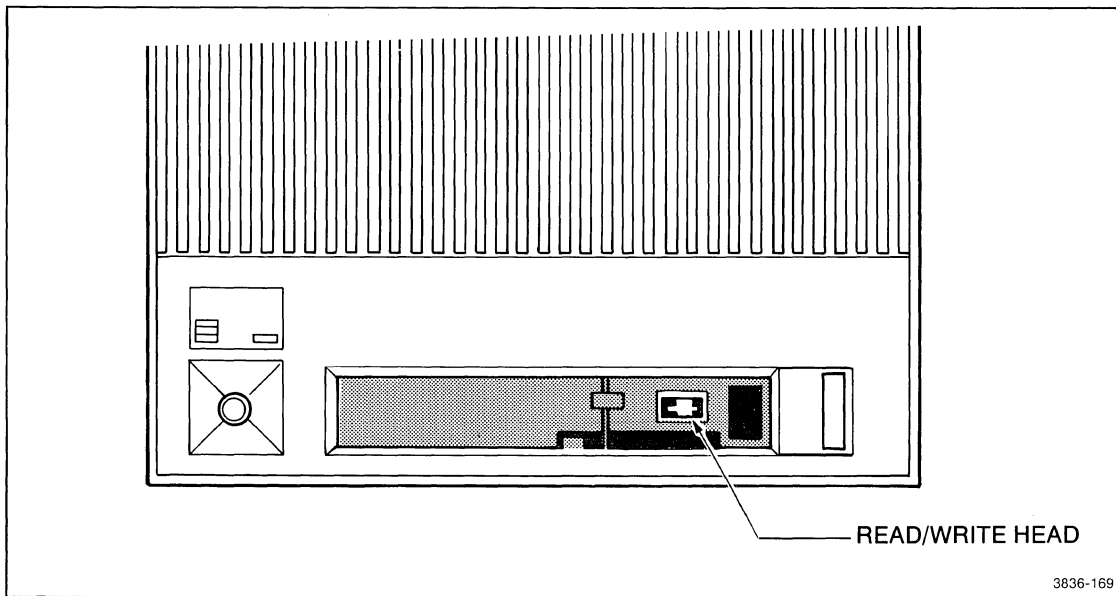


Figure 6-22. Location of the read/write head in the tape drive.

EXTERIOR CLEANING

Dust the exterior surfaces with a dry, lint-free cloth or a soft bristle brush. If hard dirt remains, use a cloth or swab dampened with warm water or a mild detergent. The swab is also useful for cleaning in narrow spaces around the controls. Do not use abrasive compounds.

CAUTION

To prevent getting water inside the instrument during external cleaning, use only enough water to dampen the cloth or swab.

DO NOT use chemical cleaning agents as they may damage the plastics used in the instrument. In particular, avoid chemicals that contain benzene, toluene, xylene, acetone, or similar solvents.

INTERIOR CLEANING

Internal cleaning should be done with a dry, low-velocity stream of air. A soft bristle brush is useful for cleaning around components. If a liquid must be used for minor internal cleaning, use isopropyl alcohol.

Should the interior of the instrument be so dirty as to require a thorough cleaning, it can be washed according to the wash procedure below.

CAUTION

DO NOT wash the power switch. The power switch must be covered during washing procedures.

When washing near unsealed electromechanical components like the keyboard keys and the tape drive sensing switches, use as little washing action as possible. This is to prevent washing the lubricant out of the switches and getting an excess of detergent into the contact areas of the switches.

DO NOT use a freon-based cleaner for cleaning the circuit boards. Freon will destroy aluminum capacitors.

DO NOT use fluorocarbon base spray cleaners or silicon spray lubricants on switches or switch contacts. These sprays may damage the circuit board material or plastic parts, and leave a dust-collecting residue. If necessary, New Improved NO NOISE may be used as a lubricant.

1. Disassemble the instrument to the point that all areas requiring washing are easily accessible. The amount of disassembly required will vary according to the instrument configuration and what options are installed. During disassembly, refer to the Disassembly/Installation Procedures described earlier in this section.
2. Cover the main power switch in the front of the mainframe to prevent detergent from getting inside.
3. Spray-wash components with a 5% solution of mild detergent and water (Kelite, or equivalent, is a usable mild detergent).

NOTE

After performing the previous steps, be sure to perform the following procedure on the bus connectors on the interconnect board and on the connectors on the instrument modules, power supplies, and options.

4. Thoroughly rinse components with clean water.
5. Blow-dry components with low velocity air.
6. Spray all switch contact areas and connectors with isopropyl alcohol, wait 60 seconds, then blow dry with low velocity air.
7. Heat all components in an oven or compartment using circulating air at +51 to +65°C (+125 to +150°F).
8. If necessary, the contact areas of push switches can be lubricated with New Improved NO NOISE.

INSPECTION

Inspect the instrument for broken connections, frayed wires, poorly seated components, leaking capacitors, damaged hardware, and heat damaged components.

Repair any obvious problems. However, take particular care if you find any heat damaged parts. Overheating usually indicates other circuit problems. To prevent a recurrence of the damage, find and correct the cause of the overheating (see the Maintenance: Troubleshooting section).

POWER-UP SELF-TEST

The power-up self-test can indicate when maintenance is required. If any of the power-up diagnostics are not passed when the instrument is turned on, maintenance is required. Additional in-depth diagnostic routines are discussed in the Troubleshooting and the Diagnostic Test Description sections.

CORRECTIVE MAINTENANCE

OBTAINING REPLACEMENT PARTS

All electrical and mechanical replaceable parts for the instrument can be obtained through your Tektronix Field Office or representative. However, many of the standard electrical components can be obtained locally. Before purchasing an ordinary part, check the Replaceable Parts list for value, tolerance, rating and description.

CAUTION

Check the parts list before replacing electrical components. If the part is called out as screened or burned-in, the replacement part must also be screened or burned-in or the repair may not be effective.

NOTE

When selecting replacement parts, remember that the physical size and shape of a component may affect its performance in the instrument. All replaceable parts should be direct replacements unless it is known that a different component will not adversely affect instrument performance.

Most of the mechanical parts and some of the electrical parts in this instrument are manufactured by Tektronix. Some parts are manufactured or selected by Tektronix to satisfy particular requirements, or are manufactured to certain specifications for Tektronix. To determine the manufacturer of a part, refer to the Parts List Cross Index of Code Number to Manufacturer. This is found in the Replaceable Parts list.

When ordering replacement parts from Tektronix, include the following information:

1. Instrument type
2. Instrument serial number
3. A description of the part (if electrical, include the component number)
4. Tektronix part number

STRAPS AND TEST POINTS

Before attempting any corrective maintenance, the location and orientation of straps on the circuit should be verified. In the Reference Information section, all circuit boards with straps and/or test points are shown along with the proper orientation of each strap. The function of each test point on the board is also given with the illustration.

FUSE LOCATIONS

There are four fuses in the mainframe. One fuse is accessible through the fuse holder on the back panel of the mainframe. One fuse is located on the Main Power Supply board. Two fuses are on the capacitor bracket board inside the power supply compartment of the mainframe. Refer to the Disassembly/Installation Procedures, earlier in this section, for access to the capacitor bracket board.

There is one fuse in each P6452 Data Acquisition Probe. This fuse must be un-soldered to be replaced.

CIRCUIT BOARD PIN REPLACEMENT

A circuit-board pin replacement kit, including necessary tools, instructions, and replacement pins with attached spare ferrules, is available from Tektronix.

CAUTION

Replace circuit board pins on multi-layer boards with extreme care. These boards have conductive paths laminated between the top and bottom board layers. All soldering, removal, and reinsertion of pins must be done with care to prevent breaking any electrical paths on the board.

To replace pins (refer to Figure 6-23 while reading these instructions):

1. Use a 15 W soldering iron to unsolder the pin while pulling it out of the board with a pair of pliers. If the pin is too short to use the pliers, it can be pushed out with any round device not over 0.028 inches in diameter.
2. If the ferrule remained in the board, carefully ream the solder out with a 0.031 inch drill. If the ferrule came out with the pin, clean the excess solder out of the hole with a solder-removing wick and a scribe.
3. If the ferrule remained in the board, remove the ferrule from the new pin and insert the pin into the old ferrule in the same orientation as the old pin. If the ferrule came out with the old pin, insert the new pin with ferrule in the same orientation as the old pin.
4. When the new pin is properly positioned in the circuit board, carefully solder it on both sides of the board.

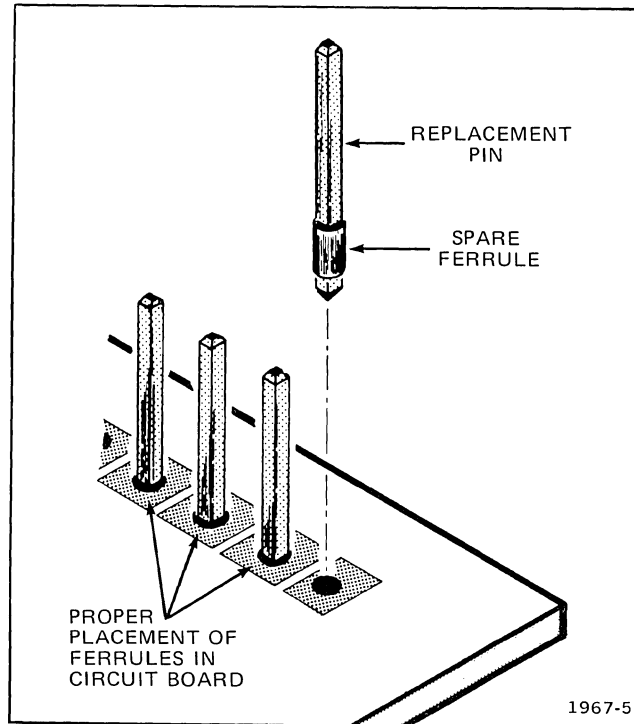


Figure 6-23. Circuit board pin and ferrule.

REPAIRING MULTI-CONDUCTOR CONNECTORS

Some of the interconnecting cable assemblies in the instrument consist of multi-conductor cable with machine-installed terminal connectors, mounted in plastic holders. For a picture of these connectors refer to Figure 6-24. The plastic holders can be replaced easily. However, if the cable is defective it must be replaced as a complete cable assembly. If one of the terminal connectors comes loose from the plastic holder, it can be reinstalled as shown in Figure 6-24. When reinstalling the connector into the circuit-board pins, be sure to match the triangle on the connector.

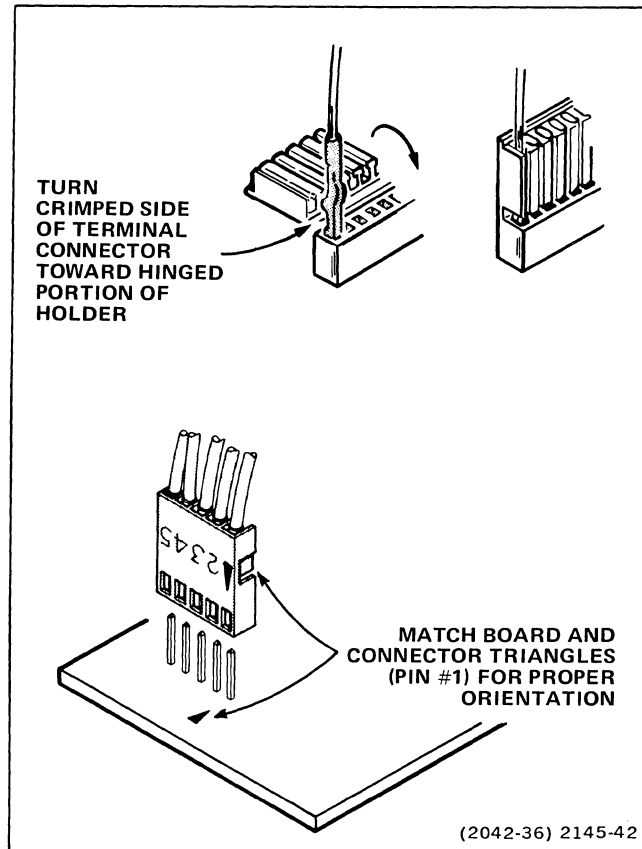


Figure 6-24. Multi-conductor terminal connectors.

REPAIRING THE DISPLAY MONITOR

The display monitor is delicate and contains high voltages. Follow these precautions as you handle the monitor:

- While performing maintenance on the display monitor, keep the chassis grounded, then use only one hand when making tests. This prevents hand-to-hand electrical shock.
- Use extreme care when handling the CRT. Rough handling may cause the tube to implode due to pressure differential. Do not nick or scratch glass or subject it to undue pressure in removal or installation. When handling, safety goggles and heavy gloves should be worn for protection.
- Discharge the CRT by shorting the anode to chassis ground. When discharging, make connections first to ground then to anode.
- Always reinstall protective devices, such as insulation, isolation resistors and capacitors, and shields after working on a monitor.

- Before returning a serviced display monitor, the unit must be tested to verify its safety as follows (do not use a line isolation transformer for the following test):
 1. Connect a 1500 Ω , 10 W resistor across the leads of a 1000 Ω per V (or higher sensitivity) ac voltmeter.
 2. Connect the common lead of the meter to a good earth ground such as a water pipe.
 3. Connect the voltage lead to the display monitor frame.
 4. Apply ac line voltage to the monitor.
 5. Observe that the meter indication does not exceed 7.5 V. If the indicated voltage exceeds this value, locate and repair the fault.
 6. Reverse the ac line voltage and again observe that the meter indication does not exceed 7.5 V. If the indicated voltage exceeds this value, locate and repair the fault.

REPAIRING THE DAS CARRYING HANDLE

The carrying handle of the instrument is an integral part of the side panel to which it is connected. If the handle is damaged, the entire side panel must be replaced as a unit.

REPAIRING A P6452 DATA ACQUISITION PROBE

The P6452 probe is generally repairable to the component level. However, note that the hybrids that provide all active circuitry for the probes are bonded to the circuit board. New hybrids cannot be bonded to the board without destroying the new hybrid. If any active circuitry fails in a P6452, then the entire circuit board and both hybrids must be replaced.

REPAIRING A P6454 100 MHz CLOCK PROBE

The P6454 probe is calibrated at the factory by having its cable cut to an electrical length. If the cable needs to be replaced, the new cable must have the same electrical length as the old cable. For this reason, do not replace the cable with anything other than the Tektronix part shown in the Replaceable Parts List. The Tektronix cable has already been cut to electrical length. When installing this cable, DO NOT CUT MORE CABLE THAN IS ABSOLUTELY NECESSARY for proper soldering.

If the P6454 hybrid needs to be replaced, there are certain soldering precautions that should be followed. These precautions are listed below.

- Keep soldering temperature and time to a minimum to avoid melting the hybrid.
- Use as small an amount of solder as possible.
- Take care not to scrape the gold plating from the leads.

REPAIRING A P6455 TTL/MOS PATTERN GENERATOR PROBE

The P6455 probe is repairable to the component level. Note that the hybrids running parallel to the long axis of the case are considered components, and may not be repaired internally. If they fail, they must be replaced.

REPAIRING A P6456 ECL PATTERN GENERATOR PROBE

The P6456 probe is repairable to the component level. There are no special precautions required to repair this probe.

REPAIRING THE TAPE DRIVE (OPTION 01)

Refer to the Disassembly/Installation Procedures while repairing the tape drive. In particular, note that the tape head is glued into the tape drive housing, so it can neither be adjusted nor replaced.

MAINTENANCE: 7 TROUBLESHOOTING

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MAINTENANCE: TROUBLESHOOTING

Tektronix maintains repair and recalibration facilities at its local Field Service Centers and the Factory Service Center. For further information or assistance, contact your local Tektronix Field Office or representative.

TROUBLESHOOTING PRECAUTIONS

INTERNAL INSTRUMENT ACCESS



WARNING

Electric shock hazards inside the instrument may be exposed when protective covers are removed.

To gain access to the interior of the instrument, refer to the disassembly procedures in the Maintenance: General Information section.

SOLDERING

Most of the components in the instrument are soldered in place. If it is necessary to replace a soldered part, use a 15 W soldering iron to prevent heat damage to the circuit board or components. Excessive heat will lift circuit runs on the circuit board.

The flux in the solder may leave a residue on the circuit board, which can provide a high resistance leakage path and affect instrument operation. Be sure to clean off this residue with isopropyl alcohol or a similar solvent.

STATIC DISCHARGE DAMAGE



CAUTION

All devices in the instrument are susceptible to damage by static discharge to some degree.

Most of the devices used in the DAS are static sensitive and may be damaged by improper handling. See Table 7-1 for the relative susceptibility of various classes of semiconductors. Static voltages of 1 to 30 kV are common in unprotected environments.

Table 7-1
Relative Susceptibility of Semiconductors to Static Discharge Damage

Semiconductor Class	Danger Voltage ^a
MOS or CMOS	100 - 500 V
ECL	200 - 500 V
Schottky signal diodes	250 V
Schottky TTL	500 V
High frequency bipolar transistors	400 - 600 V
JFETs	600 - 800 V
Linear microcircuits	400 - 1000 V
Low-power Schottky TTL	1200 V

^aVoltage discharged from a 100 pF capacitor through a resistance of 100 Ω.

TROUBLESHOOTING EQUIPMENT

The following equipment, or equivalent, is recommended for troubleshooting DAS 9100 systems.

- DAS 9100 Series Service Maintenance Kit (see Optional Accessories for the part number).
- A 200 MHz (or better), 2 channel oscilloscope (for example, the TEKTRONIX 475 Oscilloscope).
- A 100 MHz pulse generator with variable amplitude (for example, the TEKTRONIX PG 502 Pulse Generator).
- A 3.5 digit, 1% accuracy digital multimeter (for example, the TEKTRONIX DM 502A Digital Multimeter).
- A variable voltage source.

The above equipment is needed for most DAS troubleshooting. The following equipment is needed only in special cases.

- A general purpose logic analyzer (for example, the SONY/TEKTRONIX 308 Data Analyzer, the TEKTRONIX 7D01 Logic Analyzer, or another DAS).
- A TEKTRONIX 4051 Desktop Computer is required when troubleshooting the Option 02 I/O Interface of the DAS. The 4051 may also be useful in troubleshooting the DAS Controller board.

NOTE

All Basic programs found in this text are written for a Tektronix 4050 series computer and may be incompatible with other versions of Basic.

TROUBLESHOOTING AIDS

The DAS contains a set of self-diagnostic tests. These tests can be used by the troubleshooter to isolate the section of a circuit board that failed, and in some instances, to indicate the specific component at fault.

The self-diagnostics are the basis of the troubleshooting tree provided later. This tree starts from the power-up tests provided by the diagnostics and, in many instances, isolates circuit faults to specific components. The diagnostic tests may also be used alone, without the tree, by looking up the description of the test in the Maintenance: Diagnostic Test Descriptions section of this manual.

There are parts of the troubleshooting tree that do not rely on the self-diagnostics. For example, the Main Power Supply, the +5 V Power Supplies, Option 01 (the tape drive), and Option 02 (the I/O interface) are not examined by the self-diagnostics. The Controller board has very little internal diagnostics. Troubleshooting methods for these parts of the DAS are also in this section.

As an additional aid in troubleshooting, those circuit boards with extensive diagnostics have the signal flow of the diagnostics shown in colors on the schematics. For more information on the uses of the color coding on the schematics refer to the introduction of the Diagrams section.

THE DIAGNOSTICS MENU

The DAS diagnostics present their information in two menus: the power-up display and the Diagnostics menu.

The DAS self-diagnostics are only accessible when the power-up display shows that one of the modules has failed the power-up diagnostics. The power-up diagnostics are a limited number of fast functional tests that are run whenever the DAS is powered up. These tests verify the basic functions of the DAS, but should not be considered comprehensive.

It is possible for a module in the DAS to fail in such a way that the power-up diagnostics do not detect the failure. To access the self-diagnostics in this situation, the operator can induce a diagnostic failure from the keyboard by holding down any key on the keyboard (other than SHIFT) from the time the DAS is turned on to the time the power-up diagnostics are finished.

When the power-up diagnostics fail, the power-up display should be similar to Figure 7-1. To enter the Diagnostics menu, press the START SYSTEM key.

NOTE

Do not press any key other than START SYSTEM. If you do, you may leave the power-up display, and lose access to the diagnostics menu. The only time the diagnostics are accessible is when the power-up display shows a failure.

```

TEKTRONIX DAS 9100 SELF TEST IN PROGRESS          FIRMWARE VERSION 1.07

CONFIGURATION:

SLOT 0  CONTROLLER                                FAIL  0 3F
SLOT 1  91P16   16 CHANNEL / 40ns PATTERN GENERATOR  PASS
SLOT 2  91A32   32 CHANNEL / 40ns ACQUISITION MODULE PASS
SLOT 3
SLOT 4
SLOT 5  91A32   32 CHANNEL / 40ns ACQUISITION MODULE PASS
SLOT 6  91A08   8 CHANNEL / 10ns ACQUISITION MODULE PASS
SLOT 7  TRIGGER / TIME BASE                       PASS
SLOT 8  I/O OPTION

PRESS:  START SYSTEM TO ENTER DIAGNOSTICS.
        DON'T CARE TO BEGIN OPERATION.

3836-209
    
```

Figure 7-1. Failure in the power-up self-test.

When first entered, the Diagnostics menu should look similar to Figure 7-2. The Diagnostics menu is controlled in the same way as the standard menus.

All changeable fields are shown in the reverse video. Fields are changed by moving the blinking screen cursor into the field to be altered. Cursor movement is controlled by the up, down, right, and left cursor arrows, and the NEXT key. The value in the field is changed either by using the SELECT key, or by entering a hexadecimal value from the data entry keys.

```

DAS 9100 DIAGNOSTICS          MODULE:  ALL          LOOPING:  OFF

SLOTS:
0 CONTROLLER  4
1 91P16       5 91A32
2 91A32       6 91A08
3              7 TRIGGER

PRESS:  START SYSTEM TO BEGIN TEST.

3836-210
    
```

Figure 7-2. Diagnostics Menu

After the various fields have been changed to run the desired test, the test can be started by pressing the START SYSTEM key. A test can be stopped at any time by pressing the STOP key.

The Diagnostic menu may be exited by pressing any menu selection key while no tests are running. This will display the selected menu on the screen. The diagnostics cannot be re-entered from the standard menu displays.

DIAGNOSTICS CONTROL SUMMARY

In summary, the diagnostics are controlled in the following way:

- A power-up diagnostic failure is forced by pressing and holding down a keyboard key immediately after turning on the DAS.
- The START SYSTEM key is pressed to enter the Diagnostic test menu.
- The reverse video fields on the display are changed to the desired values using the cursor control keys and the data entry keys.
- The START SYSTEM key is pressed to start the diagnostic test or function.
- The function will either stop by itself, or the STOP key may be pressed to stop the function at any time.
- The Diagnostics menu may be exited at any time by pressing a menu selection key while no tests are running. The DAS must be turned off or reset to re-enter the Diagnostics menu.

DIAGNOSTICS MENU USER-CHANGEABLE FIELDS

There are six user-changeable fields normally used with the diagnostics. All of these fields can apply to any diagnostic test. These fields and their functions are listed below.

The following four fields select which modules will be tested by the self-diagnostics and which functional tests will be run on the selected modules.

- **MODULE.** This field can be set to either ALL or SINGLE. ALL causes all modules in the system to be tested. SINGLE allows modules to be tested individually.

NOTE

When entering the MODULE field, the DAS display shows all the modules installed in the DAS and their slot numbers. The modules that fail diagnostics are highlighted.

- **SLOT.** This field only appears when the MODULE field is set to SINGLE. Using the hexadecimal keys, enter the slot number of the module to be tested in this field.

- **MODE.** This field only appears when a slot number has been entered in the SLOT field. This field can contain either ALL or SINGLE. ALL causes most of the functions for the selected module to be executed in sequence. SINGLE allows individual functions to be selected.

NOTE

When entering the MODE field, the DAS display lists all the test functions for the slot selected.

- **FUNCTION.** This field appears when the MODE field is set to SINGLE. Enter the number corresponding to the diagnostic function-to-be-run in this field using the hexadecimal keys.

The following two fields influence the way the selected functional tests are run by the DAS.

- **LOOPING.** The LOOPING field is always present and may be set to either ON or OFF using the SELECT key. When the field is set to ON, the looping feature allows one test or a sequence of tests to be run continuously. Use this feature to catch intermittent faults or for circuit tracing with an oscilloscope.
- **DISPLAY.** This field only appears when the LOOPING field is set ON. The DISPLAY field may be set to either ON or OFF. When the field is set to OFF, the Controller board disables direct memory access for the display monitor whenever a test is running. This allows the diagnostic test that is looping to run continuously without interruptions. Use this mode to perform circuit tracing with an oscilloscope.

NOTE

If an error occurs while a diagnostic test is running and the display is turned off, the LOCK-OUT and REMOTE lights are turned on.

For more detailed information regarding the Diagnostic menu or the functional tests, refer to the Maintenance: Diagnostic Test Descriptions section of this manual.

THE TROUBLESHOOTING TREE

The troubleshooting tree is entered at the top of Figure 7-3 (troubleshooting chart 1). This figure correlates modules or sub-assemblies to chart numbers. Begin at the top of the tree from DAS power-up.

USING THE TROUBLESHOOTING TREE

The troubleshooting tree is divided into several charts. The charts are numbered in the sequence recommended for troubleshooting. The charts are separated into the board or sub-assembly level. Most charts start from board failures discovered in the Diagnostics menu. Other charts may simply start from the assumption that the board, module, or assembly is thought to be faulty. In most cases, the initial information that is necessary to progress through the tree is found in the Diagnostics menu.

NOTE

The troubleshooting tree will not isolate all instrument faults. Faults not isolated by the tree must be found using the schematics and traditional troubleshooting methods. Refer to the introduction of the Diagrams section of the manual for suggestions regarding use of the color-coded schematics.

STARTING THE TREE

Refer to the troubleshooting tree charts starting with Figure 7-3. Turn on the DAS. If there is a power-up failure, note the circled number in the tree that corresponds to the type of failure named in the display. Find that circled number further on in the tree and follow the steps for that chart.

If there is no power-up failure indication, perform the following procedure:

1. Turn off the mainframe, then turn it back on while holding a key (other than the SHIFT key) down. This causes the needed power-up failure indication.
2. Enter the Diagnostics menu by pressing the START SYSTEM key.
3. Press the START SYSTEM key again after entering the menu to run most of the functional tests in the DAS self-diagnostics program.
4. If a failure occurs, note the circled number in the tree that corresponds to the type of failure named in the display.
5. Find that circled number further back in the tree and follow the steps for that chart.

If no faults are detected in the previous steps, the trees probably will not isolate the circuit problem. If you wish to attempt the tree anyway, decide which board might contain the fault and note the circled number in the tree that corresponds to that board or sub-assembly. Find that circled number further back in the tree and follow the steps for that chart.

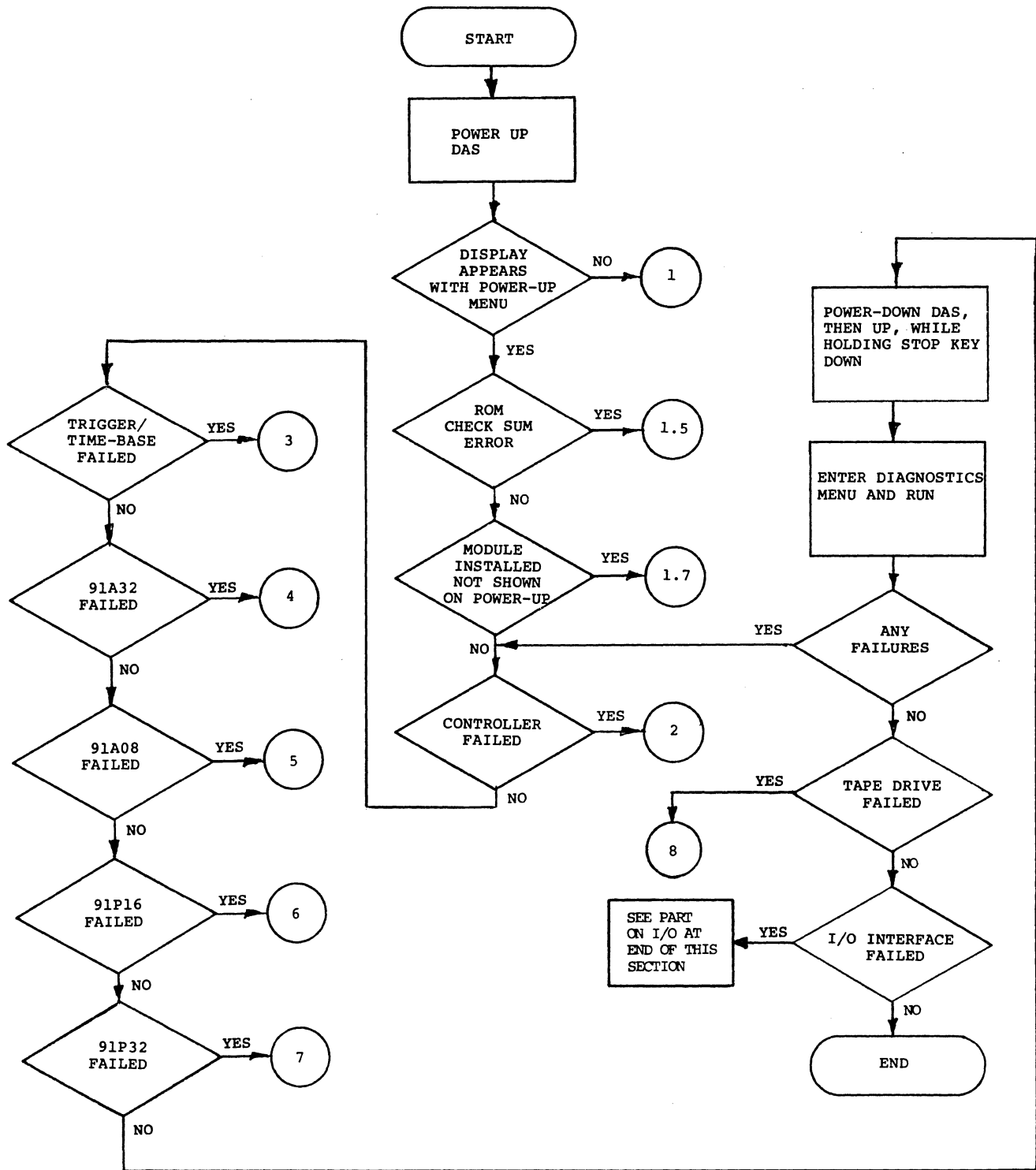


Figure 7-3. Troubleshooting Chart 1—Power-up through diagnostics.

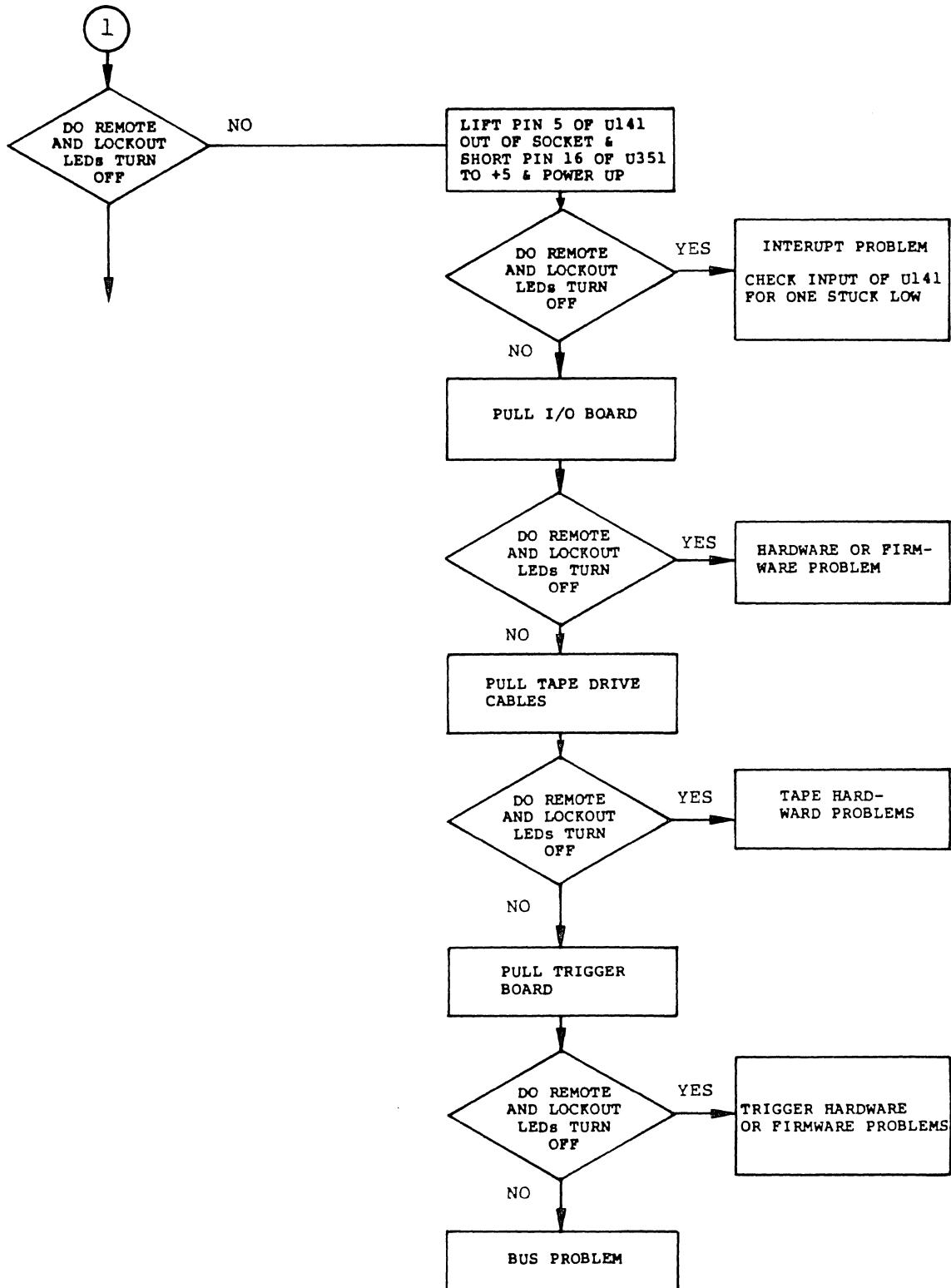


Figure 7-4. Troubleshooting Chart 2—Controller (sheet 1 of 8).

NOTE:
TO CHECK LINES,
USE OSCILLOSCOPE;
WATCH THEM GO
HIGH AND LOW

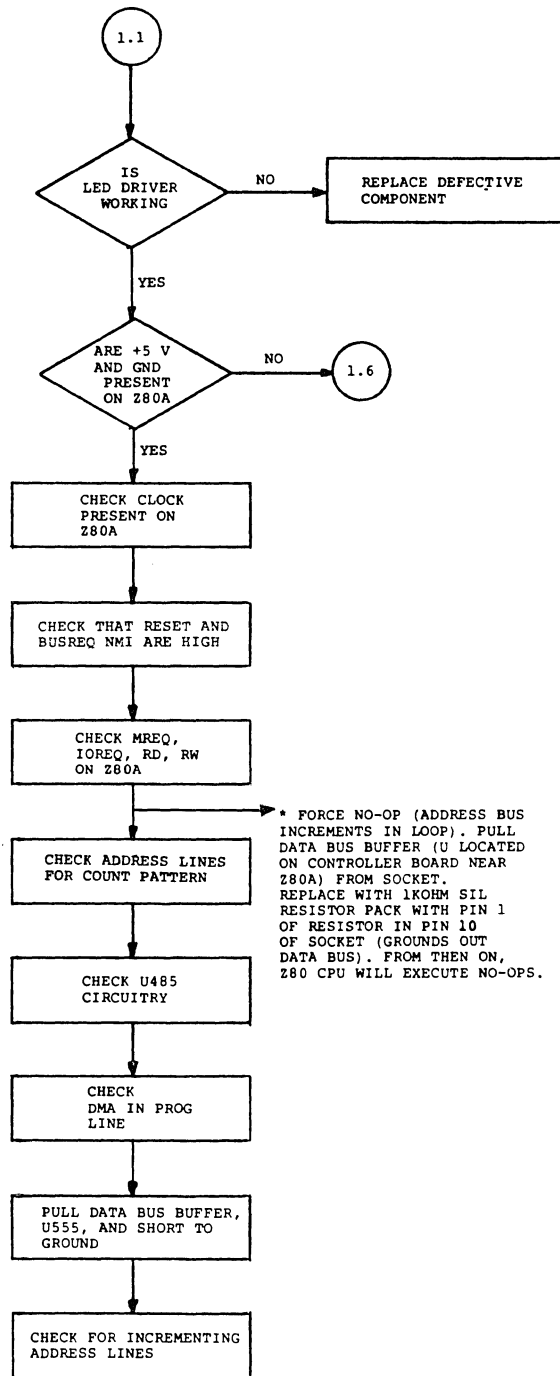


Figure 7-5. Troubleshooting Chart 2 - Controller with bad kernel or LED driver (sheet 2 of 8).

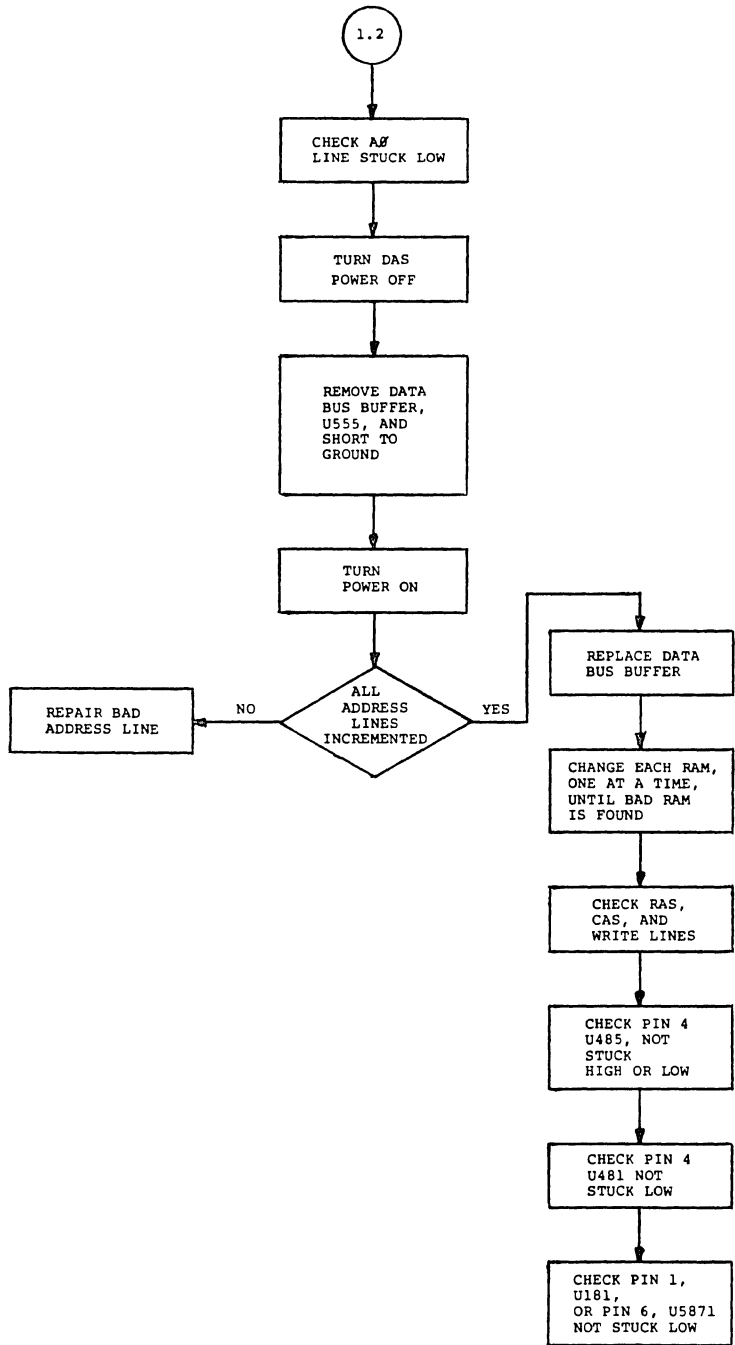


Figure 7-6. Troubleshooting Chart 2—Controller with RAM failure (sheet 3 of 8).

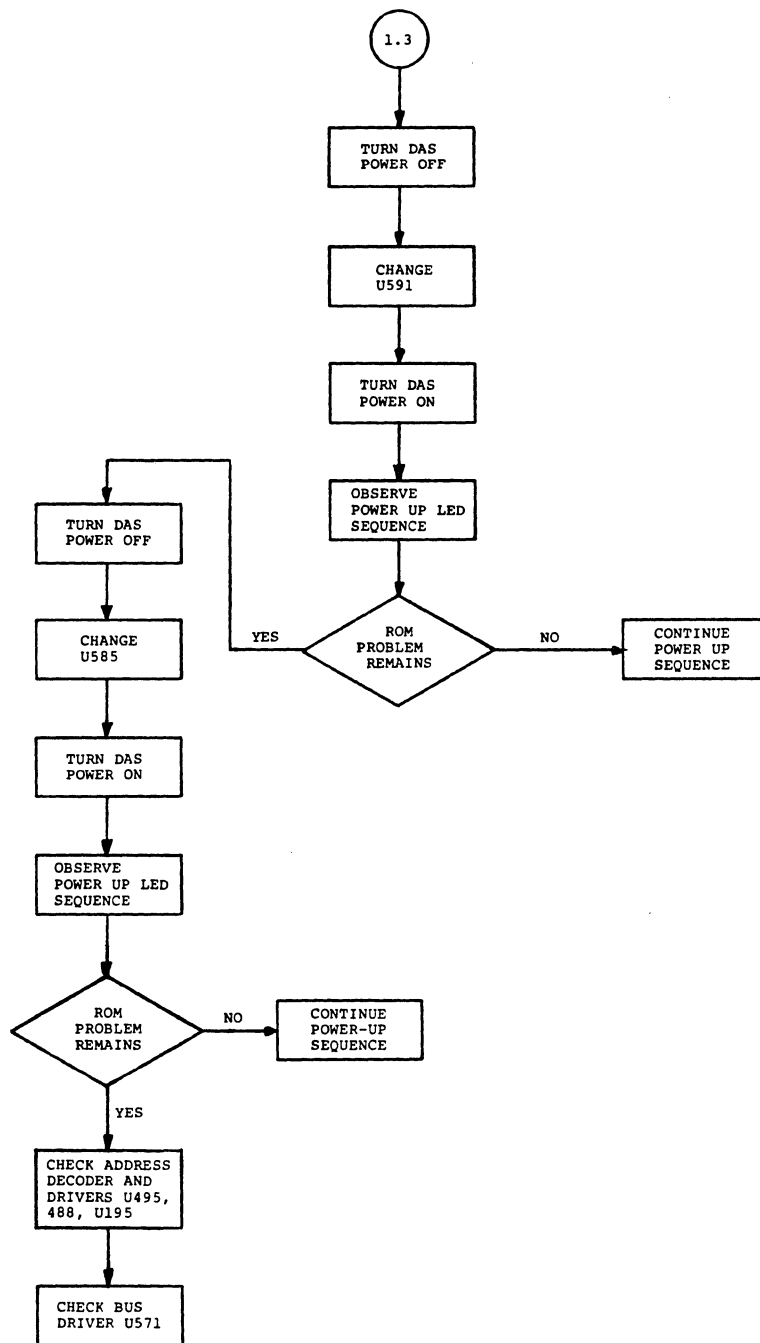


Figure 7-7. Troubleshooting Chart 2—Controller with Controller ROM failure (sheet 4 of 8).

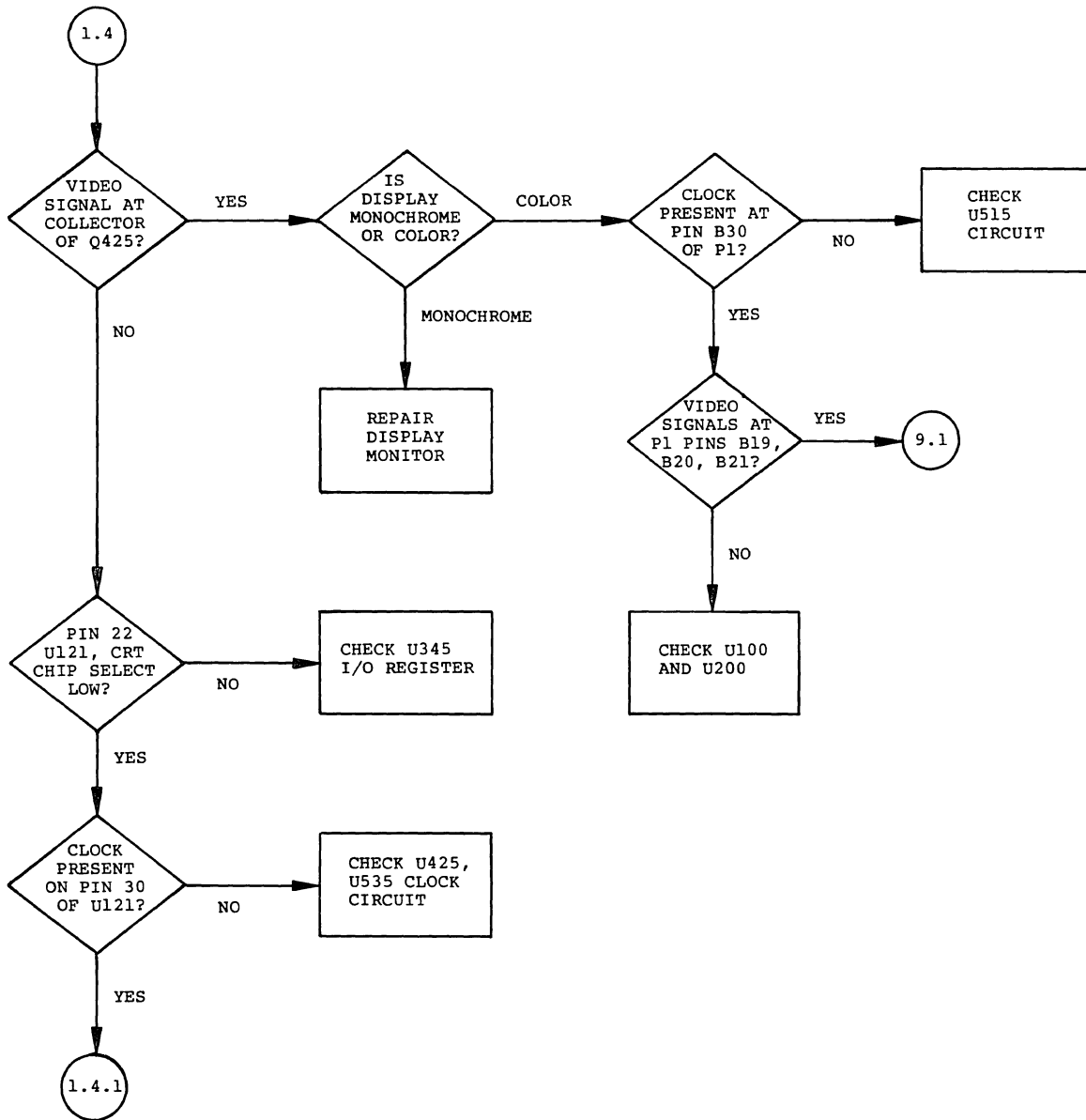


Figure 7-8. Troubleshooting Chart 2—Controller with display, CRT controller, or DMA failure (sheet 5 of 8).

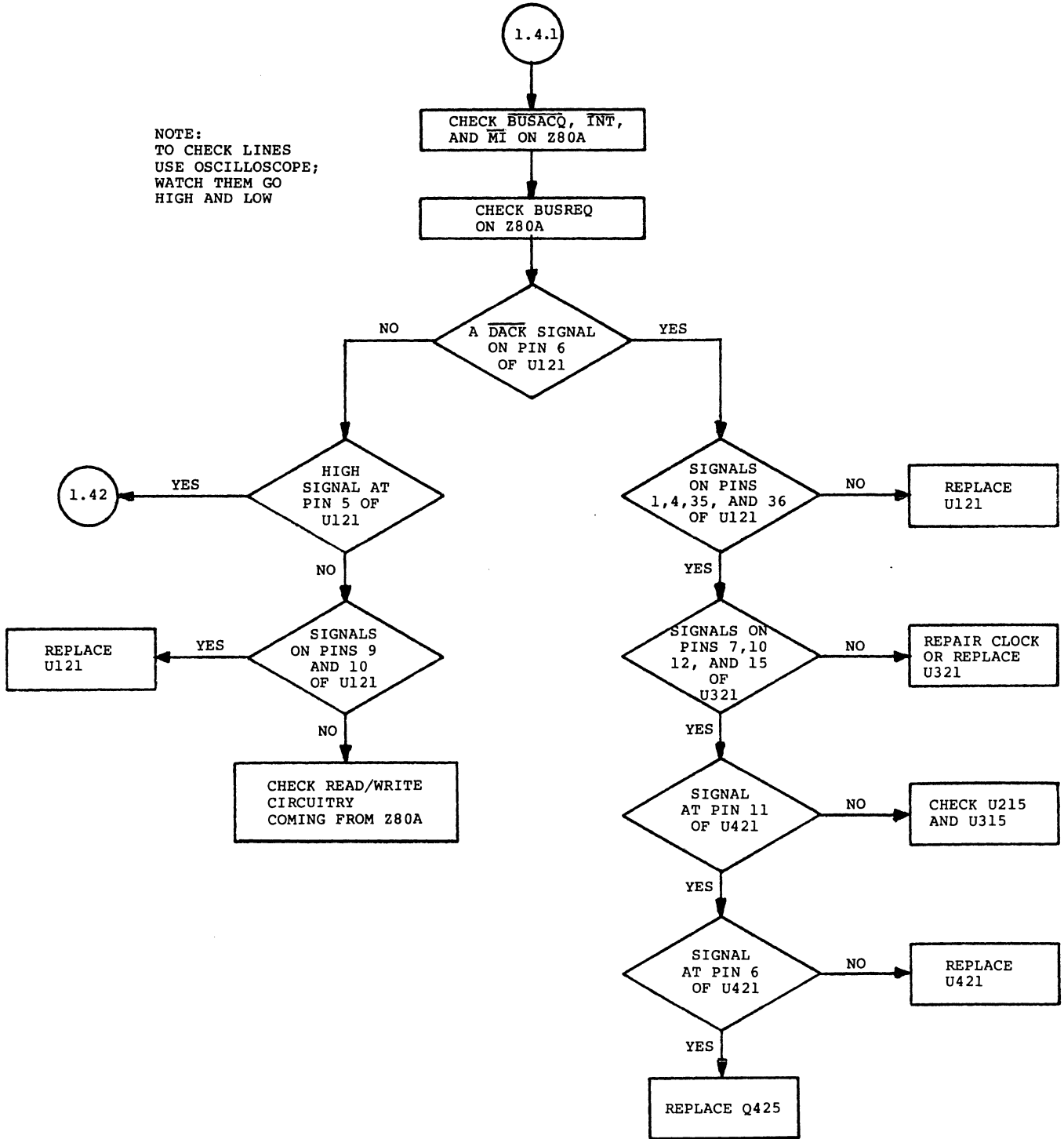


Figure 7-9. Troubleshooting Chart 2—Controller with display, CRT controller, or DMA failure cont (sheet 6 of 8).

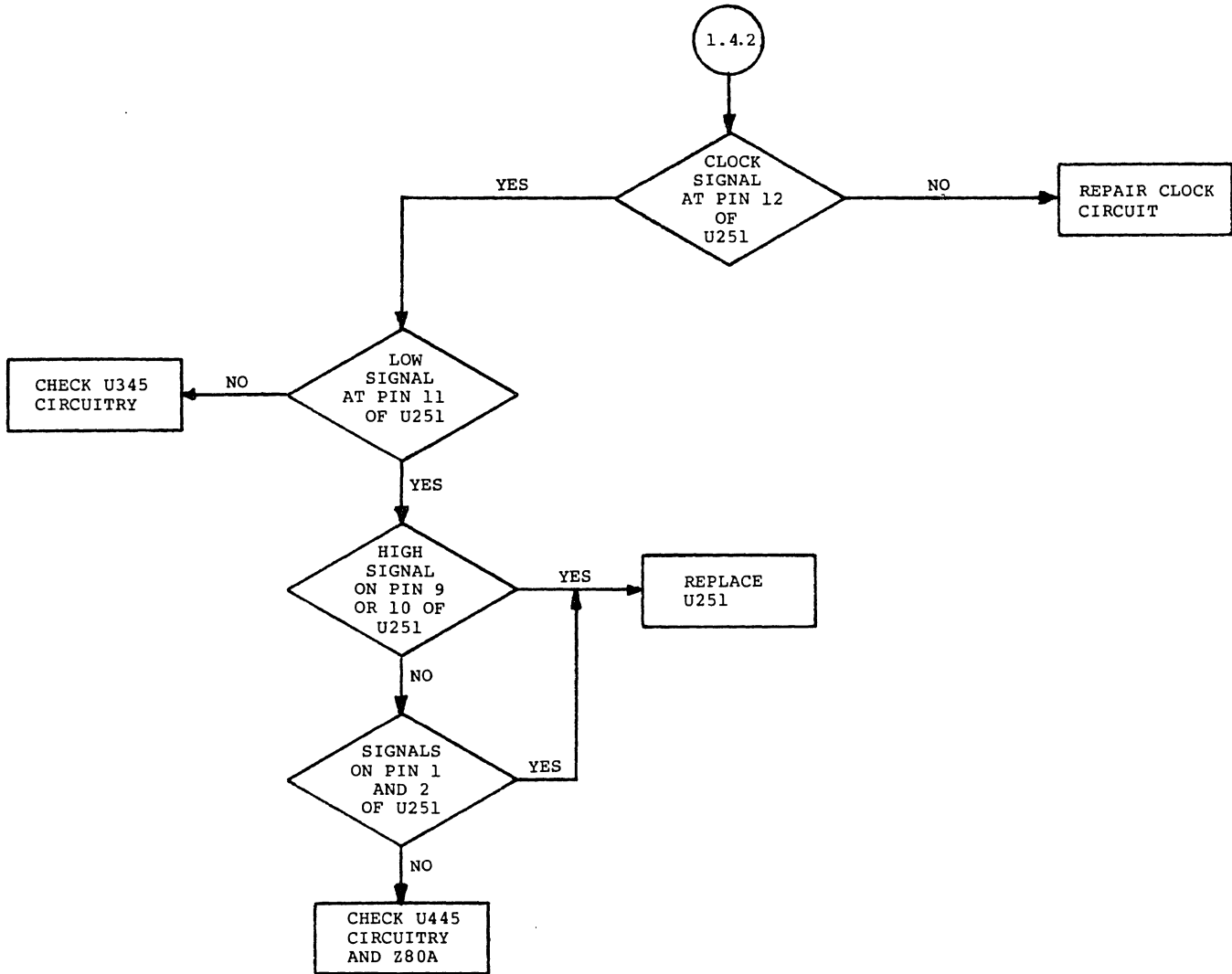


Figure 7-10. Troubleshooting Chart 2—Controller with display, CRT controller, or DMA failure cont (sheet 7 of 8).

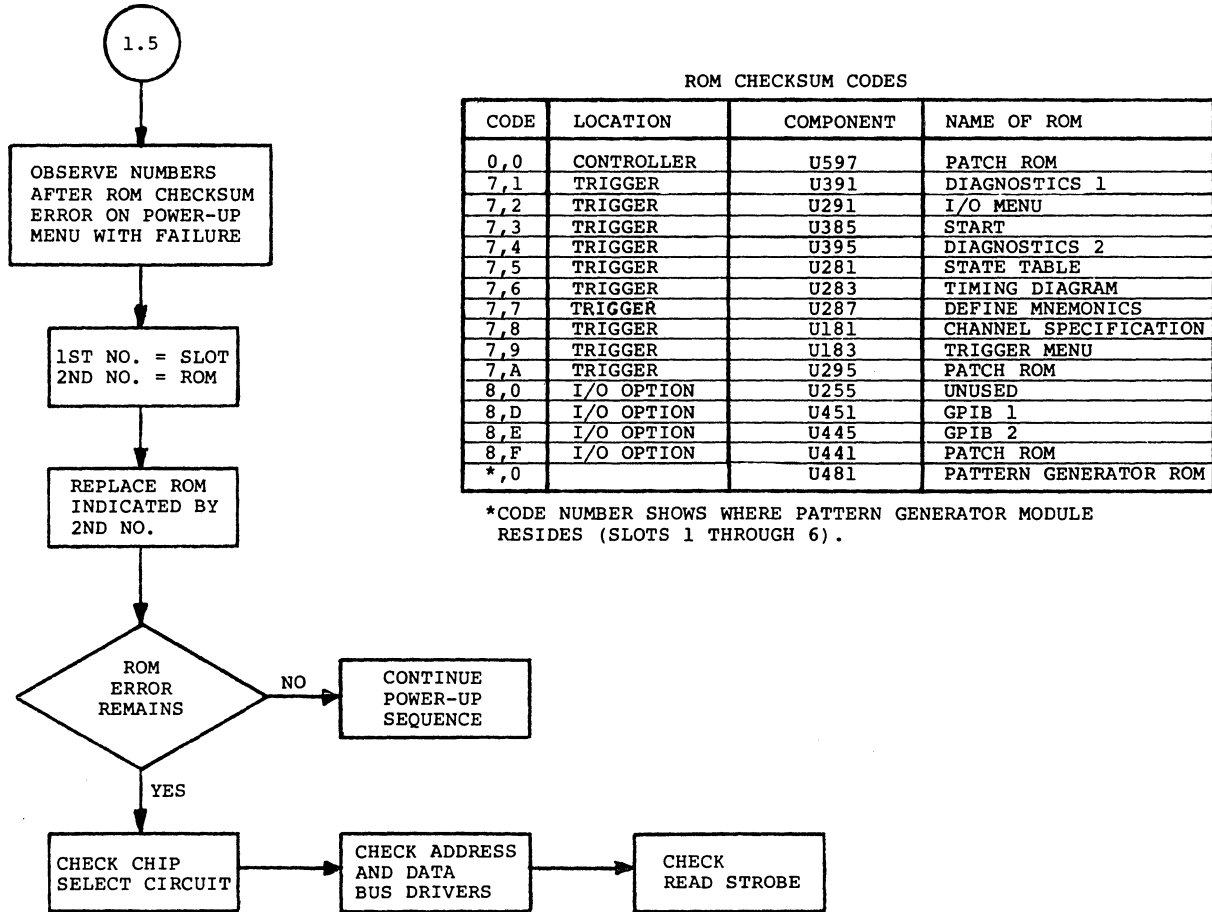


Figure 7-11. Troubleshooting Chart 2—Controller with Instrument ROM failure (sheet 8 of 8).

TROUBLESHOOTING DAS POWER SUPPLIES

Use the following instructions when troubleshooting the DAS power supplies with troubleshooting chart 3 (Figures 7-12 through 7-15).

The Main Power Supply Chart

To troubleshoot the Main Power Supply follow these procedures:

1. Disconnect all voltage-sensitive parts of the DAS from the supply. This is done by removing all boards from the instrument compartment of the DAS.
2. If the I/O Interface, Option 02, is installed, pull the I/O Interface board (A19A1) out of its socket and allow it to hang by its cable over the back of the mainframe.
3. Remove any +5 V Power Supply Modules in the power supply compartment.
4. Disconnect the following cables from the interconnect board:

	DAS9109 (Mono)	DAS9129 (Color)
Monitor	A1J421	A31J422
Keyboard	A1J423	A31J429
Tape Dr	A1J422	A31J427

5. Use the Main Power Supply Extender Board (from the DAS Service Maintenance Kit) to elevate the power supply. Directions for connecting the extender to the Main Power Supply and to the heat sink may be found in the Reference Information section of this manual or in the DAS Service Maintenance Kit Instructions.
6. Connect a 15 Ω , 10 W (or greater) resistor between the +12 V pin and the ground pin of J1022 on the extender board. (A minimum load of 0.85 A must be drawn from the supply for proper operation.)
7. Make sure the cables that connect the series pass transistors are properly connected between the Main Power Supply, extender board, and heat sink.
8. Follow troubleshooting tree chart 3 (Figures 7-12 through 7-15).

The Main Power Supply Series Pass Section

The series pass sections of the Main Power Supply board provide the final regulation for the +6 V, +5 V, and -5 V supplies. Refer to the Theory of Operation section of this manual for a circuit description to help with troubleshooting. Since all three of these regulators are similar, a common troubleshooting procedure can be used as follows:

1. If one of these supplies has little or no output, check for a current limit condition. A current limit condition or failure is indicated when the diode between pins 1 and 5 of the associated op amp is forward biased. If no low-resistance load or short can be found, check the "A" section of the op amp and connecting components.

2. If all voltages supplied are too low (or too high), check the + V reference and the ground sense line.
3. The "B" sections of the series pass op amps are responsible for the voltage regulation of the +6 V, +5 V, and -5 V supplies. The typical output at pin 7 of these "B" sections should be approximately 2 diode drops above the desired output voltage. If the output is much higher than this, check the driver and series pass transistors. Another possible problem area is the wiring harness between the series pass transistors and the Main Power Supply board.
4. The two -12 V supplies do not have series pass sections. The -12 V supply for the keyboard is regulated with a 3-terminal regulator. The other -12 V supply has no direct regulation. (It is tied to the +12 V supply regulation, but does have a 1.5 A fuse, designated F150.)

The +5 V Power Supply Module Chart

Troubleshoot a +5 V Power Supply Module as follows:

1. Each +5 V Power Supply Module powers 2 slots in the mainframe's instrument module section. Remove the modules powered by the supply under test, if they have not already been removed.
2. Use the +5 V Power Supply Extender Board (from the DAS Service Maintenance Kit) to raise the supply to a convenient level above the DAS mainframe. No special connections are required to use this extender.
3. Connect a 5 Ω , 5 W (or greater) resistor between the +5 V pin and the ground pin of J400 on the extender. (A minimum load of 1 A must be drawn from the supply for proper operation.)

NOTE:

USE EXTENDER BOARDS FROM SERVICE MAINTENANCE KIT TO EXTEND POWER SUPPLY BOARDS ABOVE DAS IN ORDER TO REACH COMPONENTS AND TEST POINTS.

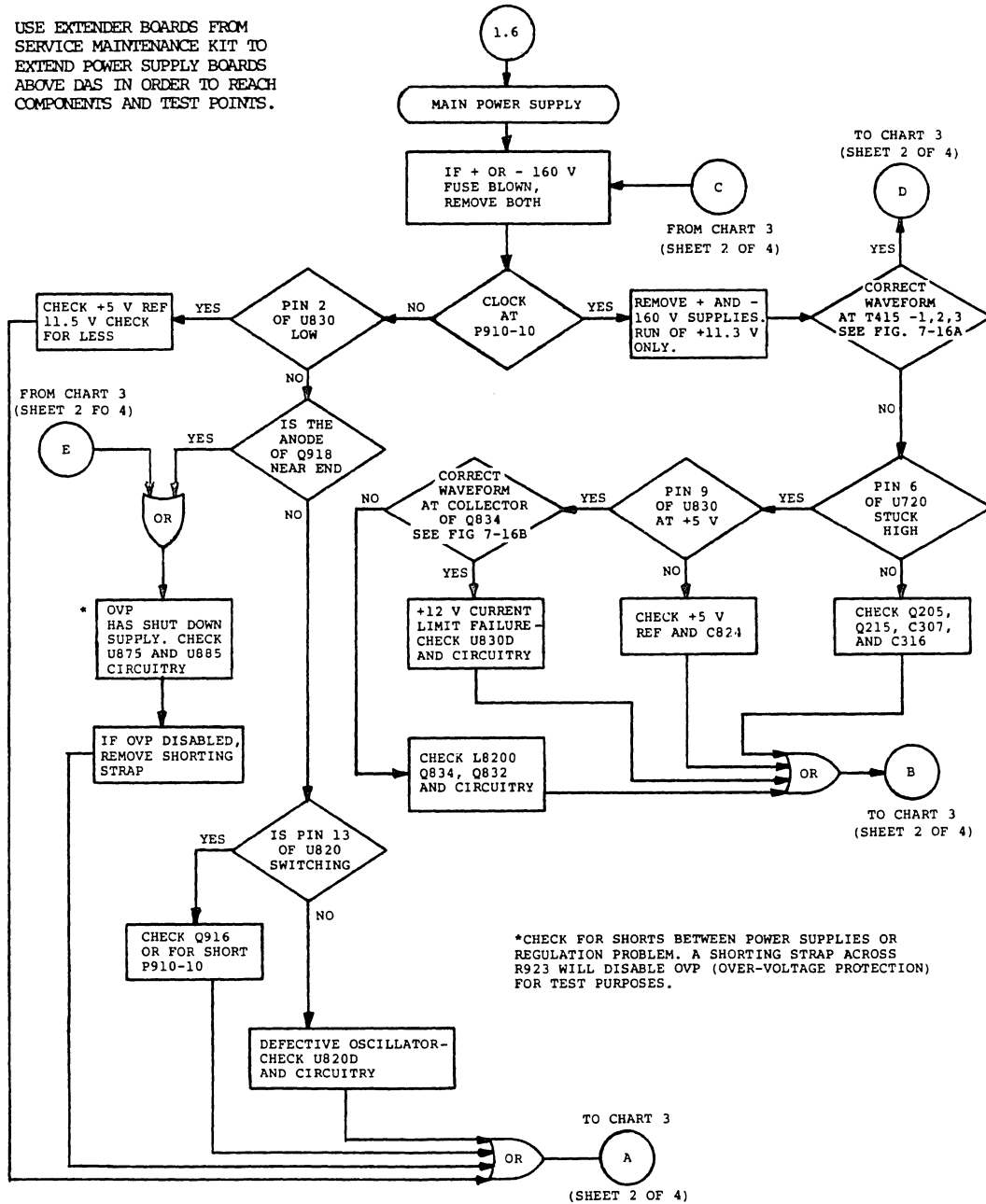


Figure 7-12. Troubleshooting Chart 3—Power supply failure—main board (sheet 1 of 4).

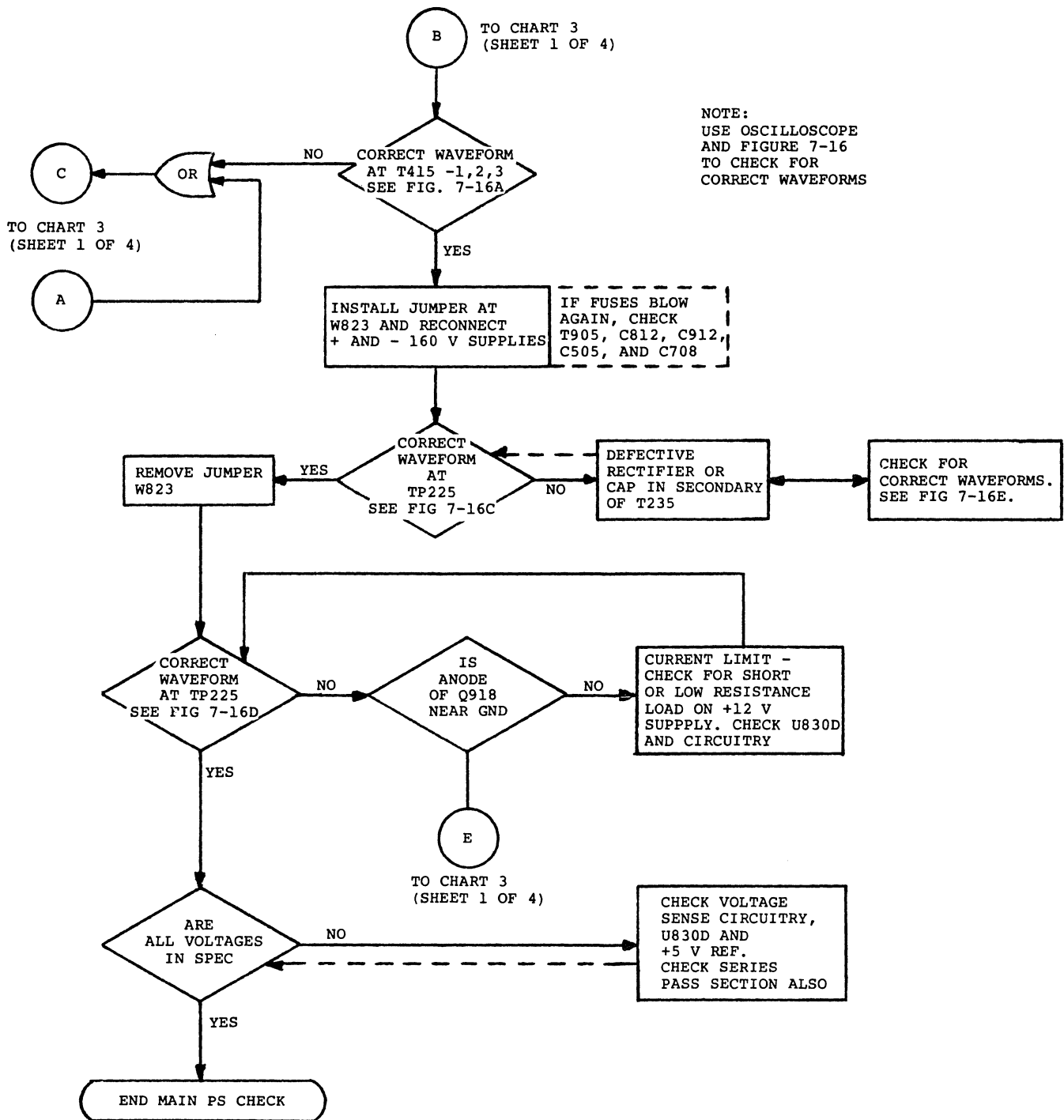


Figure 7-13. Troubleshooting Chart 3—Power supply failure—main board cont (sheet 2 of 4).

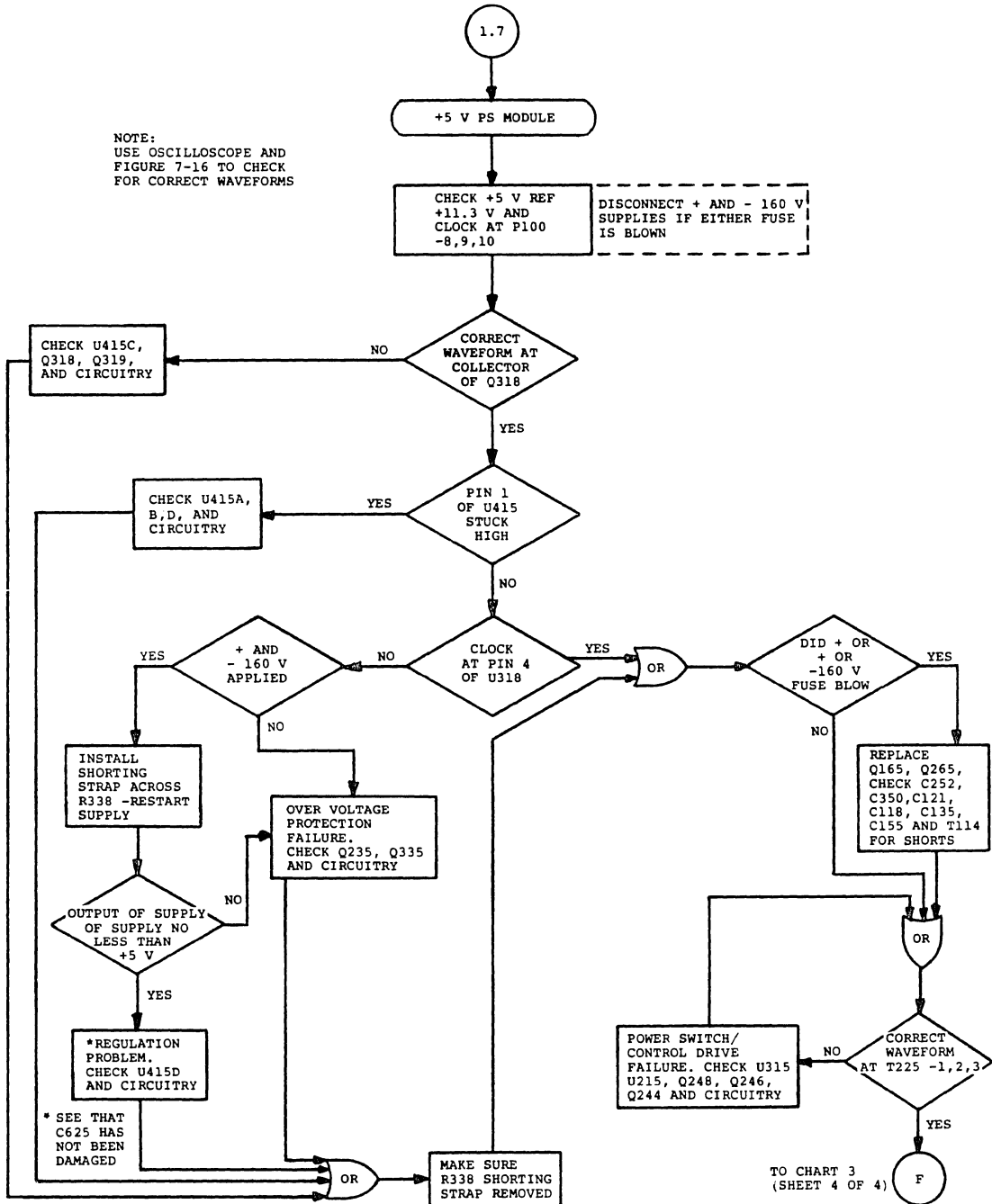


Figure 7-14. Troubleshooting Chart 3—Power supply failure—+5 V module (sheet 3 of 4).

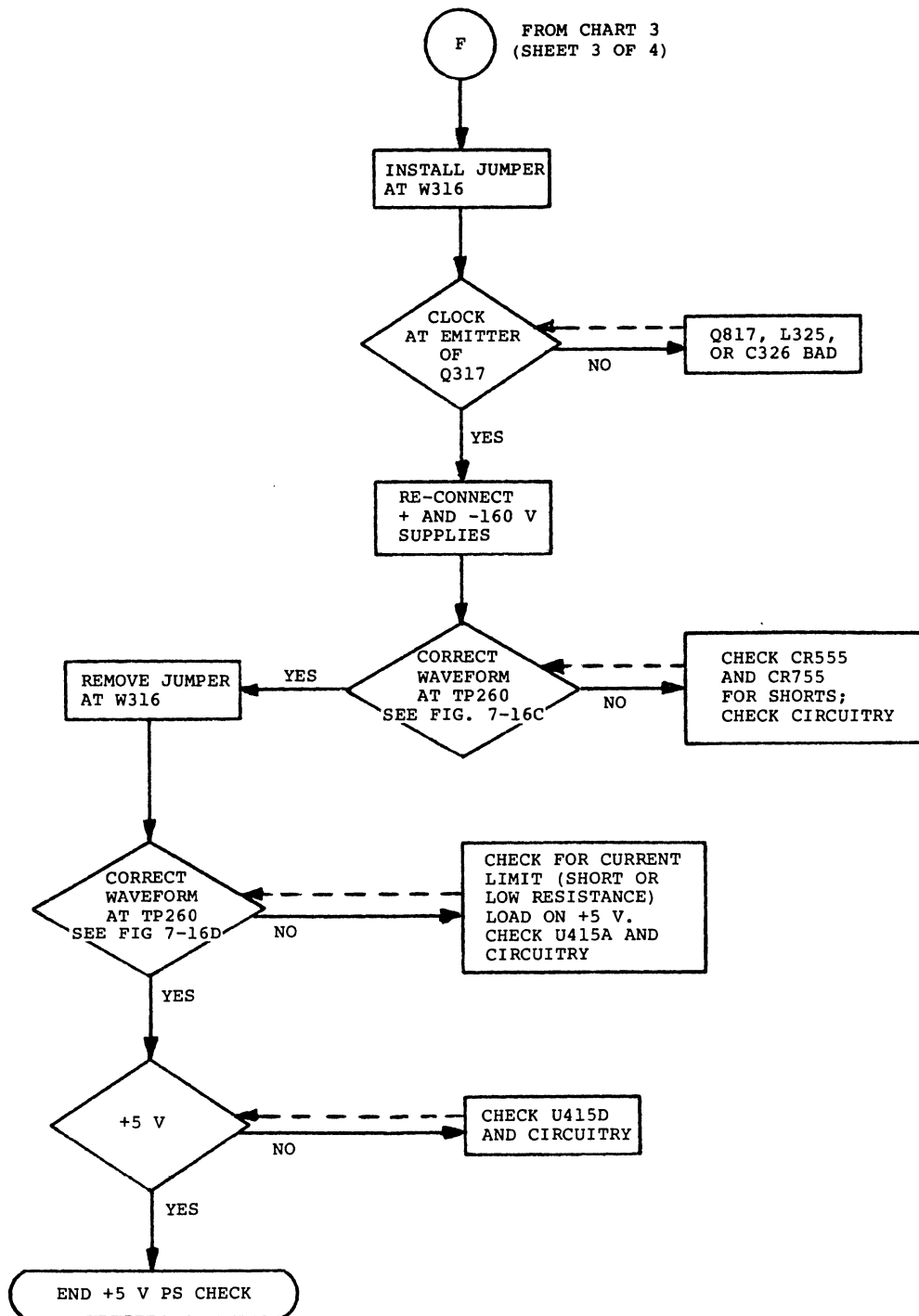
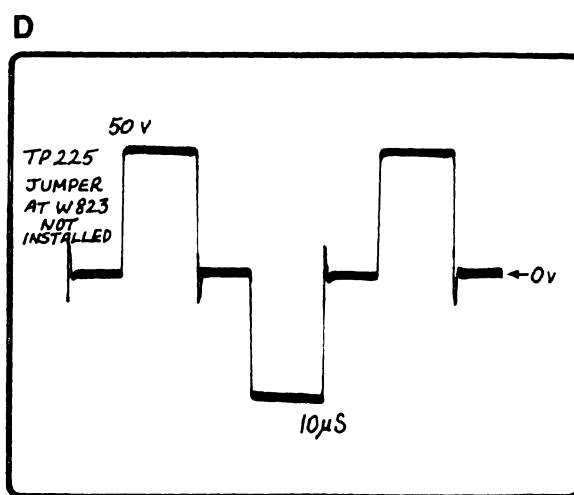
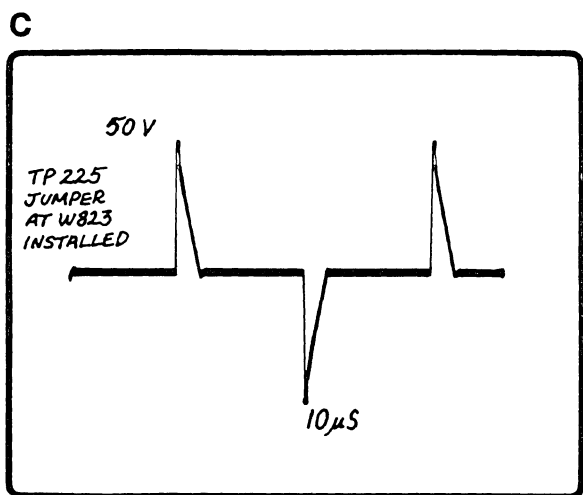
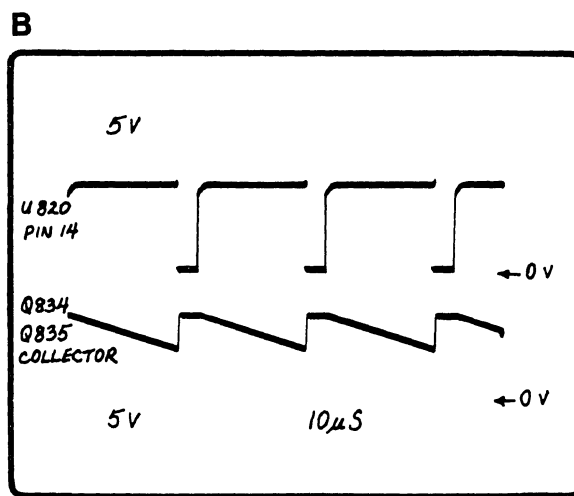
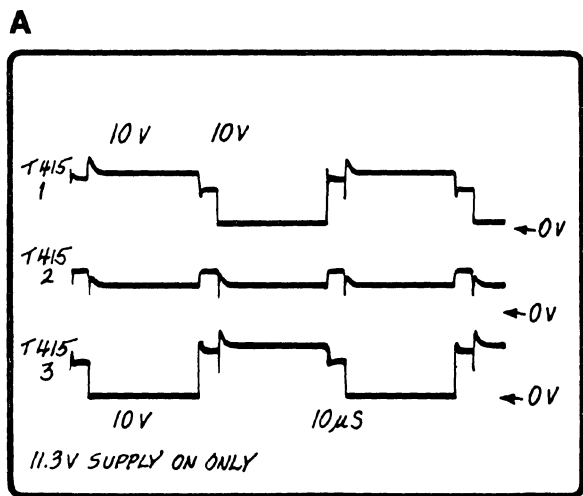


Figure 7-15. Troubleshooting Chart 3—Power supply failure—+5 V module cont (sheet 4 of 4).



3836-211

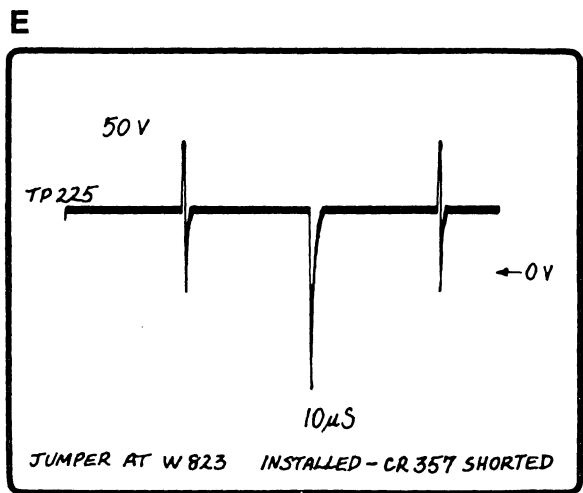
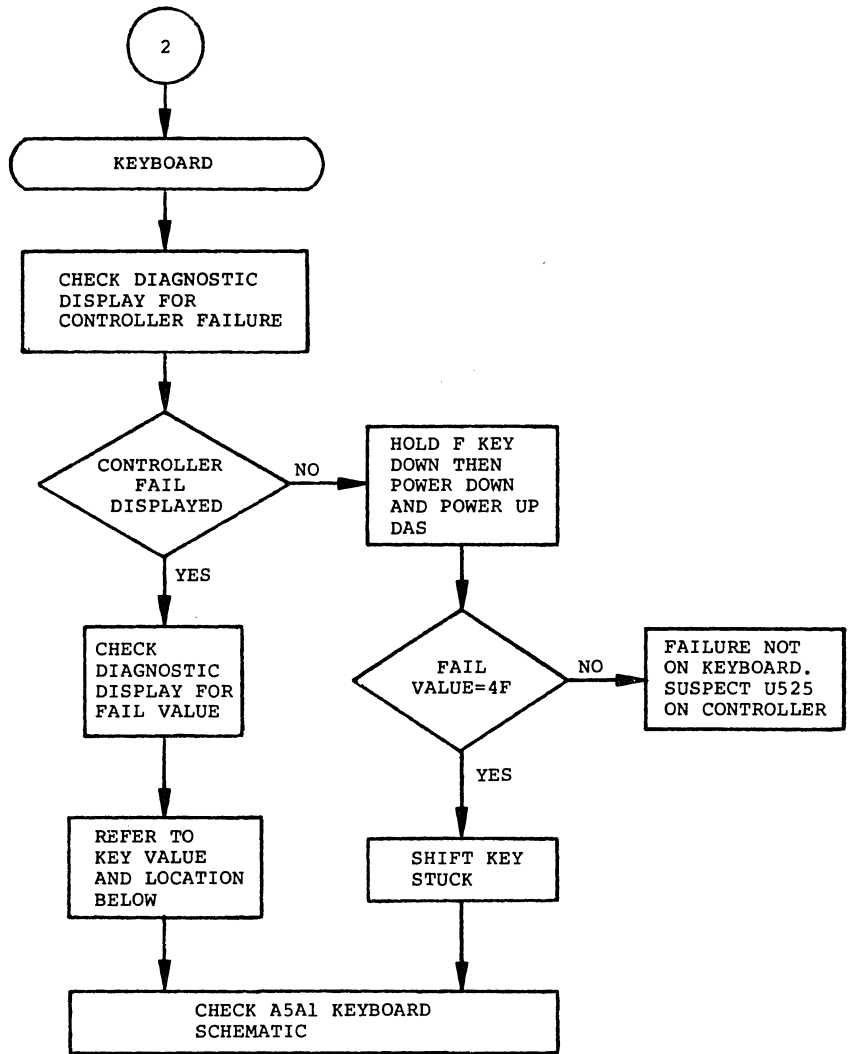


Figure 7-16. Power supply waveforms for comparison.

NOTES:

KEYBOARD FAILURE SHOWS AS CONTROLLER FAIL.

FAIL VALUE SHOWS AT FAR RIGHT OF CONTROLLER ENTRY OF POWER-UP SELF TEST MENU (SEE FIGURE 7-1)



KEY LOCATION AND KEY VALUE

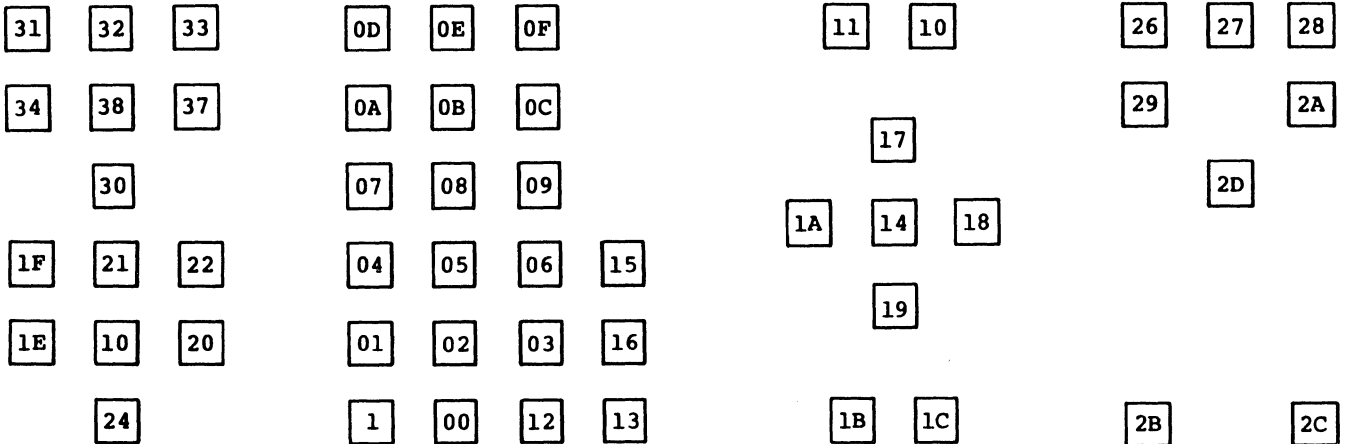


Figure 7-17. Troubleshooting Chart 4—Controller keyboard failure.

NOTE;
SEE FAIL VALUE AT
FAR RIGHT OF
TRIGGER ENTRY
ON POWER-UP SELF TEST
MENU (SEE FIGURE 7-1).

USE EXTENDER BOARD FROM
SERVICE MAINTENANCE KIT TO
EXTEND TRIGGER BOARD ABOVE
DAS FOR EASY ACCESS TO
COMPONENTS AND TEST POINTS

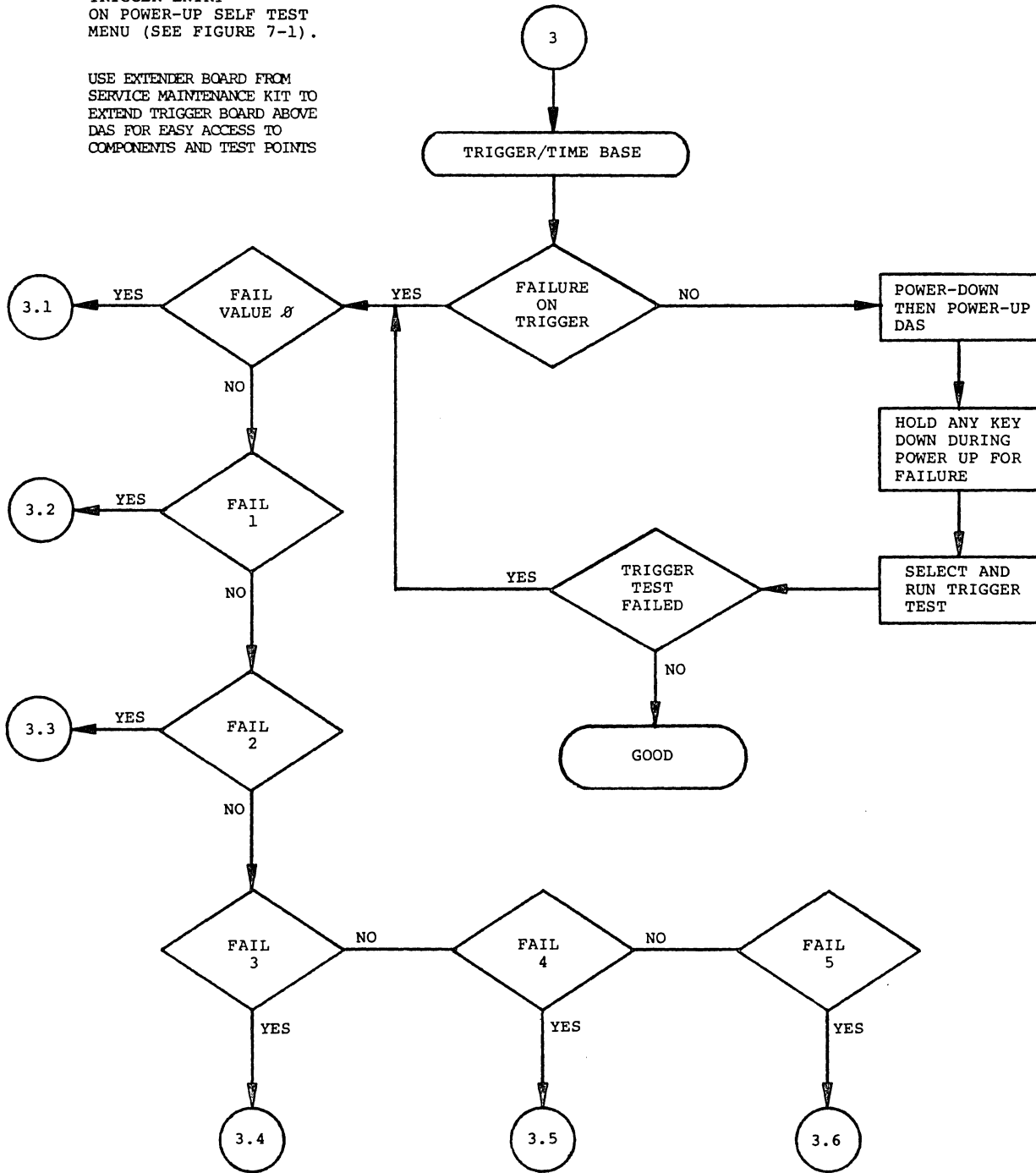


Figure 7-18. Troubleshooting Chart 5—Trigger/Time Base failures (sheet 1 of 29).

NOTE:
REFER TO SELECT
EXPLANATION IN
DIAGNOSTICS MENU
AT FRONT OF THIS
SECTION.

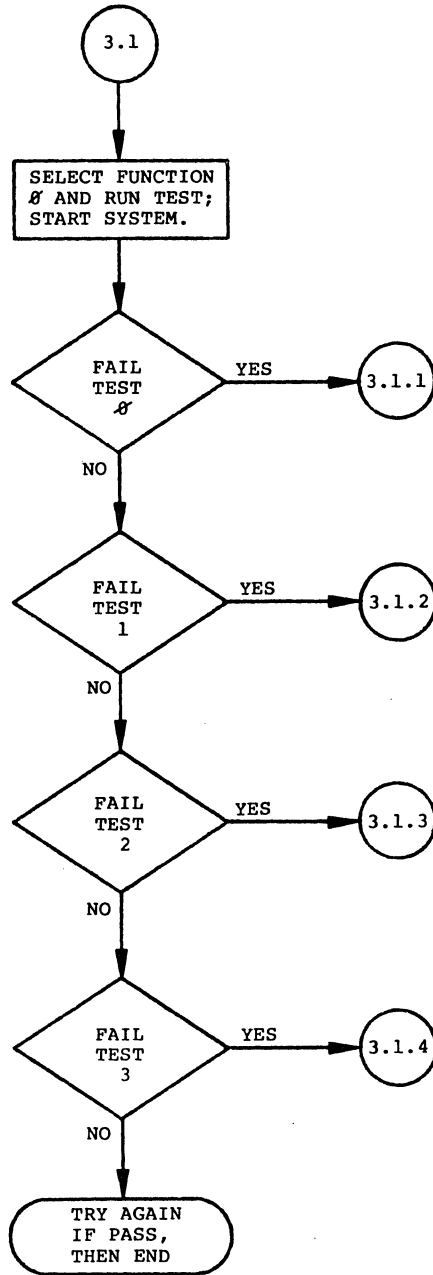


Figure 7-19. Troubleshooting Chart 5 cont (sheet 2 of 29).

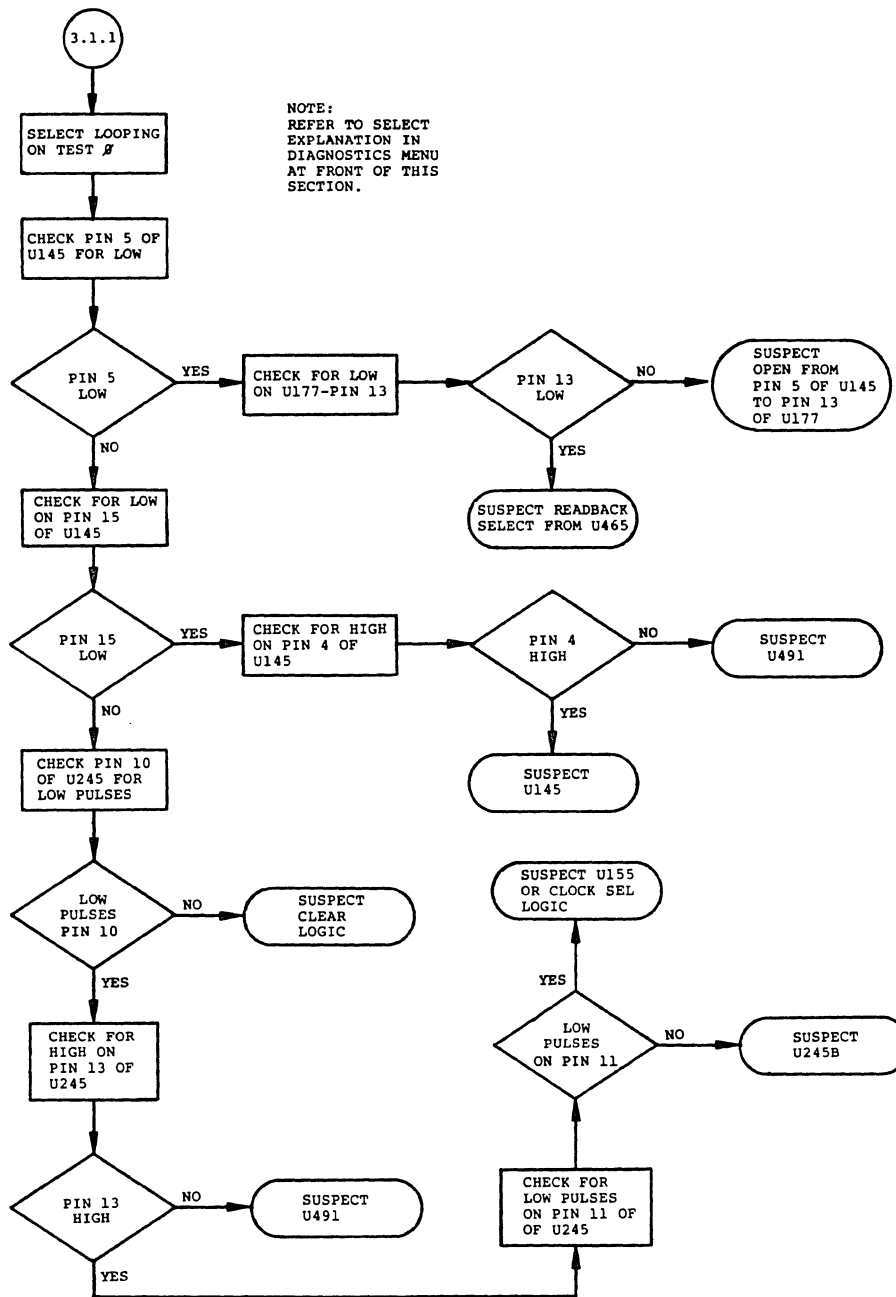


Figure 7-20. Troubleshooting Chart 5 cont (sheet 3 of 29).

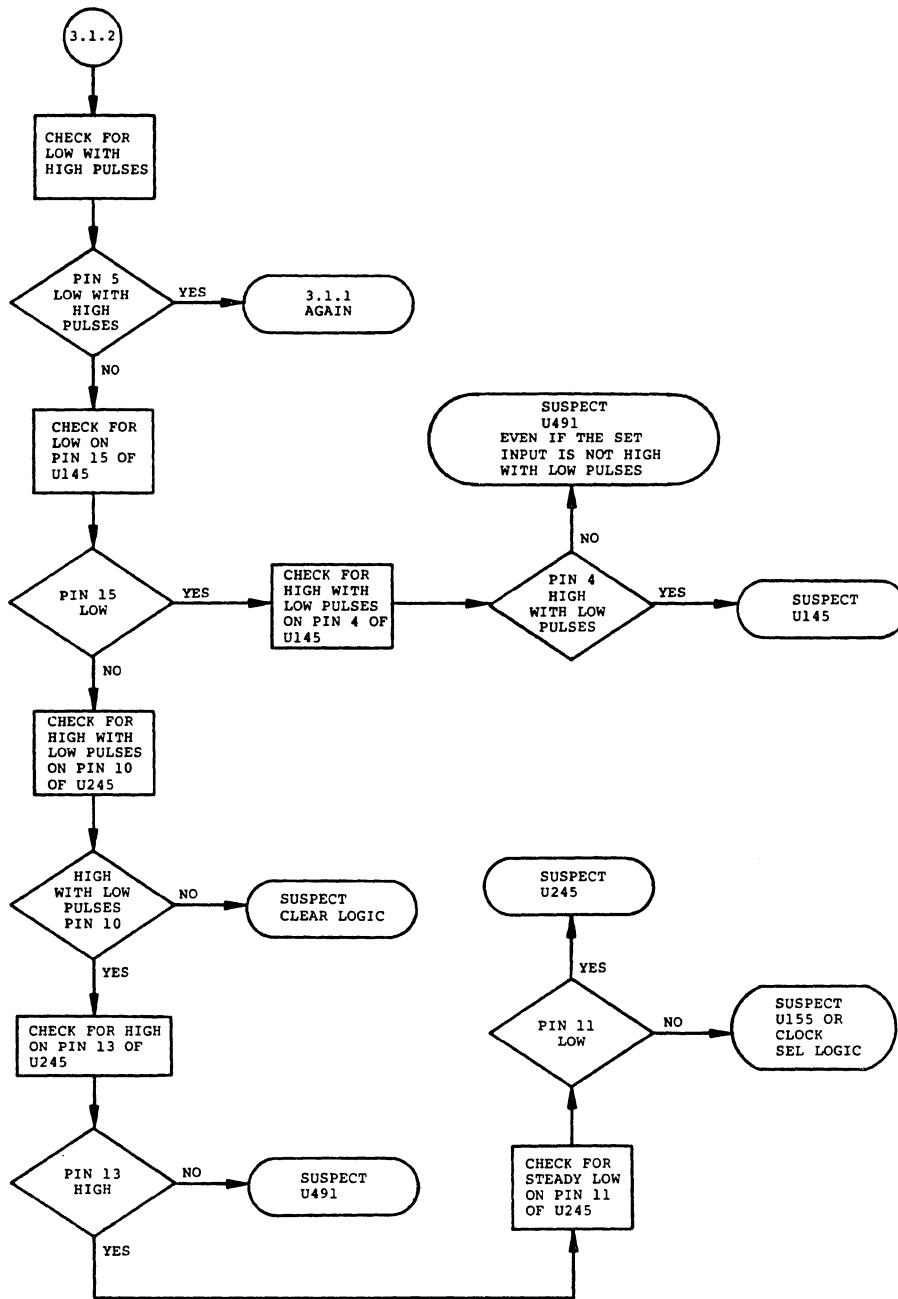


Figure 7-21. Troubleshooting Chart 5 cont (sheet 4 of 29).

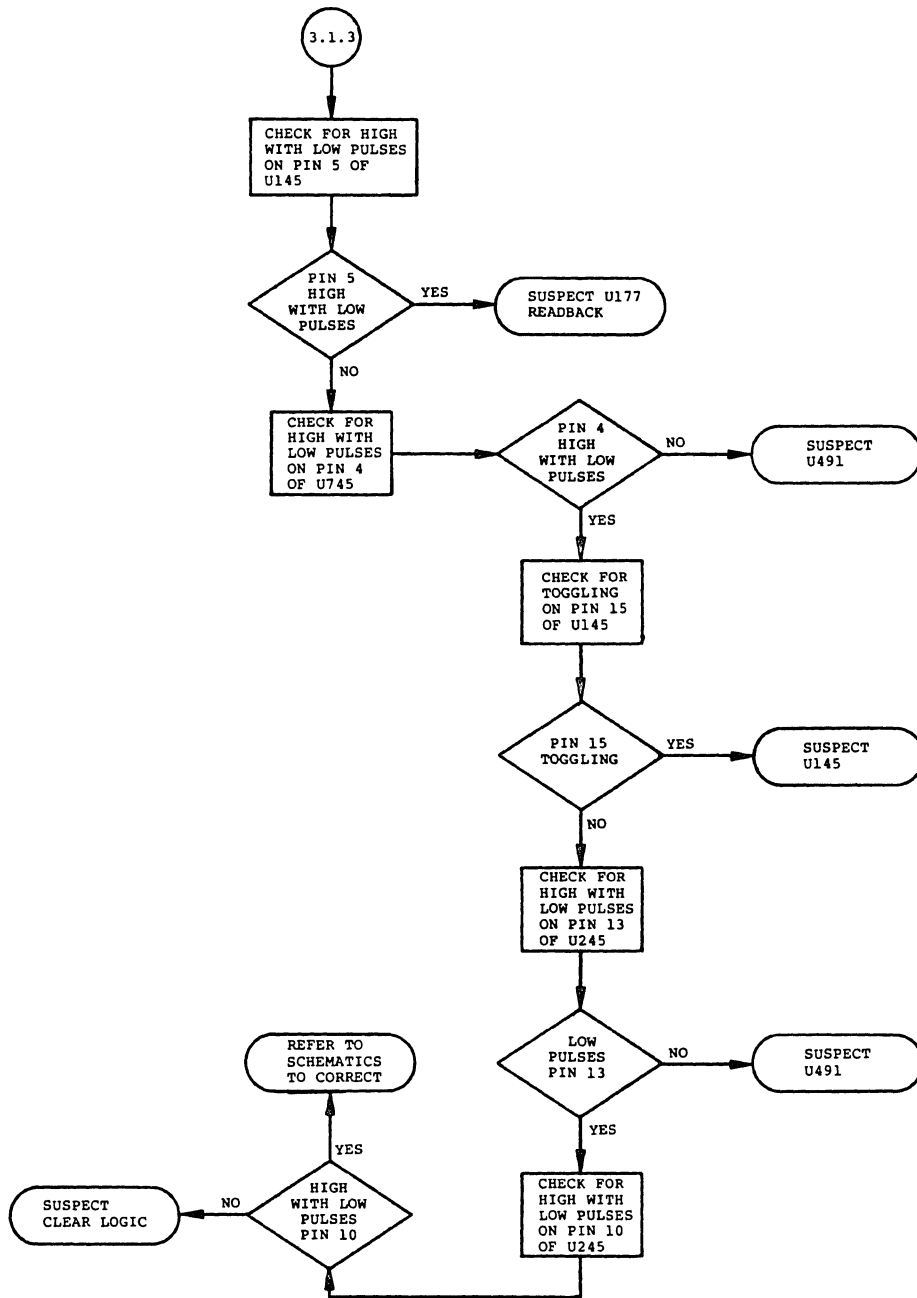


Figure 7-22. Troubleshooting Chart 5 cont (sheet 5 of 29).

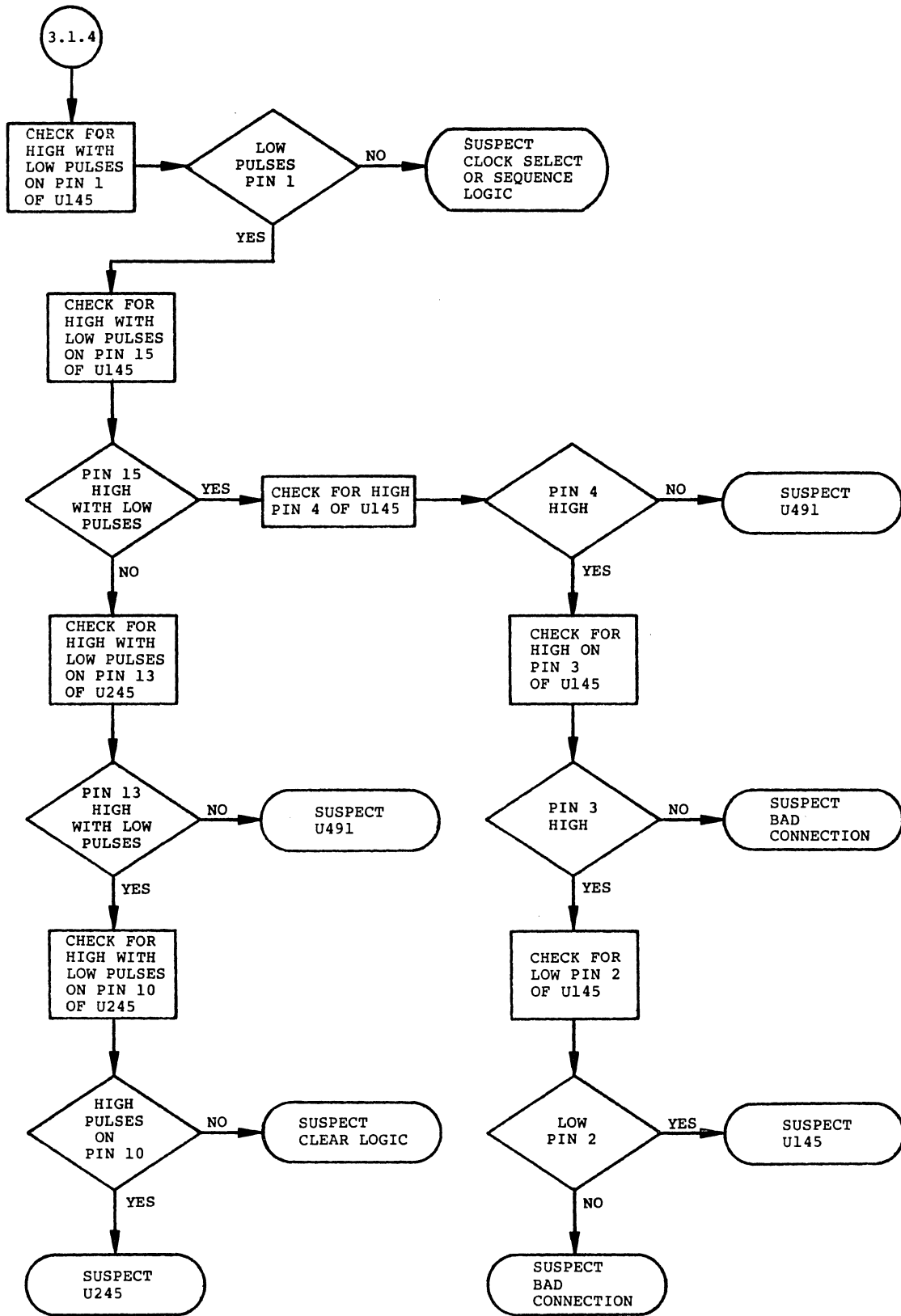


Figure 7-23. Troubleshooting Chart 5 cont (sheet 6 of 29).

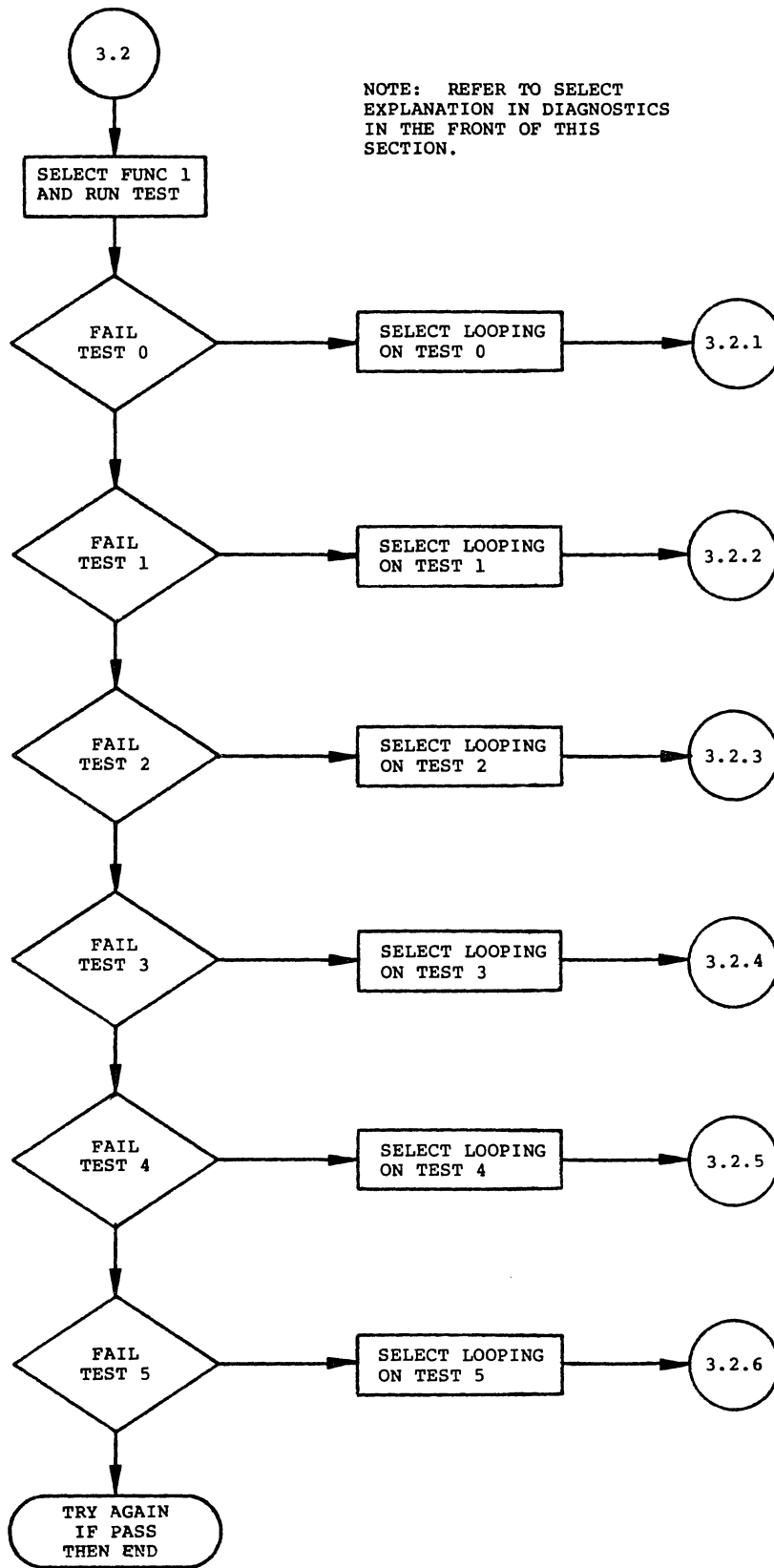


Figure 7-24. Troubleshooting Chart 5 cont (sheet 7 of 29).

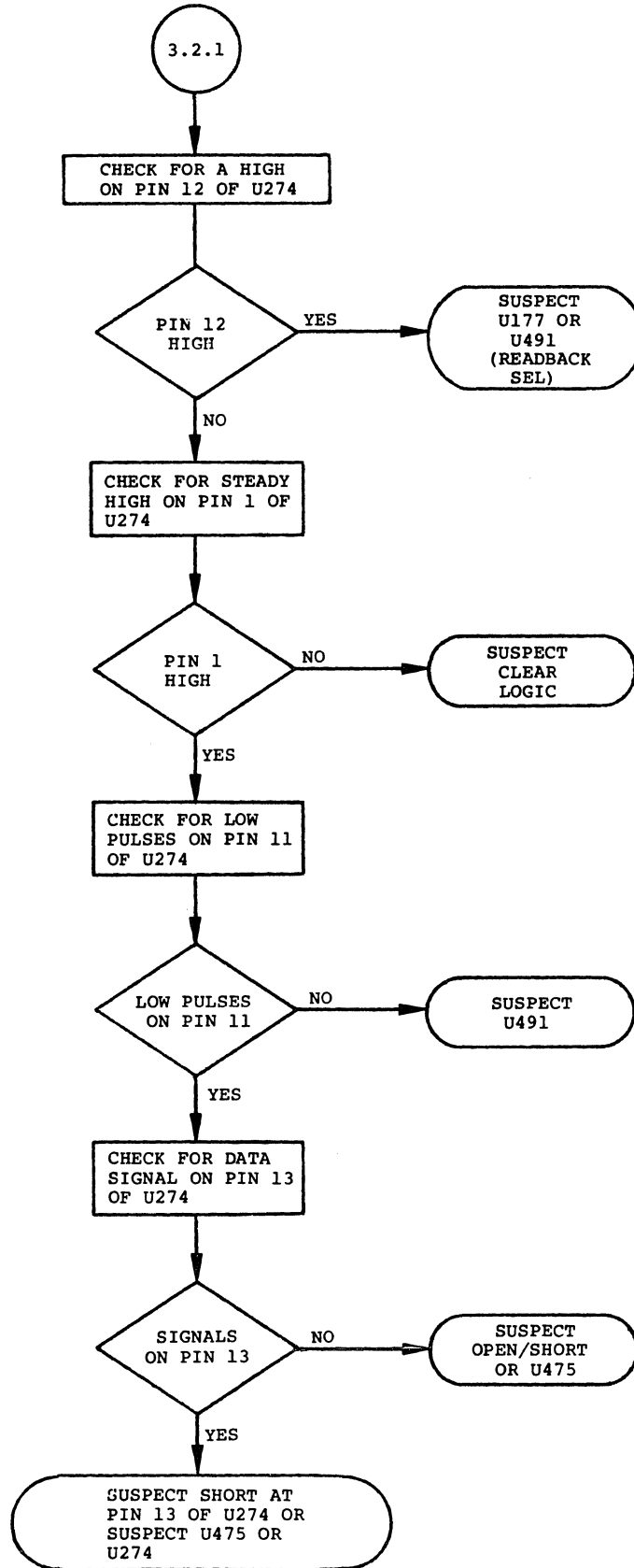


Figure 7-25. Troubleshooting Chart 5 cont (sheet 8 of 29).

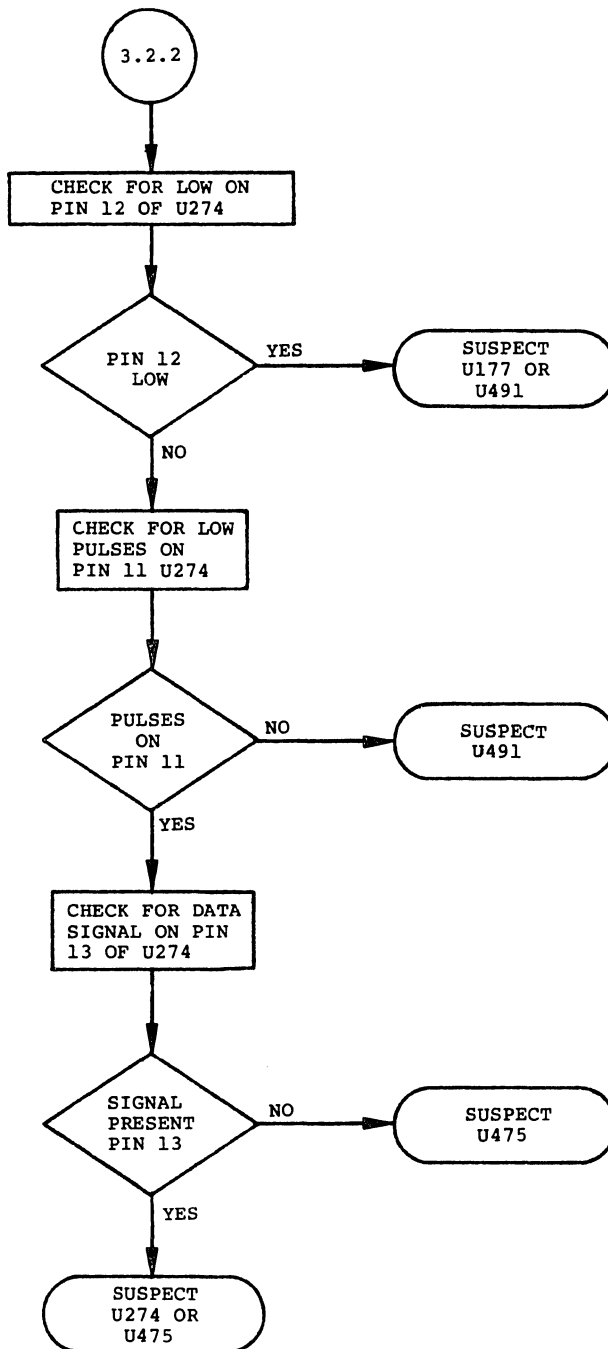


Figure 7-26. Troubleshooting Chart 5 cont (sheet 9 of 29).

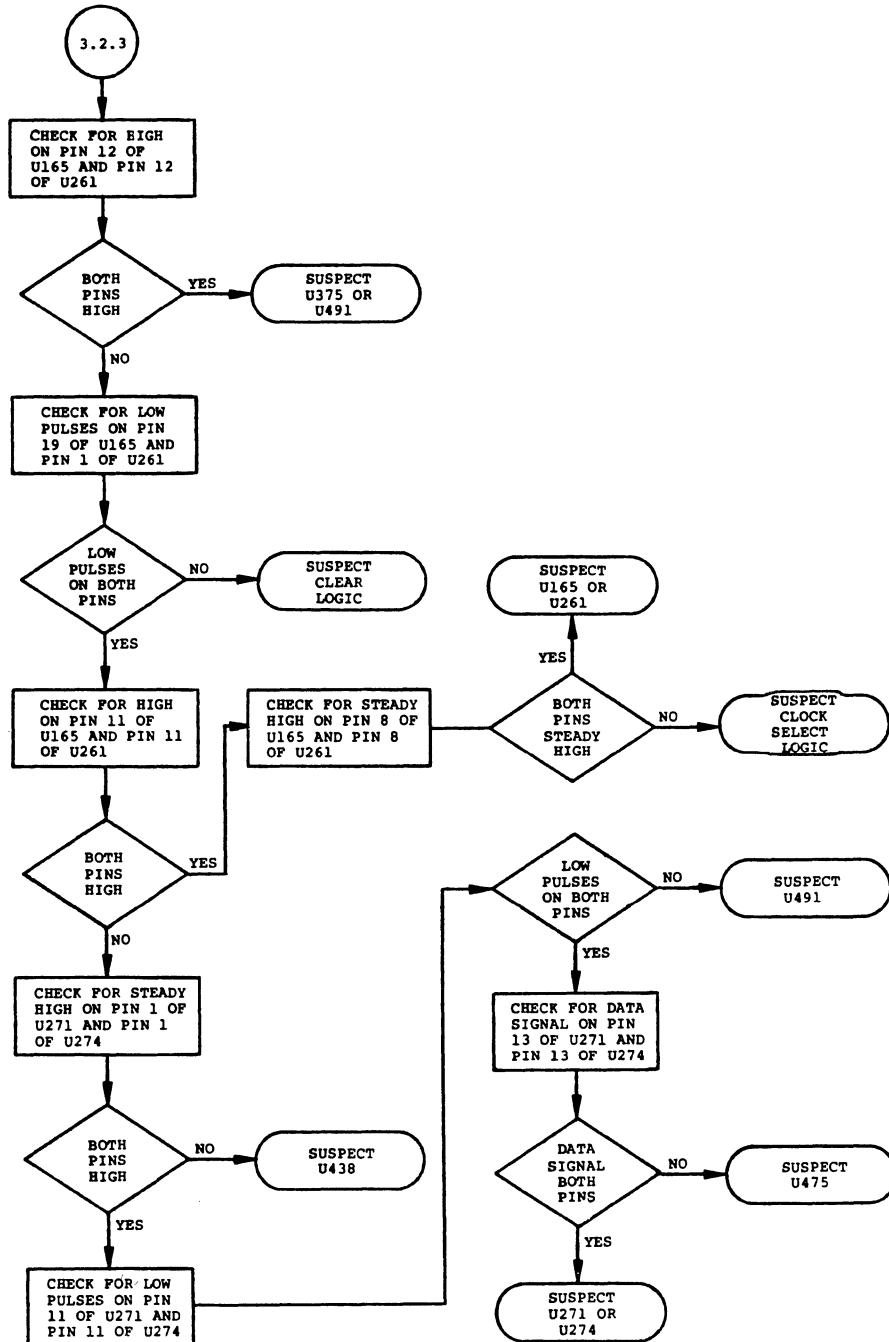


Figure 7-27. Troubleshooting Chart 5 cont (sheet 10 of 29).

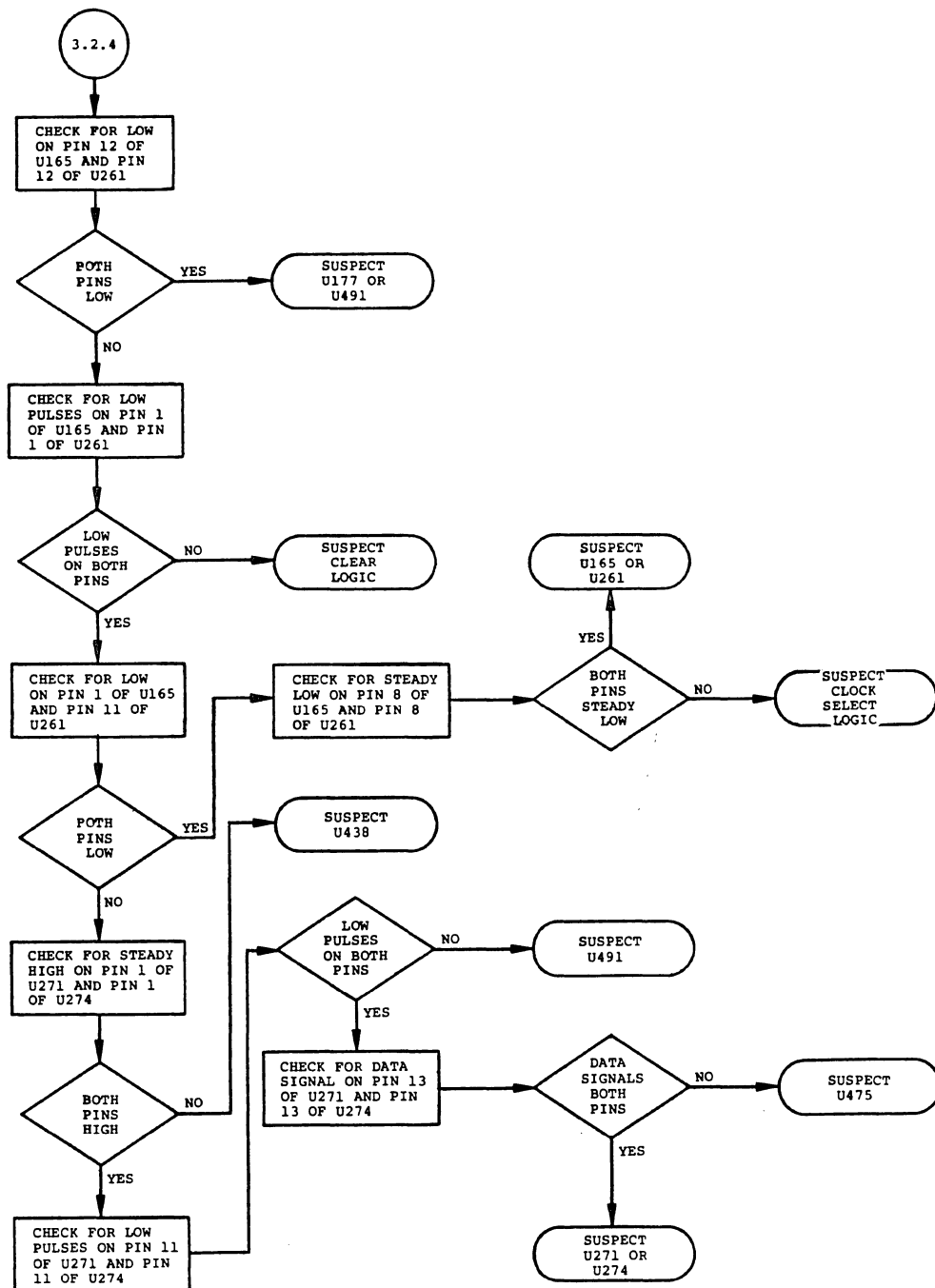


Figure 7-28. Troubleshooting Chart 5 cont (sheet 11 of 29).

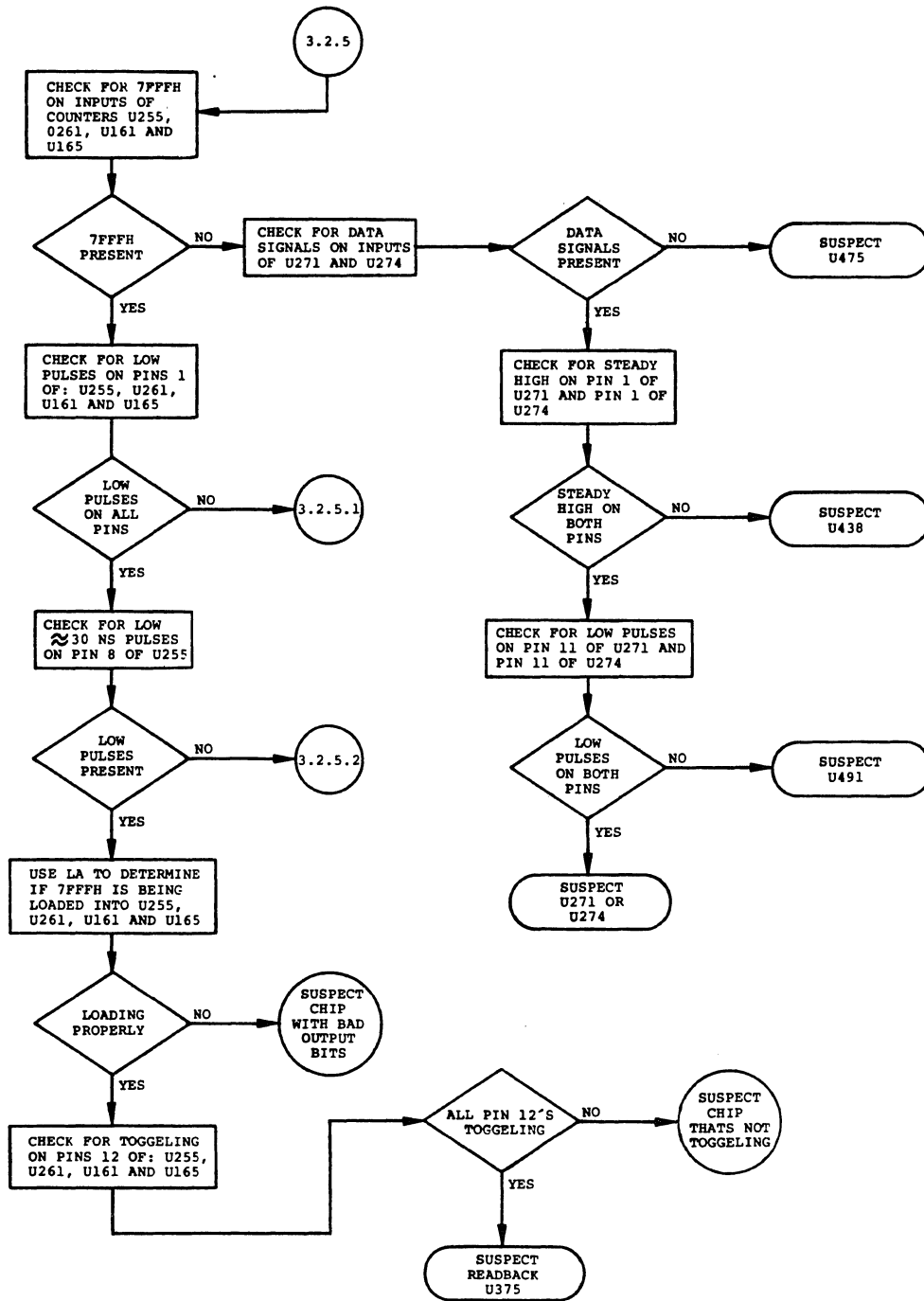


Figure 7-29. Troubleshooting Chart 5 cont (sheet 12 of 29).

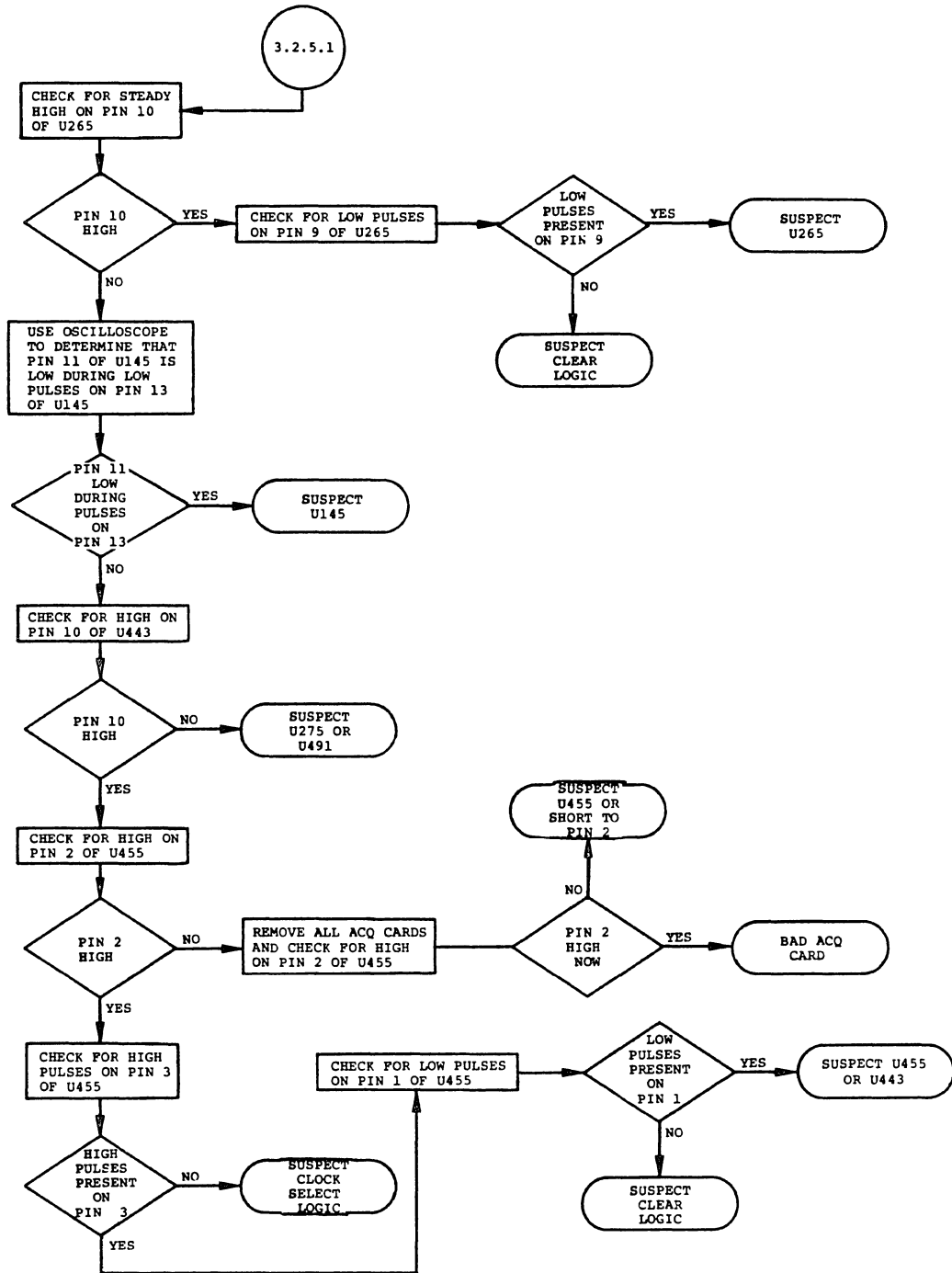


Figure 7-30. Troubleshooting Chart 5 cont (sheet 13 of 29).

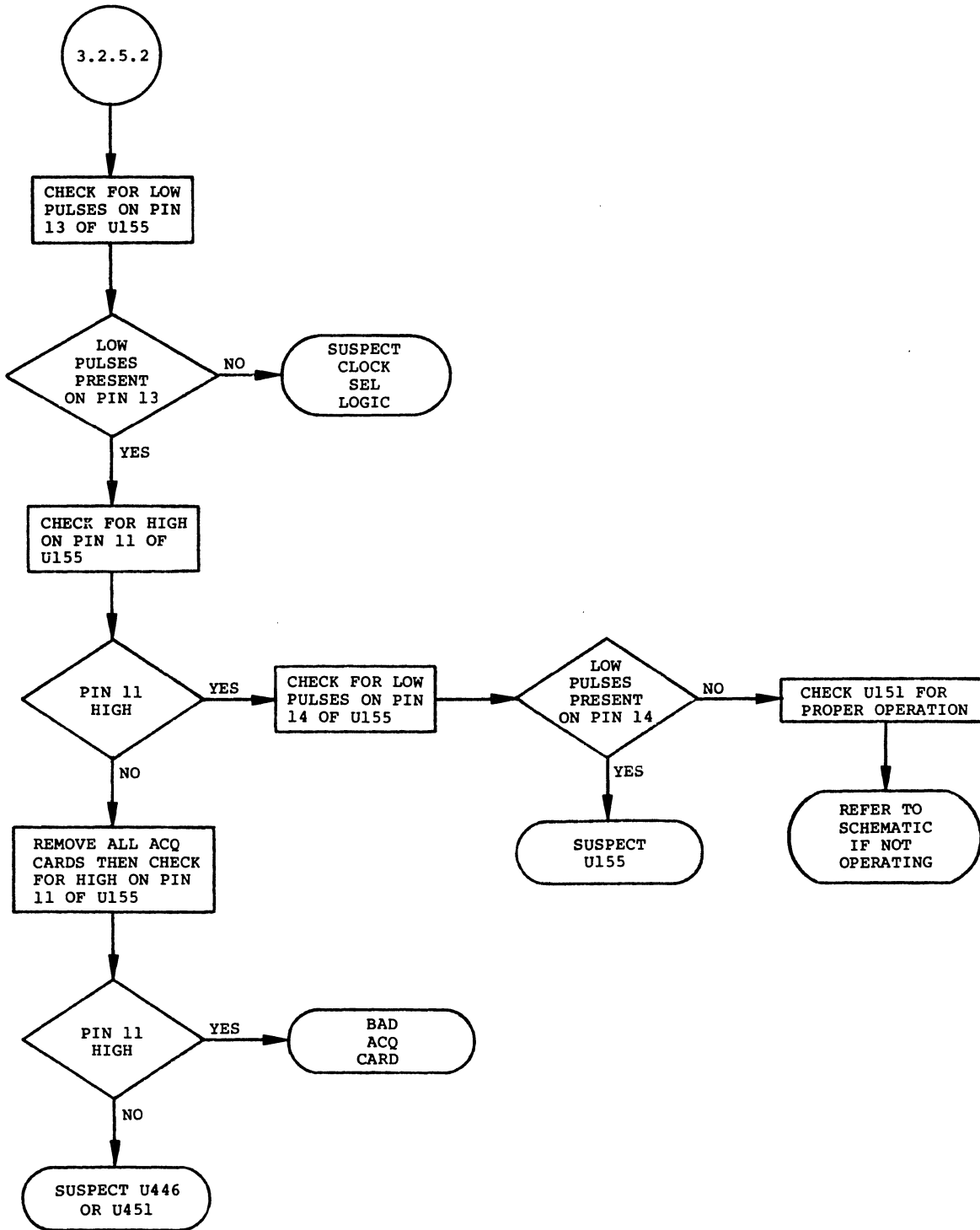


Figure 7-31. Troubleshooting Chart 5 cont (sheet 14 of 29).

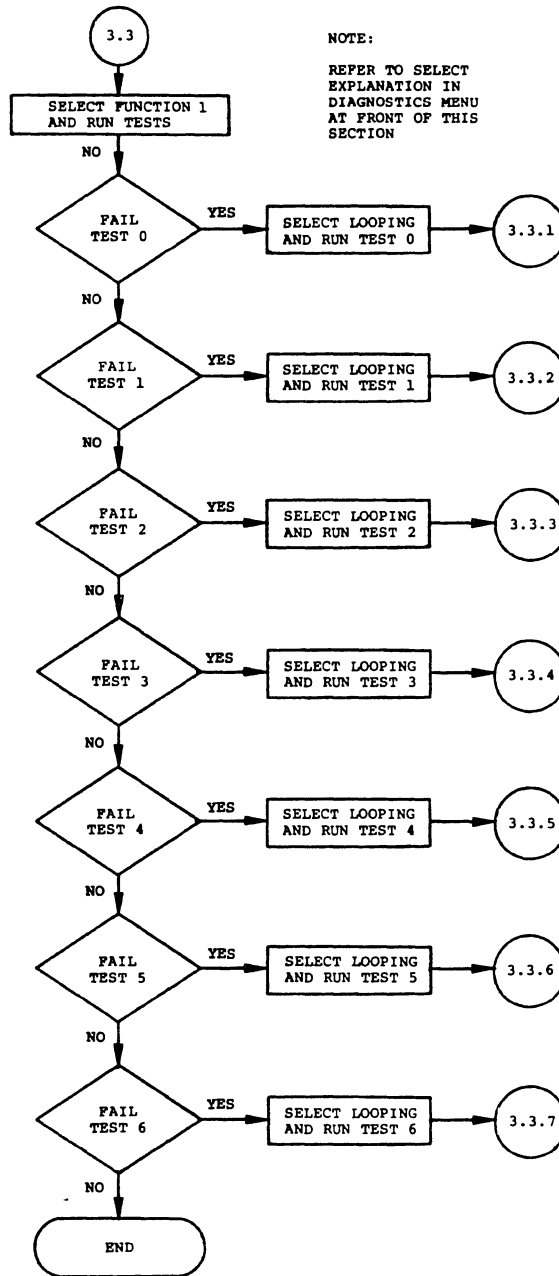


Figure 7-32. Troubleshooting Chart 5 cont (sheet 15 of 29).

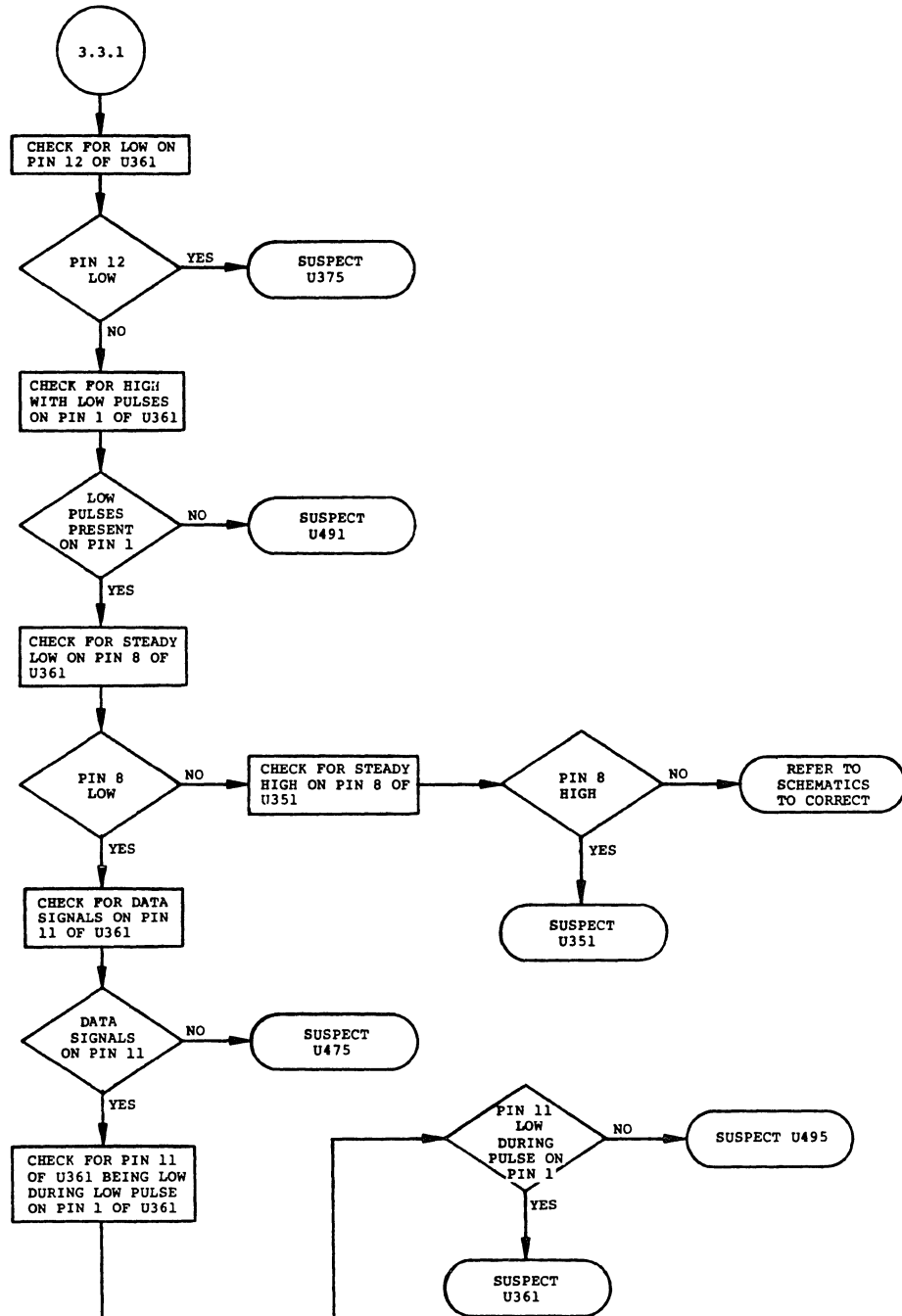


Figure 7-33. Troubleshooting Chart 5 cont (sheet 16 of 29).

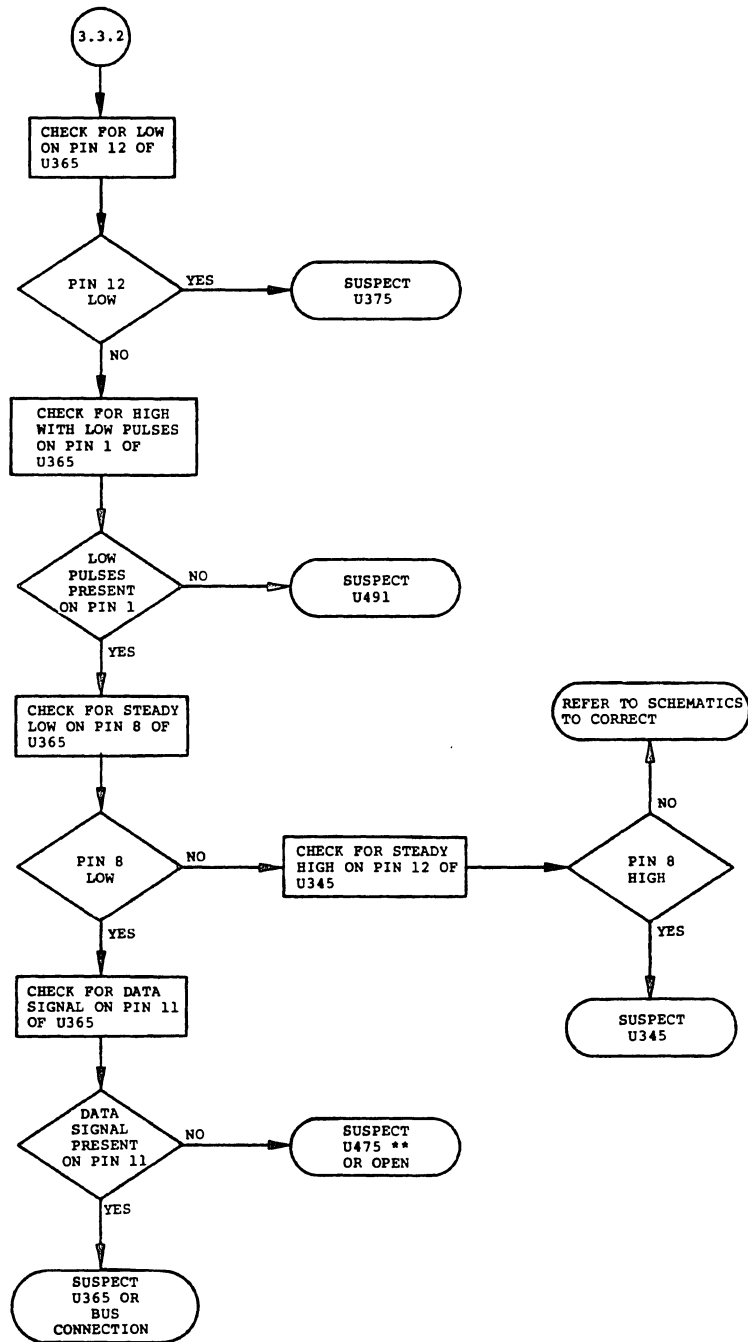


Figure 7-34. Troubleshooting Chart 5 cont (sheet 17 of 29).

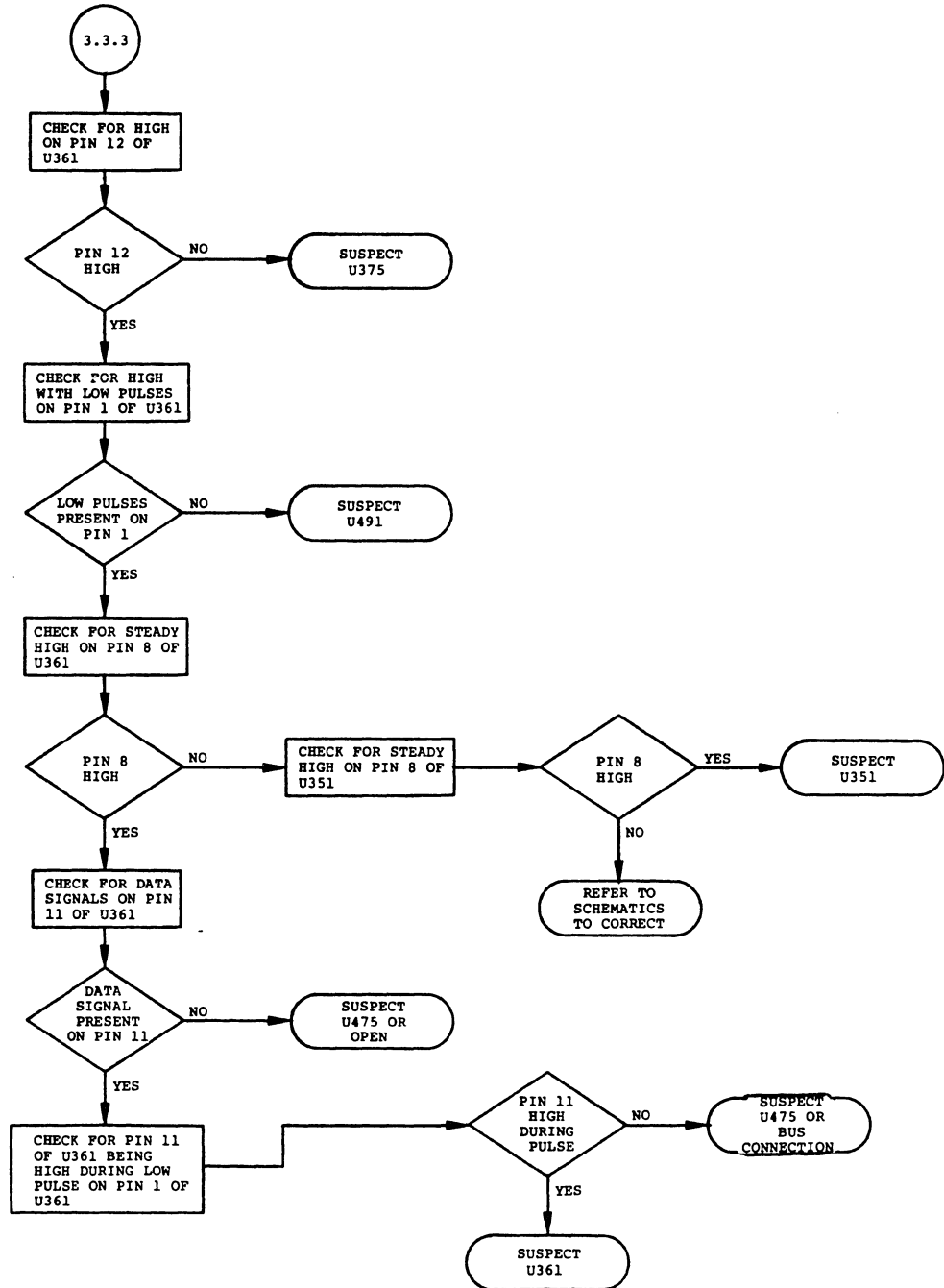


Figure 7-35. Troubleshooting Chart 5 cont (sheet 18 of 29).

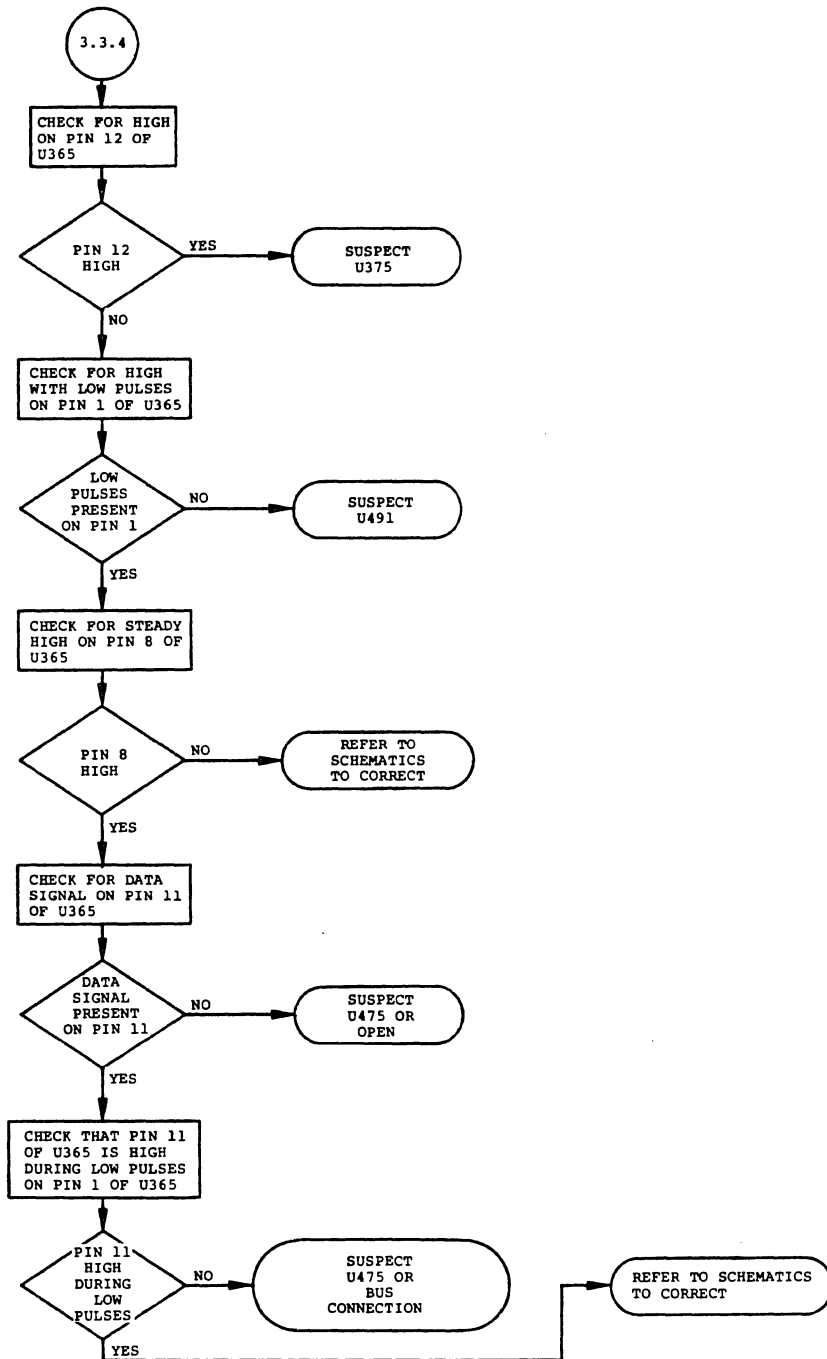


Figure 7-36. Troubleshooting Chart 5 cont (sheet 19 of 29).

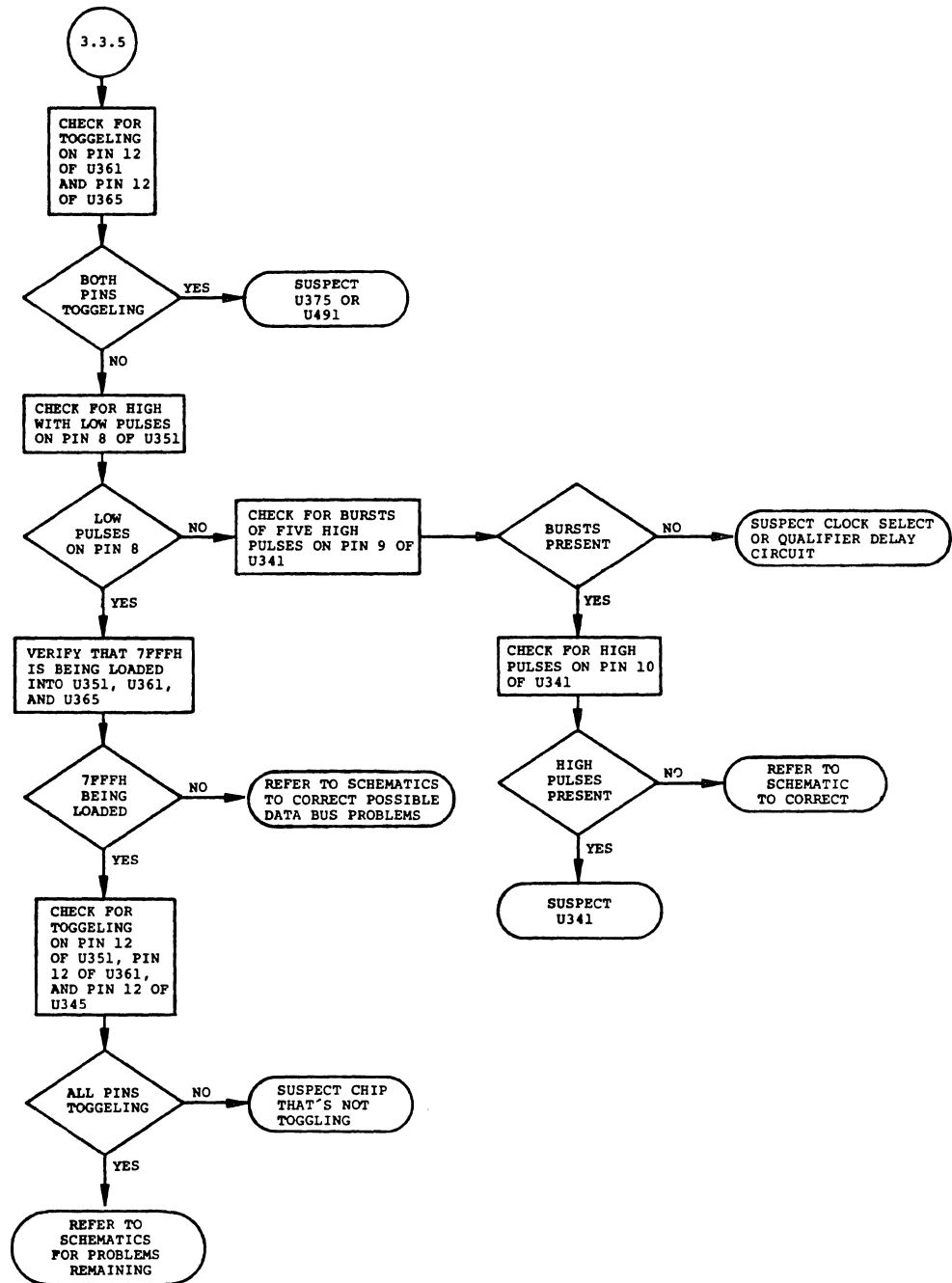


Figure 7-37. Troubleshooting Chart 5 cont (sheet 20 of 29).

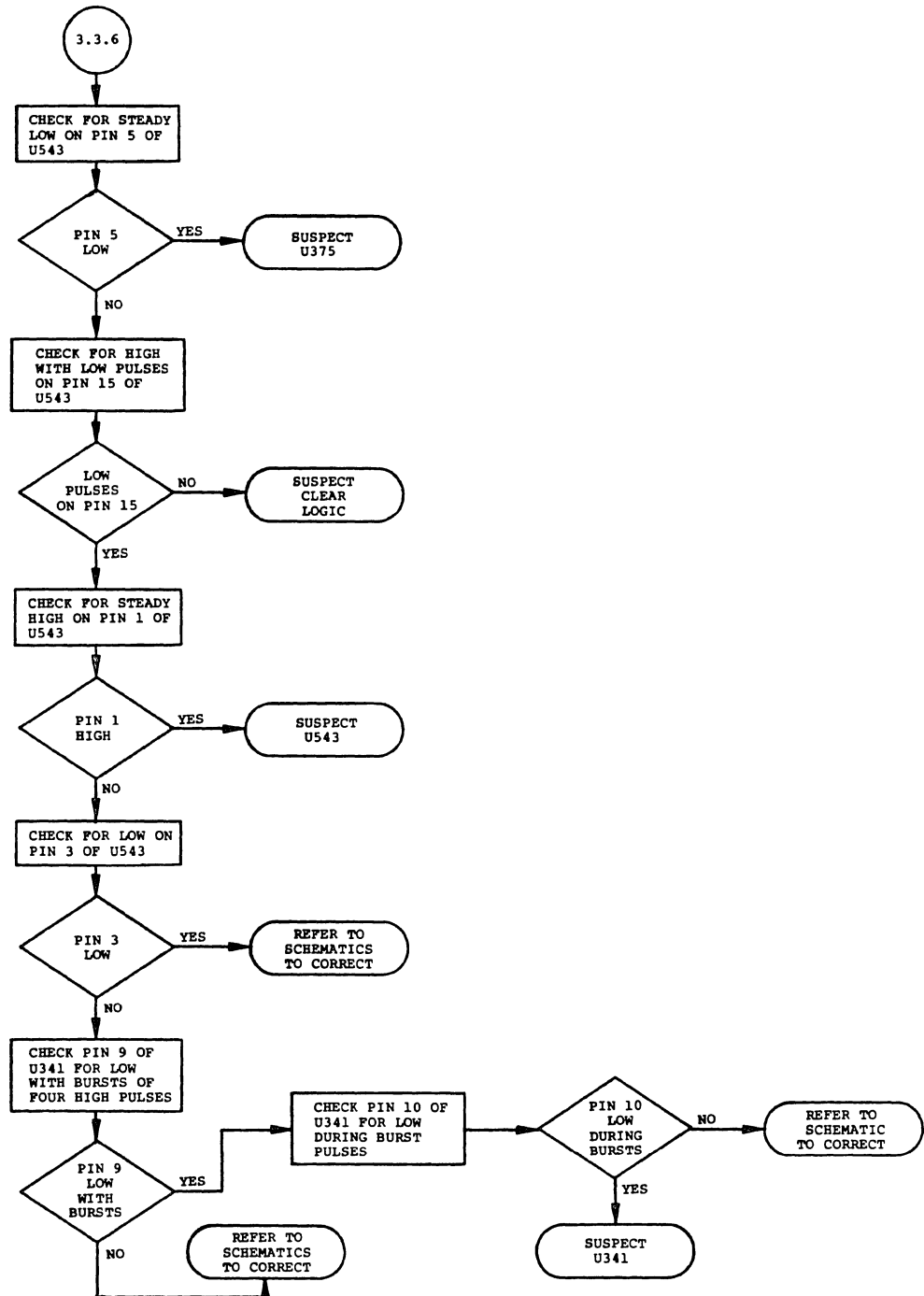


Figure 7-38. Troubleshooting Chart 5 cont (sheet 21 of 29).

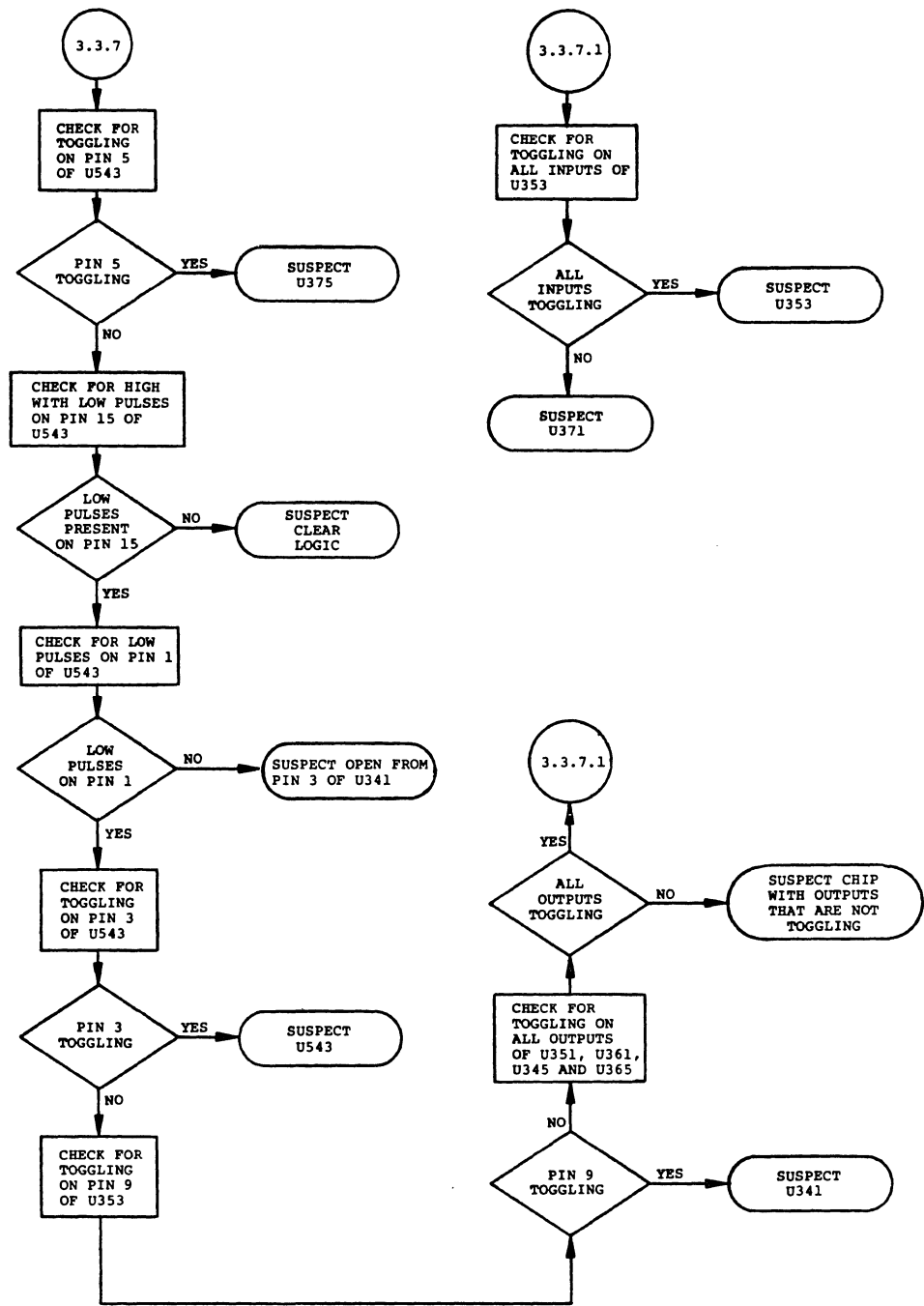


Figure 7-39. Troubleshooting Chart 5 cont (sheet 22 of 29).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

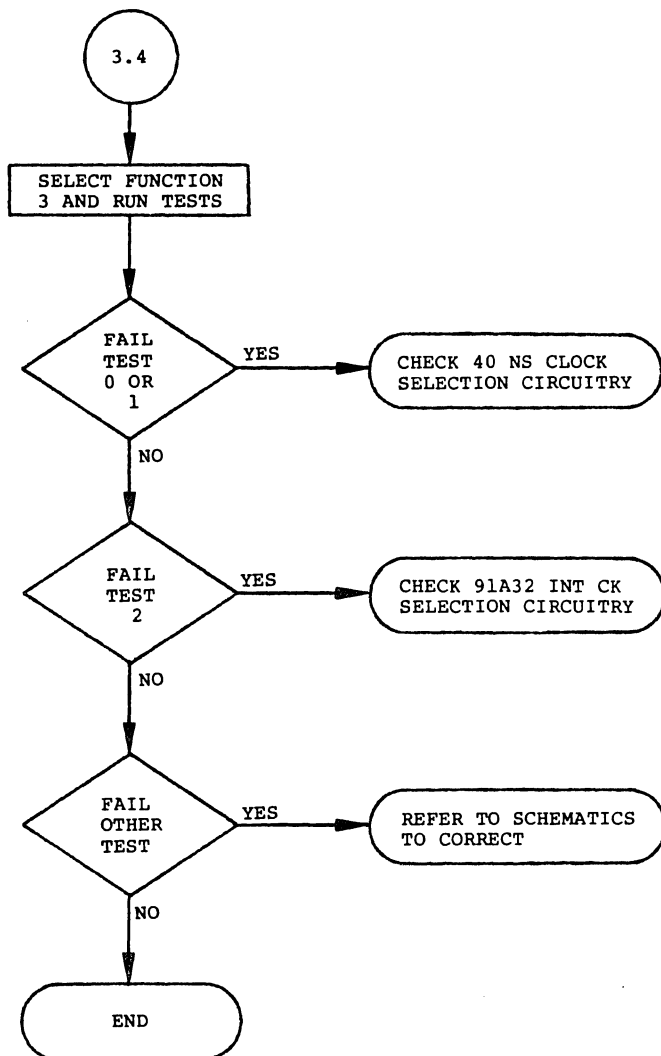
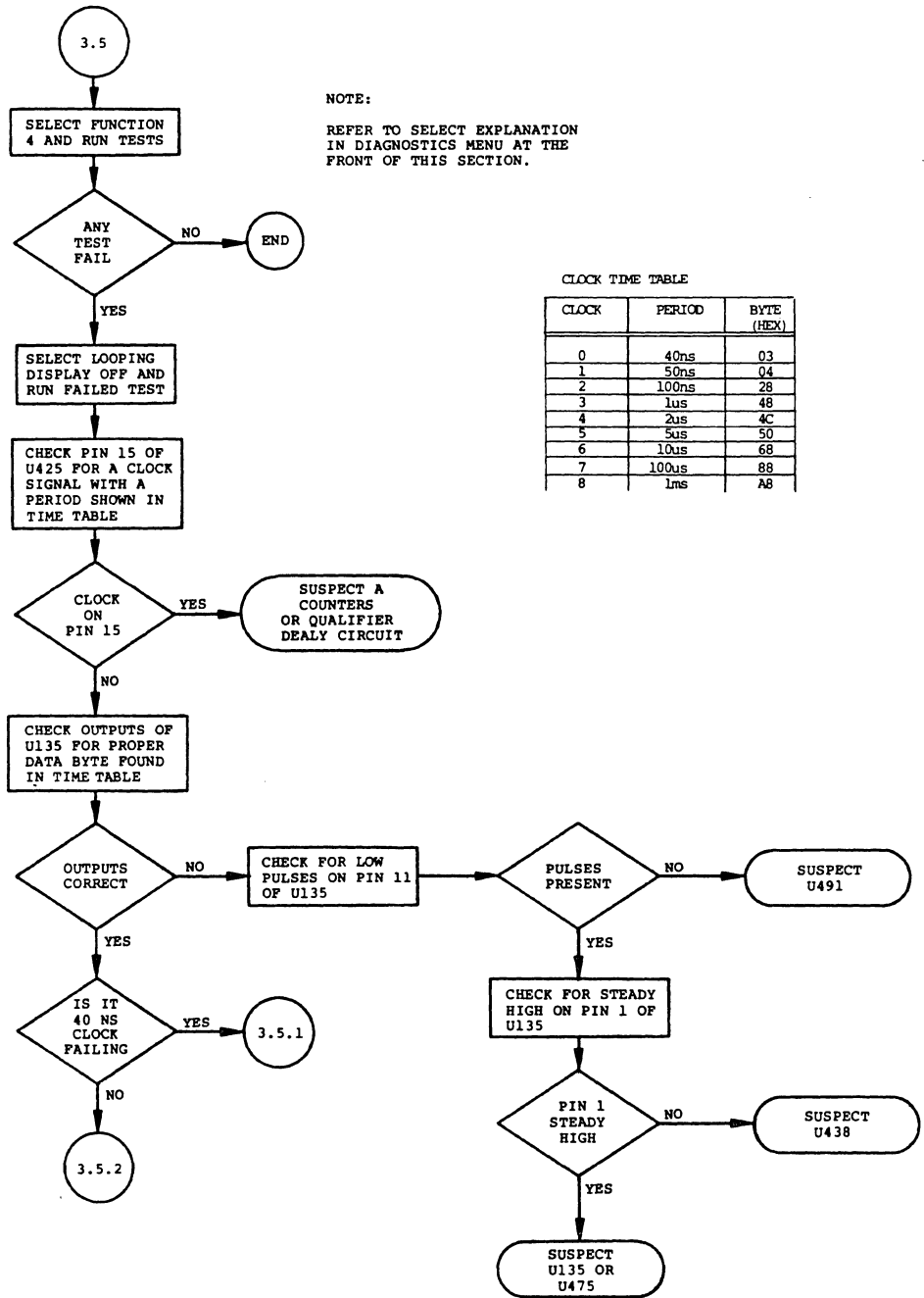


Figure 7-40. Troubleshooting Chart 5 cont (sheet 23 of 29).



NOTE:
REFER TO SELECT EXPLANATION IN DIAGNOSTICS MENU AT THE FRONT OF THIS SECTION.

CLOCK TIME TABLE

CLOCK	PERIOD	BYTE (HEX)
0	40ns	03
1	50ns	04
2	100ns	28
3	1us	48
4	2us	4C
5	5us	50
6	10us	68
7	100us	88
8	1ms	A8

Figure 7-41. Troubleshooting Chart 5 cont (sheet 24 of 29).

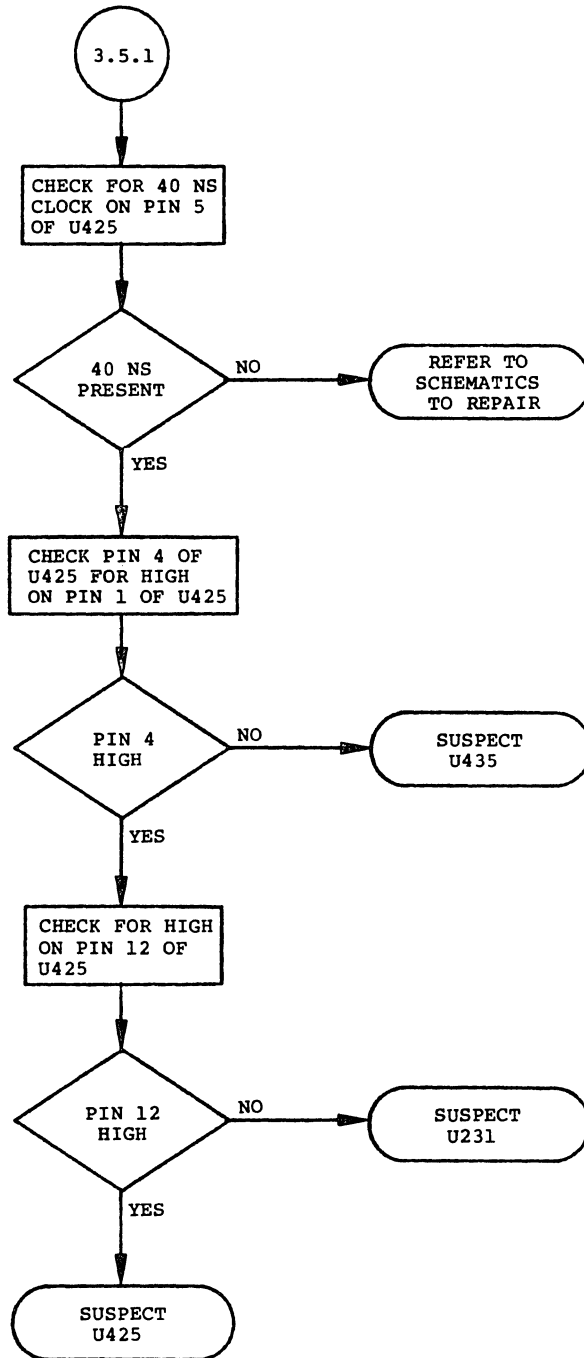


Figure 7-42. Troubleshooting Chart 5 cont (sheet 25 of 29).

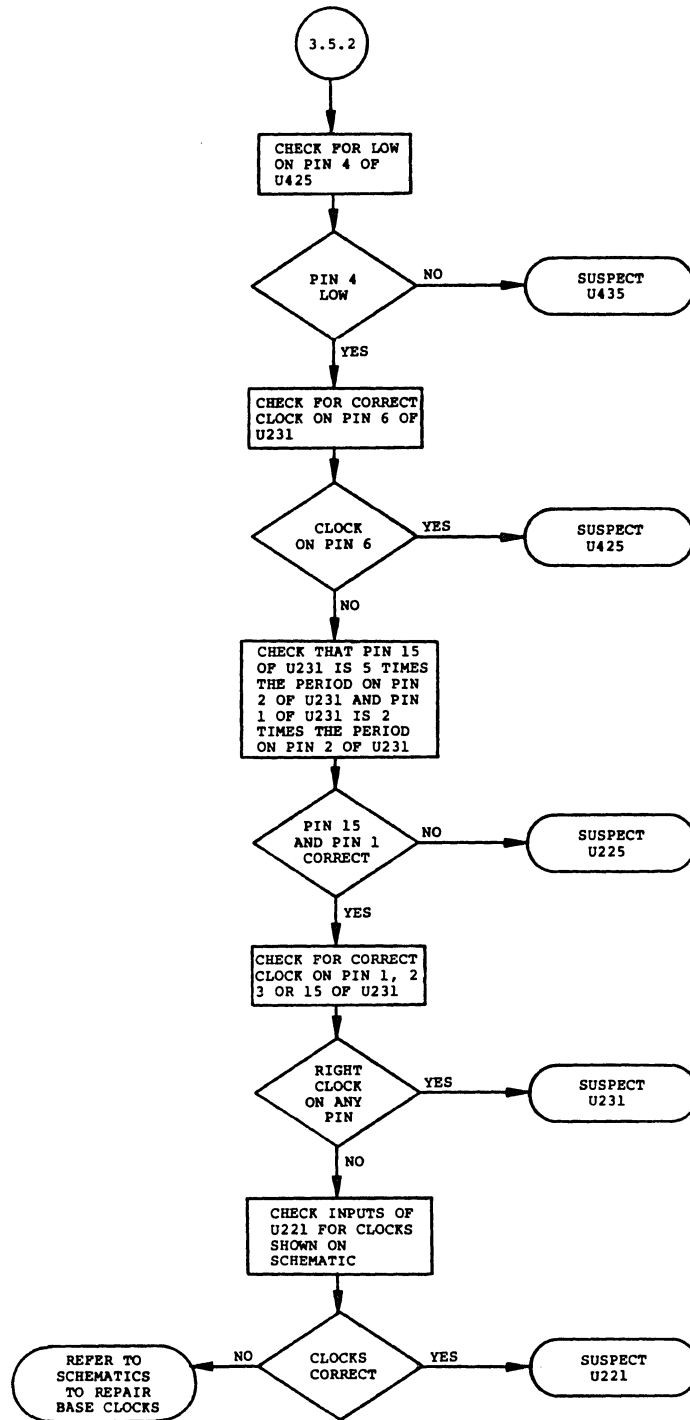


Figure 7-43. Troubleshooting Chart 5 cont (sheet 26 of 29).

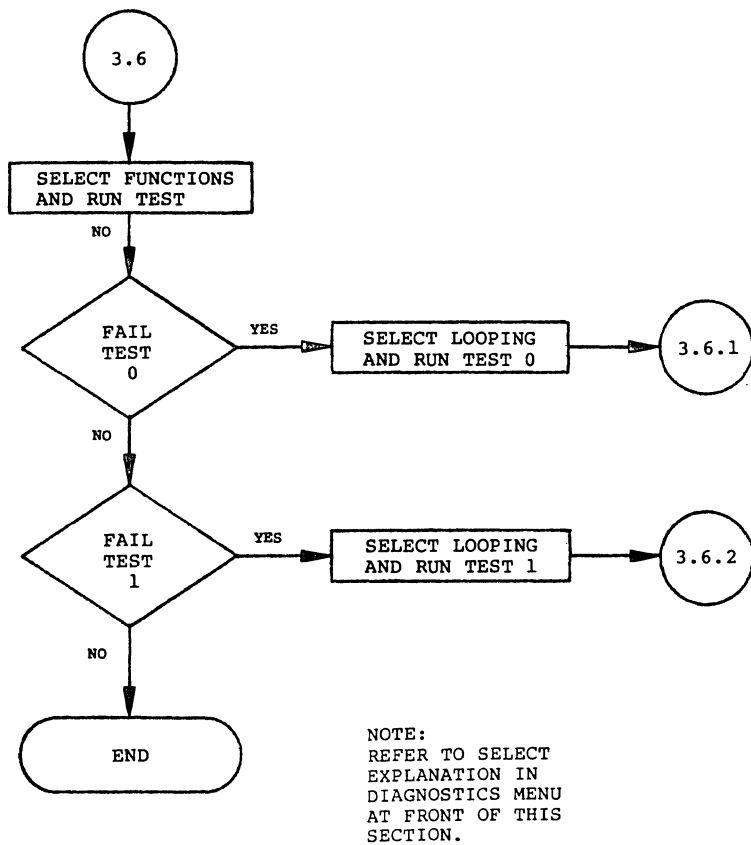


Figure 7-44. Troubleshooting Chart 5 cont (sheet 27 of 29).

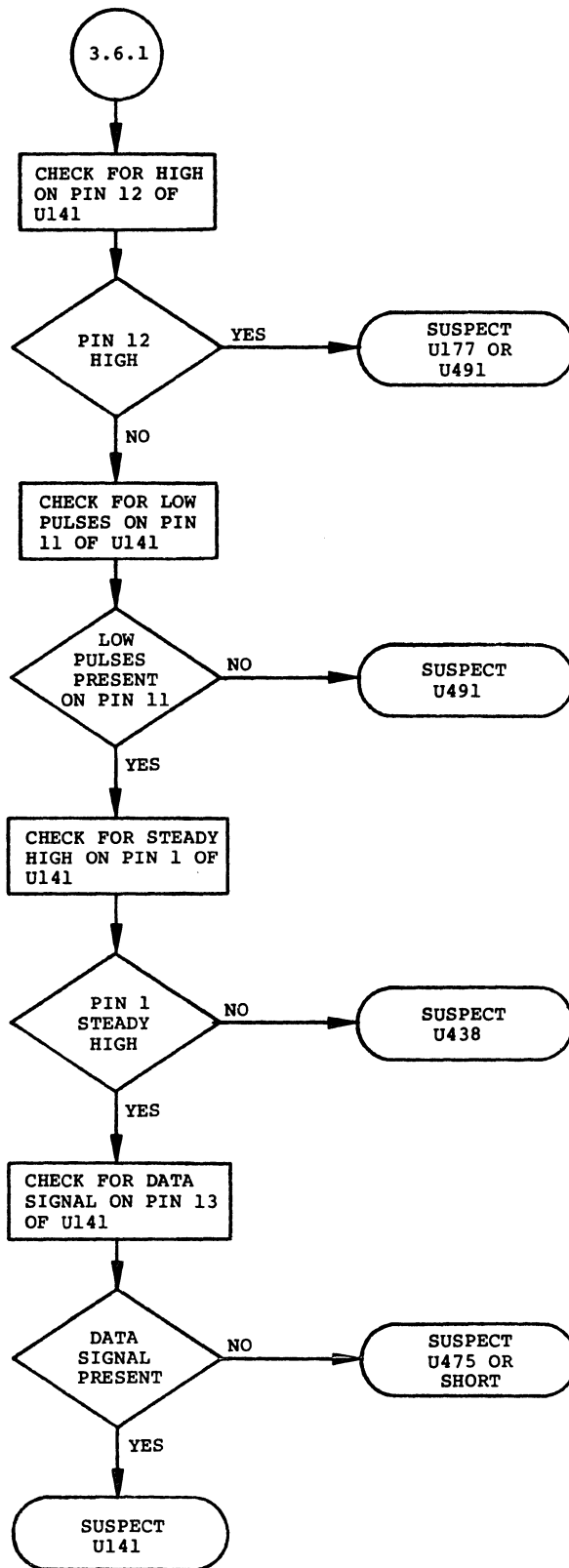


Figure 7-45. Troubleshooting Chart 5 cont (sheet 28 of 29).

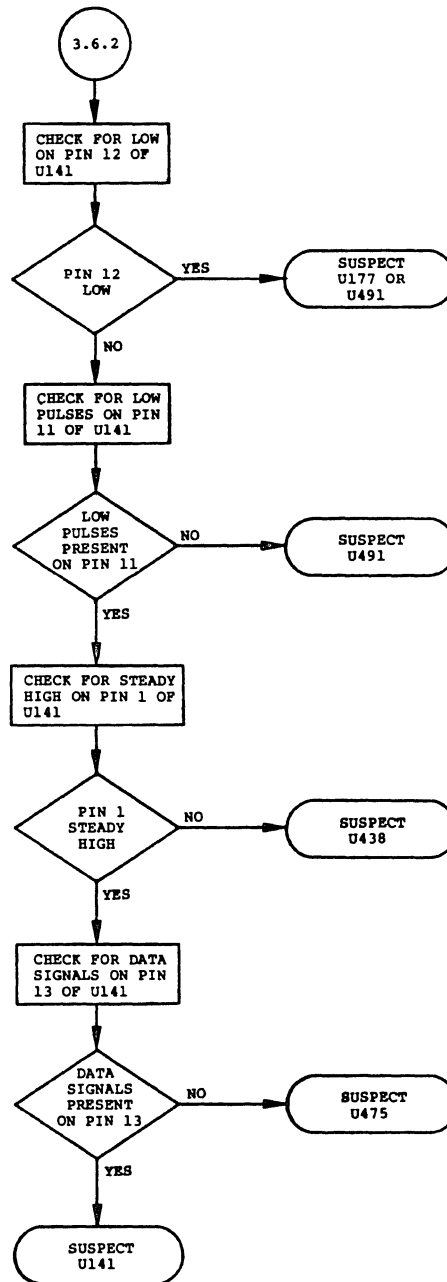


Figure 7-46. Troubleshooting Chart 5 cont (sheet 29 of 29).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

USE EXTENDER BOARD FROM
SERVICE MAINTENANCE KIT TO
EXTEND DATA ACQ BOARD
ABOVE DAS FOR EASY ACCESS
TO COMPONENTS AND TEST POINTS.

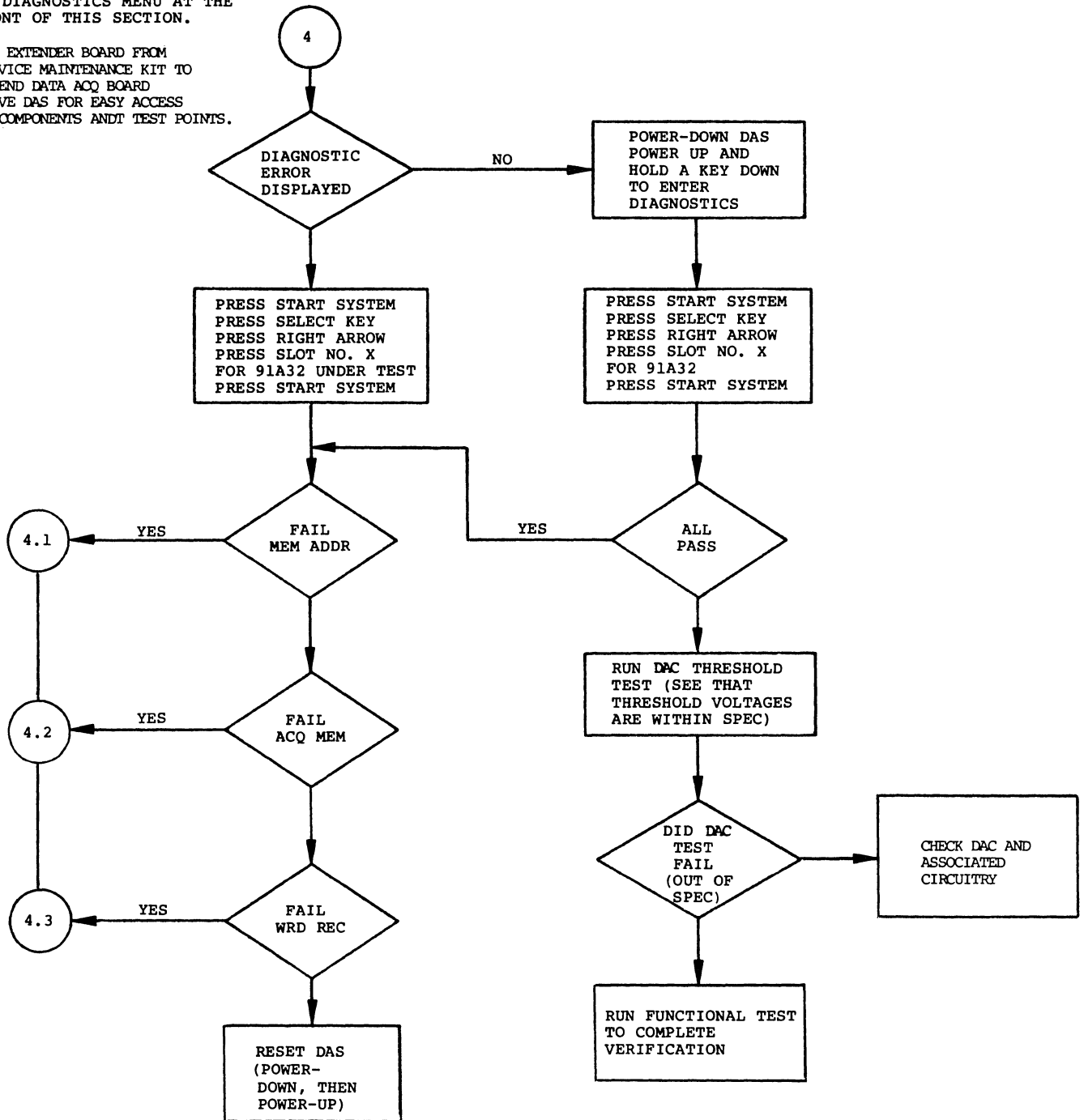
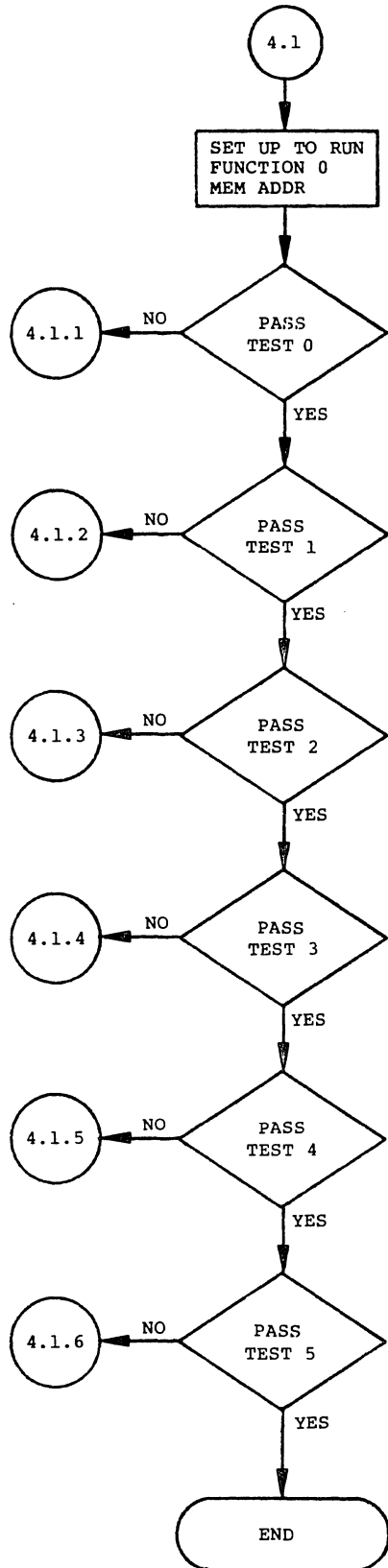


Figure 7-47. Troubleshooting Chart 6—91A32 Data Acquisition failure (sheet 1 of 13).



NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

Figure 7-48. Troubleshooting Chart 6 cont (sheet 2 of 13).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

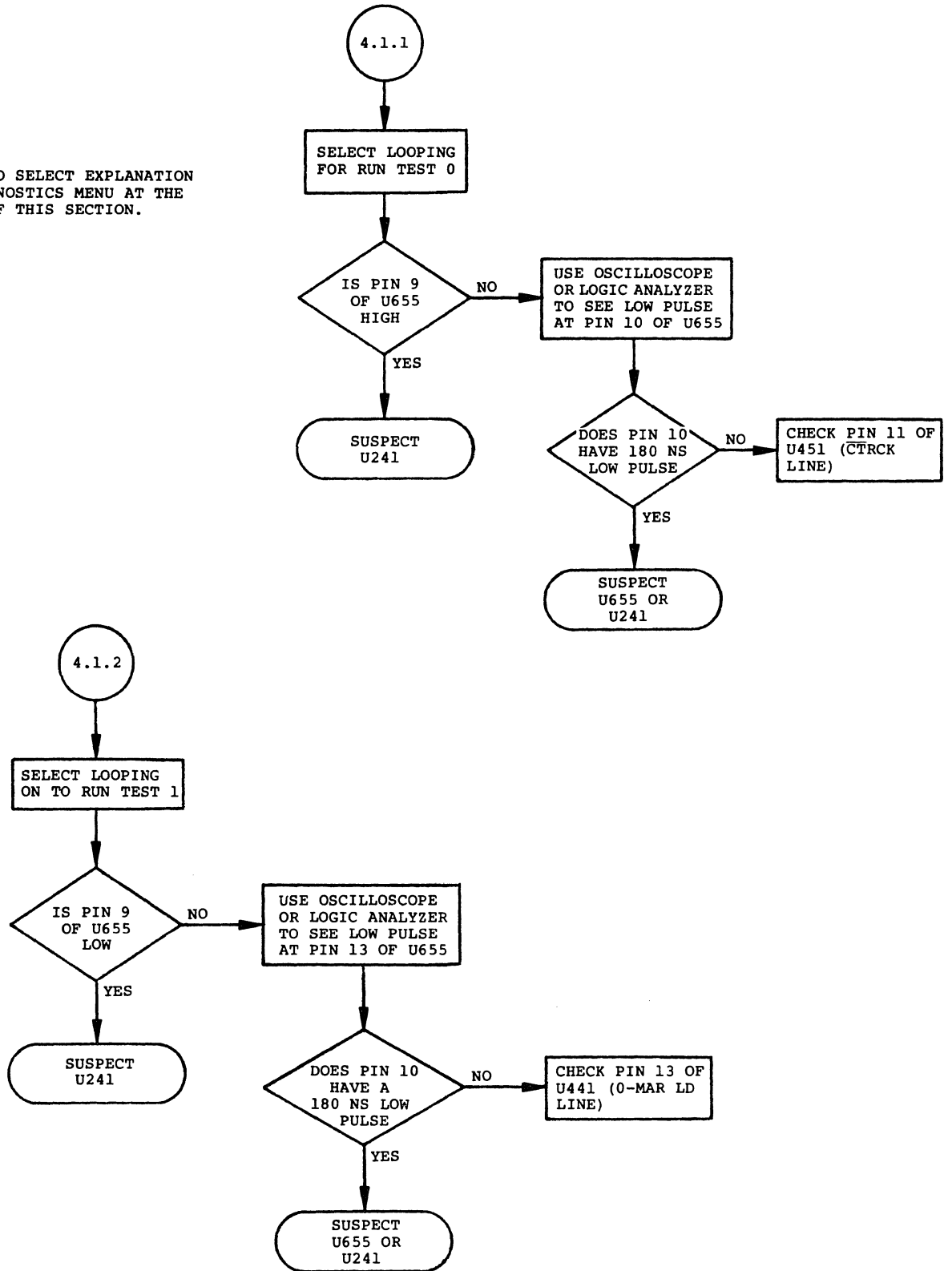


Figure 7-49. Troubleshooting Chart 6 cont (sheet 3 of 13).

NOTE:
REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

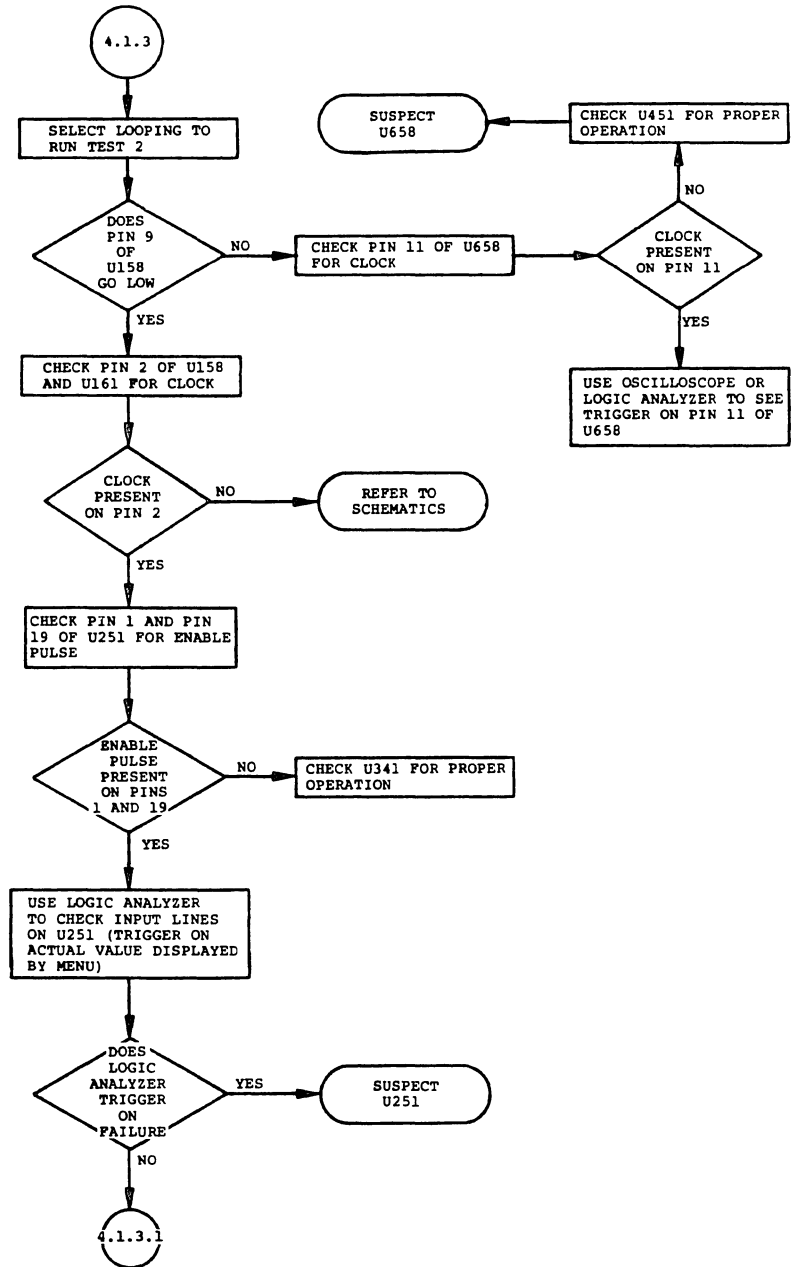


Figure 7-50. Troubleshooting Chart 6 cont (sheet 4 of 13).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

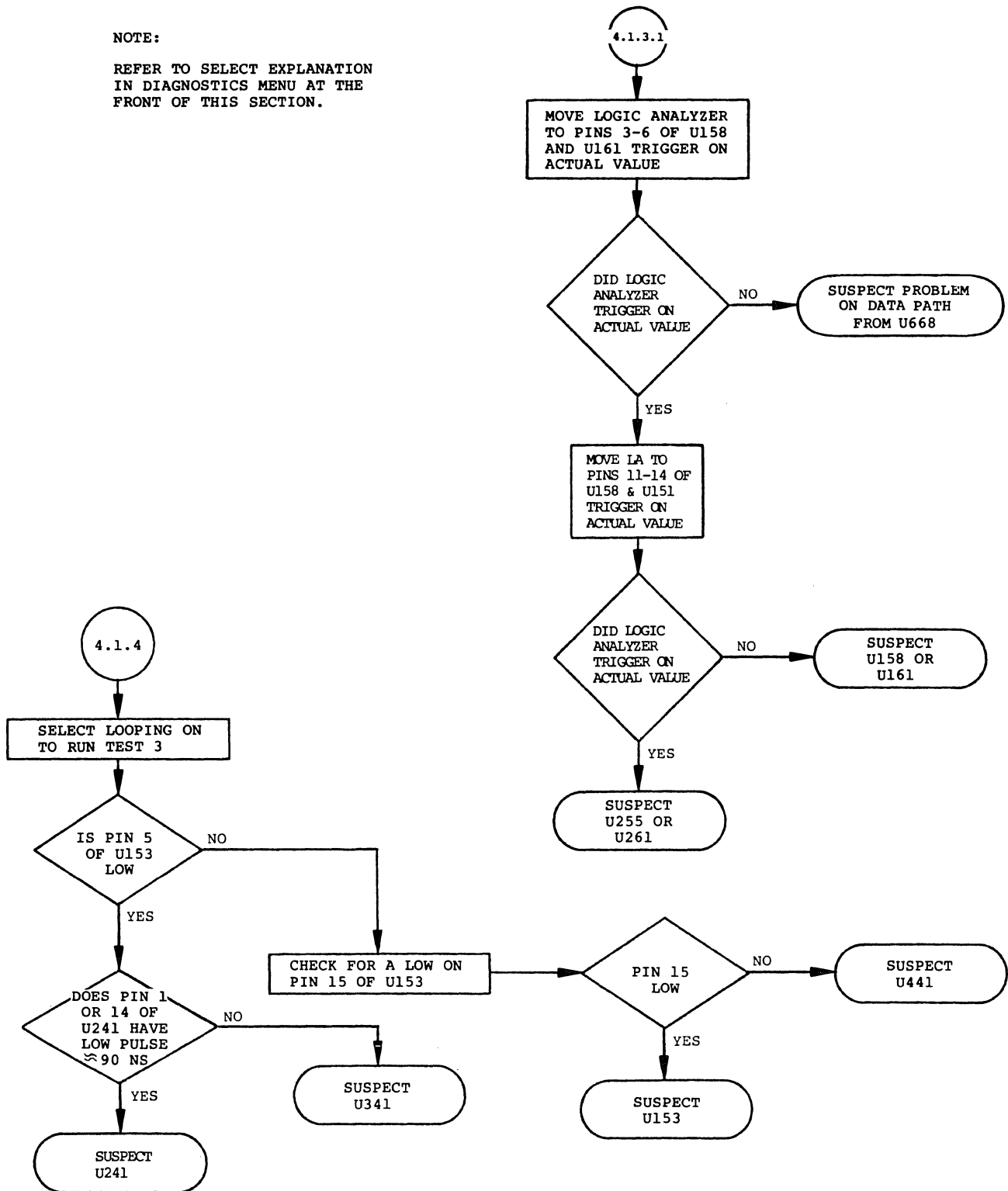


Figure 7-51. Troubleshooting Chart 6 cont (sheet 5 of 13).

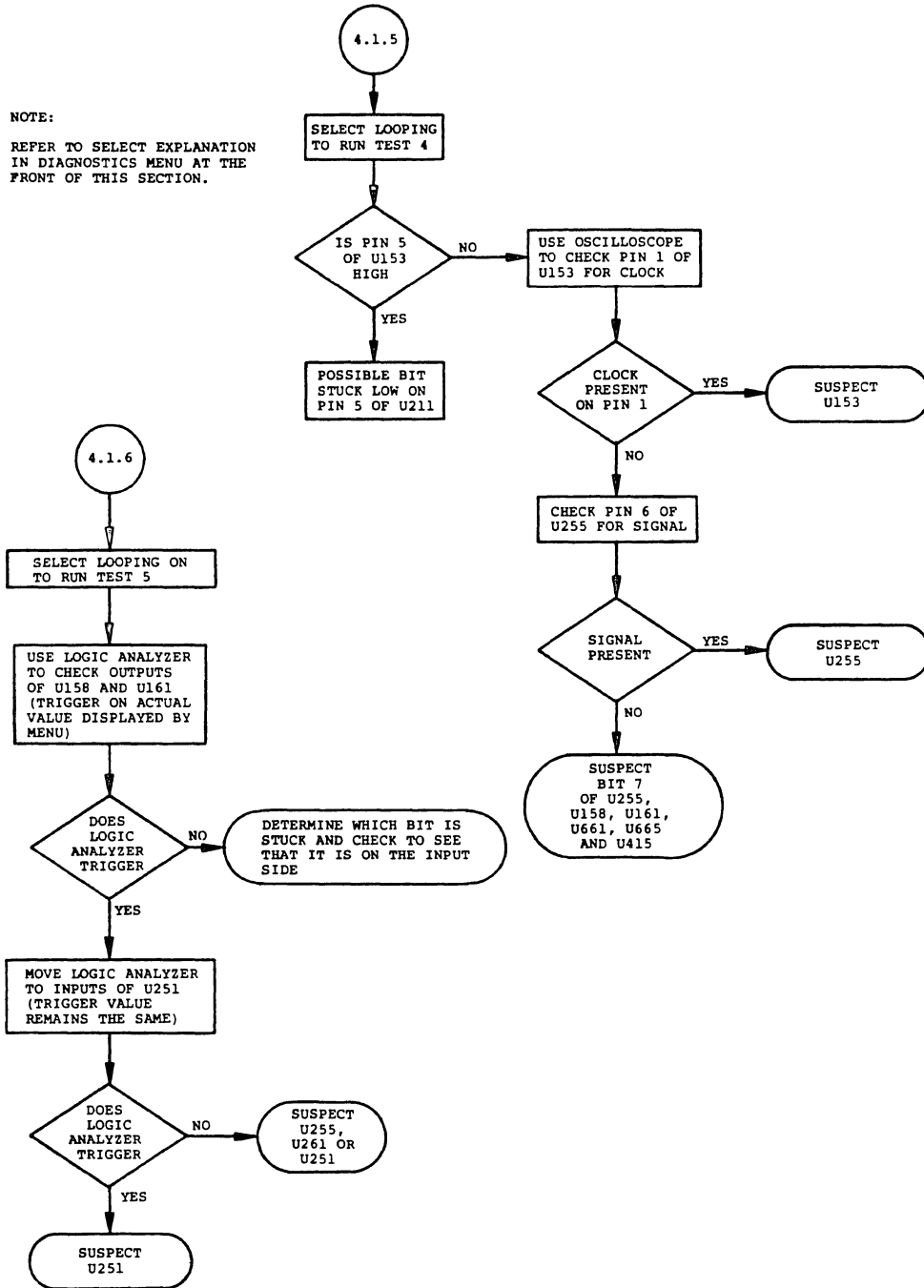


Figure 7-52. Troubleshooting Chart 6 cont (sheet 6 of 13).

NOTE:
REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

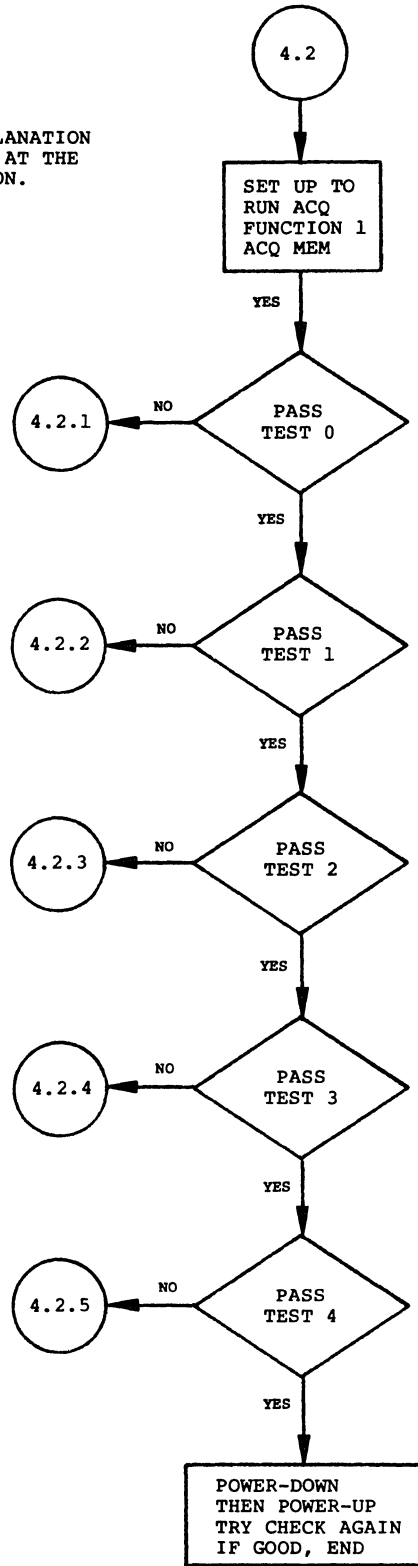
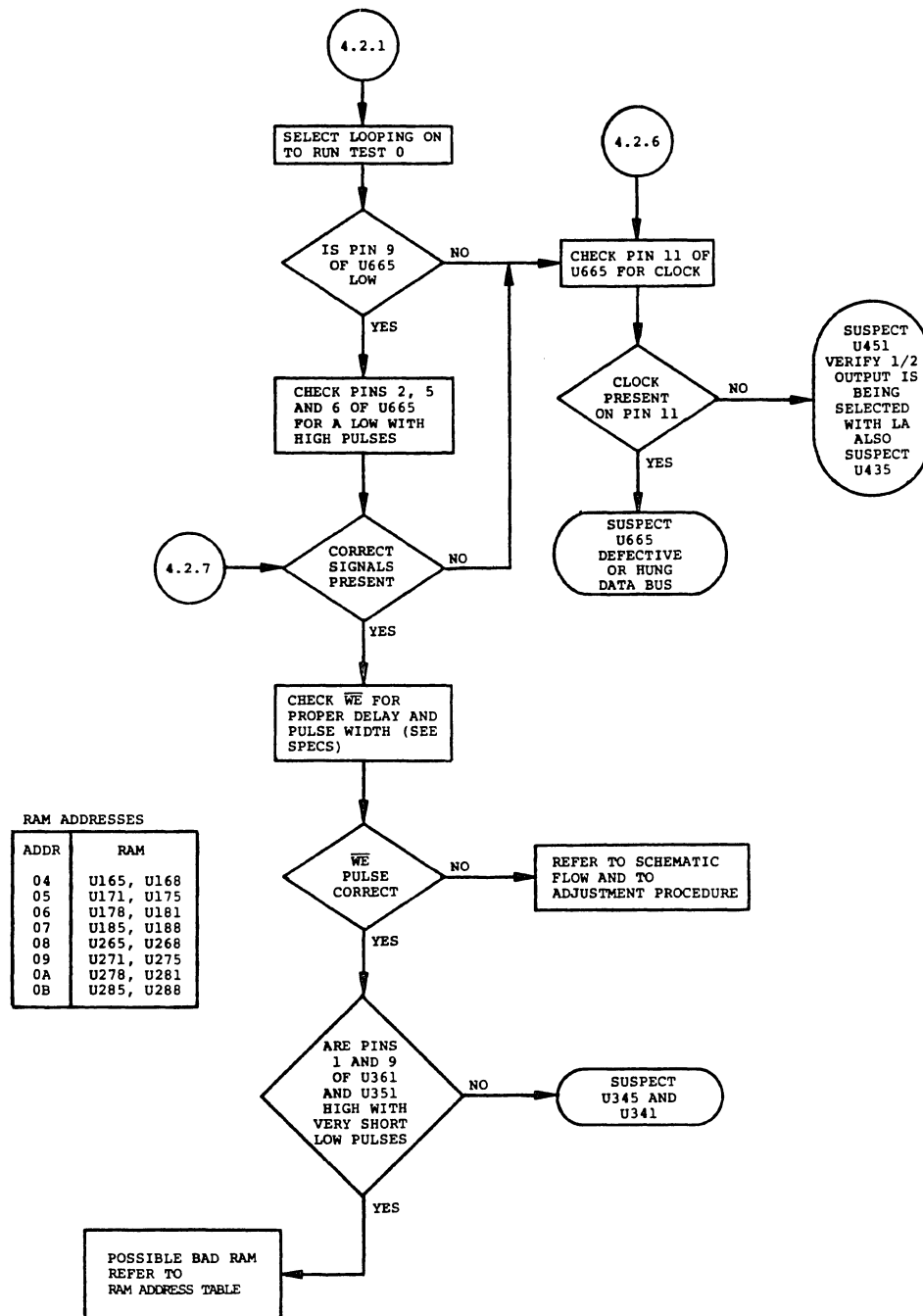


Figure 7-53. Troubleshooting Chart 6 cont (sheet 7 of 13).



RAM ADDRESSES

ADDR	RAM
04	U165, U168
05	U171, U175
06	U178, U181
07	U185, U188
08	U265, U268
09	U271, U275
0A	U278, U281
0B	U285, U288

Figure 7-54. Troubleshooting Chart 6 cont (sheet 8 of 13).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

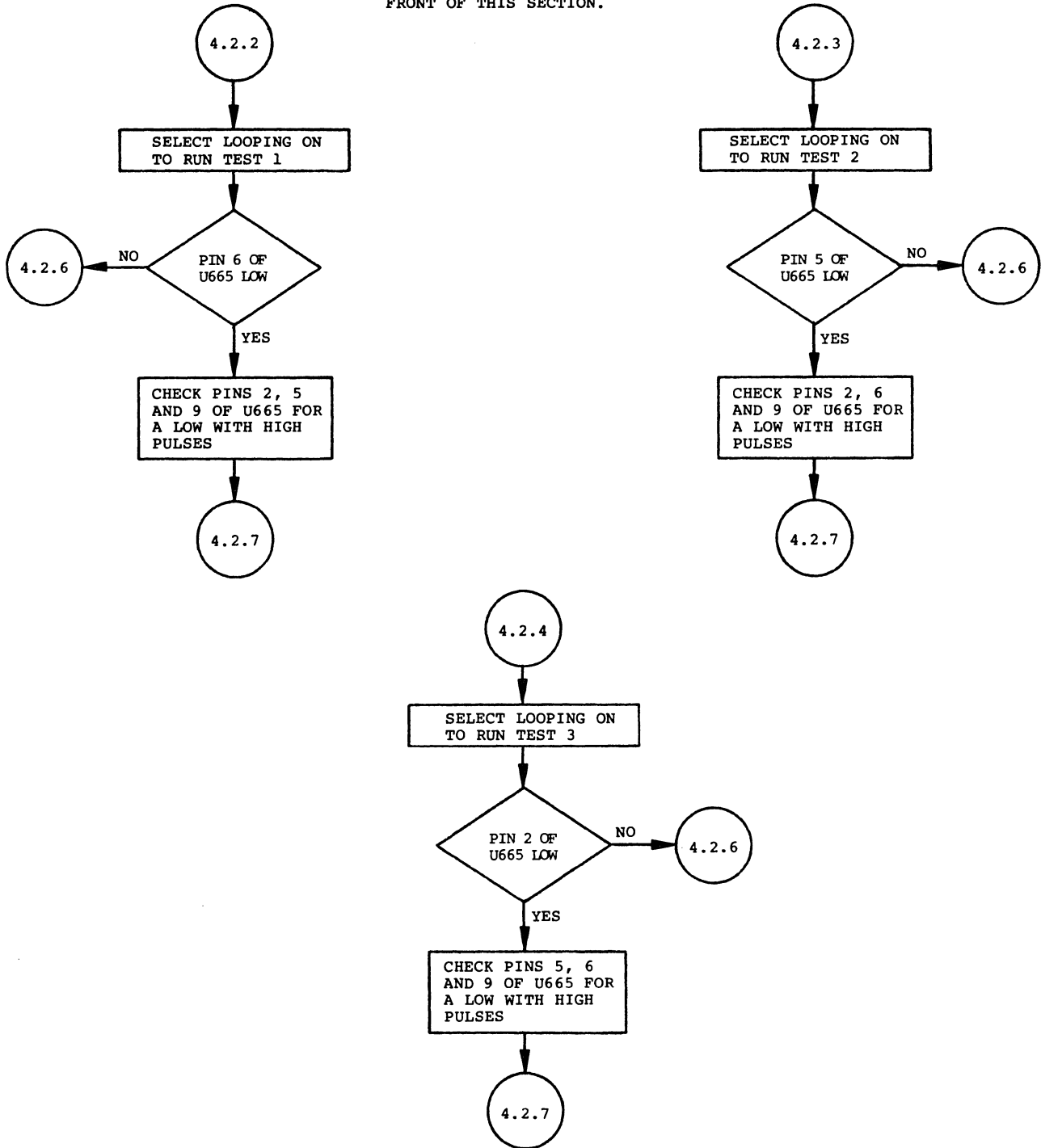


Figure 7-55. Troubleshooting Chart 6 cont (sheet 9 of 13).

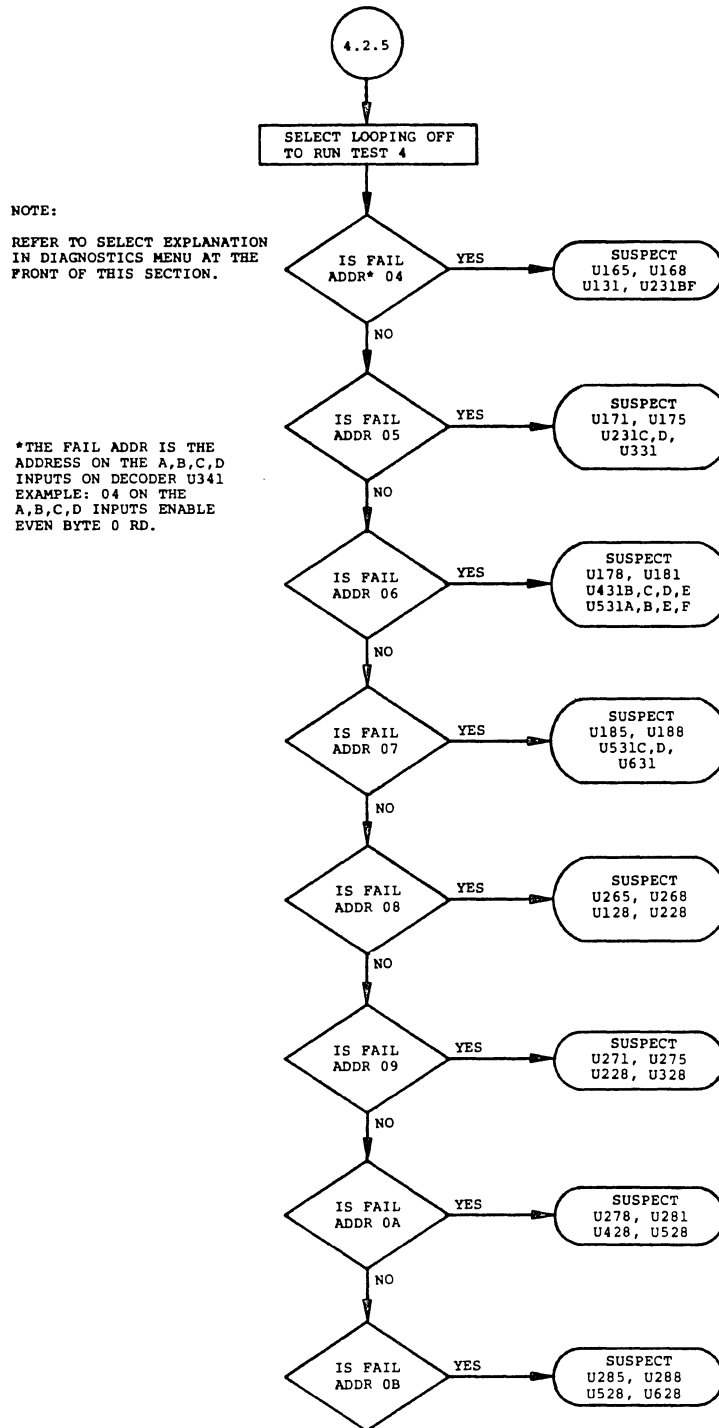


Figure 7-56. Troubleshooting Chart 6 cont (sheet 10 of 13).

NOTE:
REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

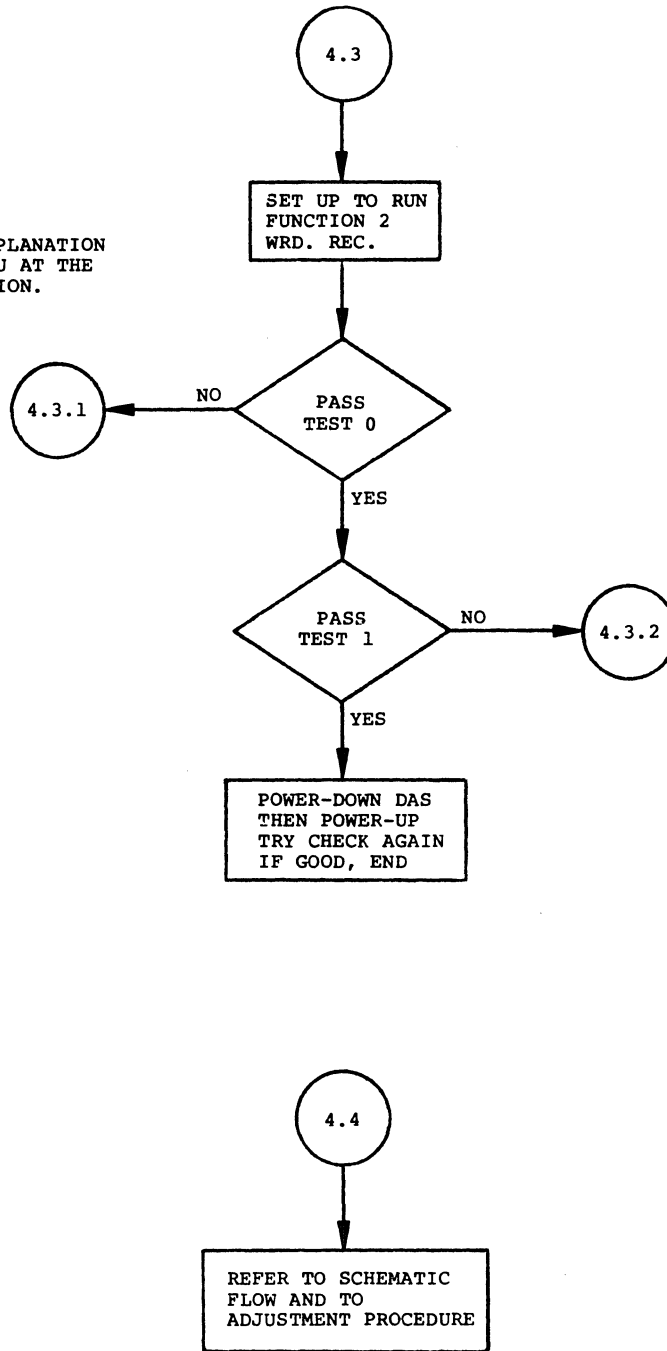


Figure 7-57. Troubleshooting Chart 6 cont (sheet 11 of 13).

NOTE:
REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

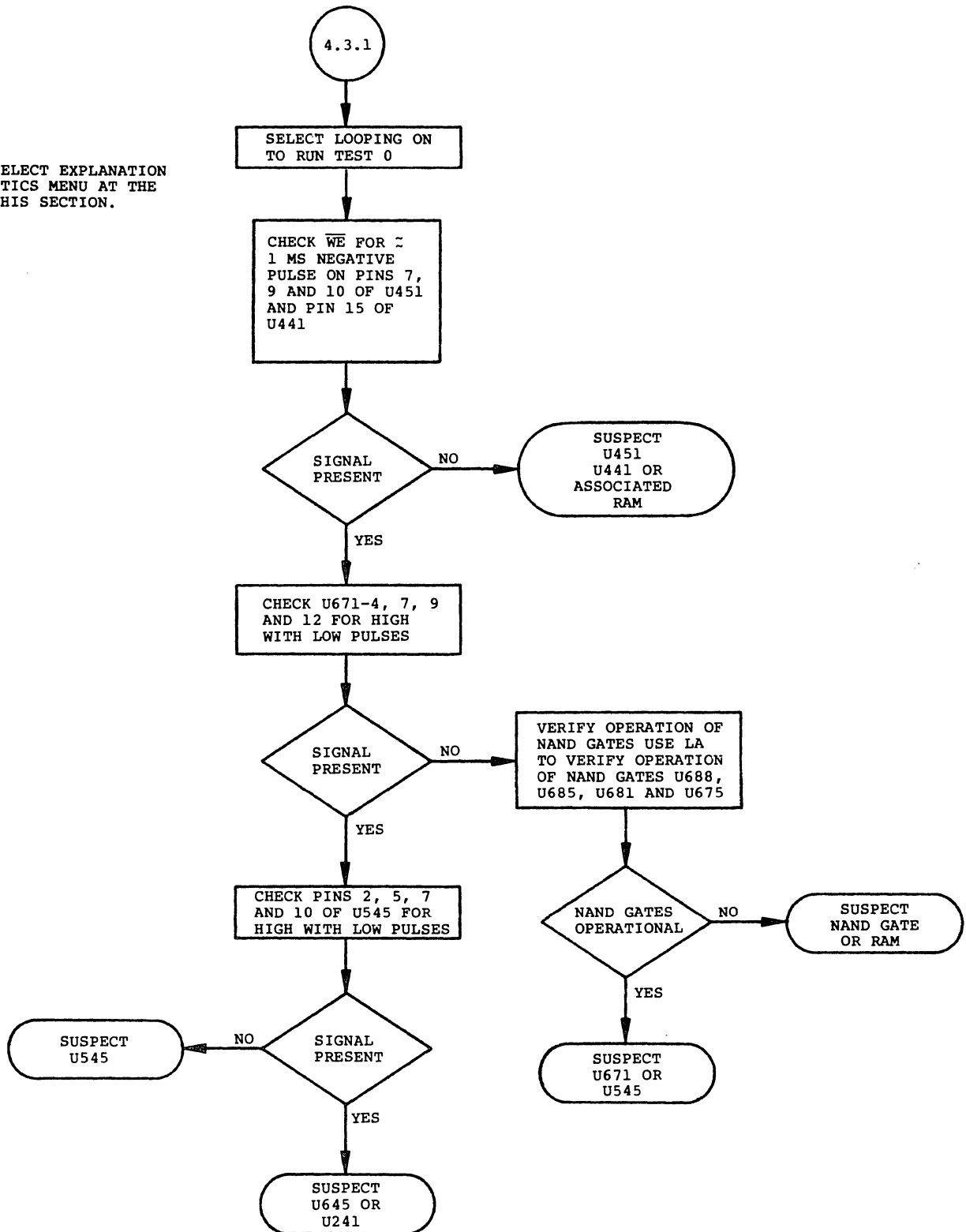


Figure 7-58. Troubleshooting Chart 6 cont (sheet 12 of 13).

NOTE:
REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

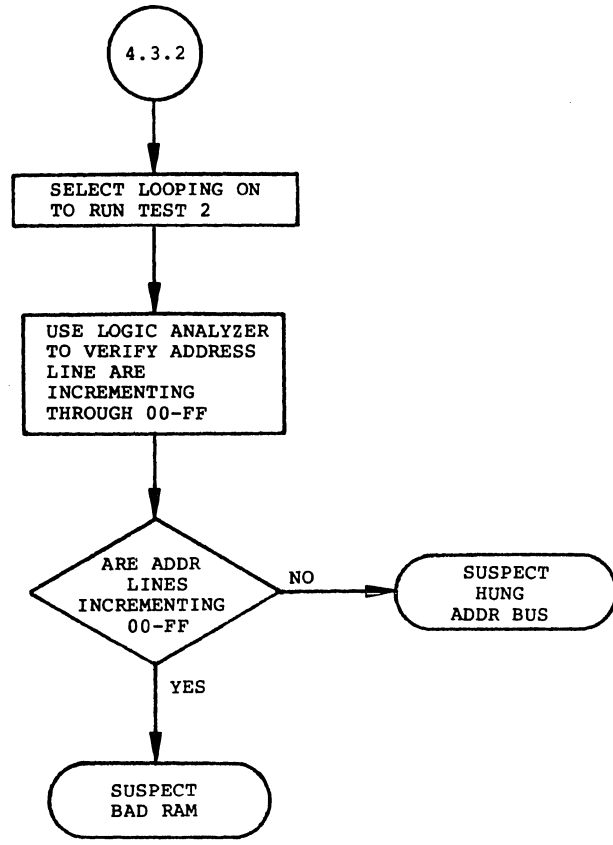
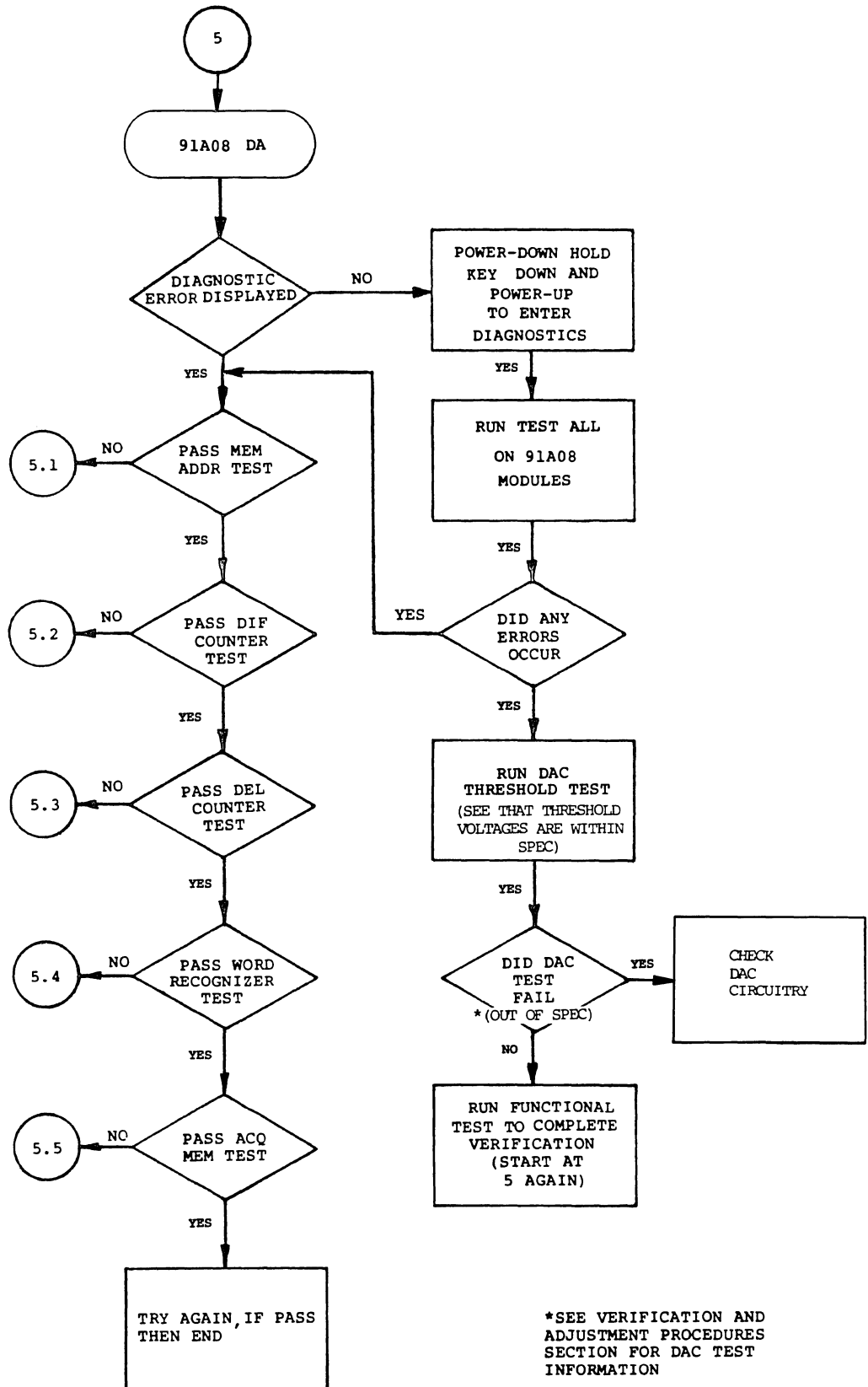


Figure 7-59. Troubleshooting Chart 6 cont (sheet 13 of 13).

NOTE:

REFER TO SELECT EXPLANATION IN DIAGNOSTICS MENU AT THE FRONT OF THIS SECTION.

USE EXTENDER BOARD FROM SERVICE MAINTENANCE KIT TO EXTEND DATA ACQ BOARD ABOVE DAS FOR EASY ACCESS TO COMPONENTS AND TEST POINTS.



*SEE VERIFICATION AND ADJUSTMENT PROCEDURES SECTION FOR DAC TEST INFORMATION

Figure 7-60. Troubleshooting Chart 7—91A08 Data Acquisition failure (sheet 1 of 25).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

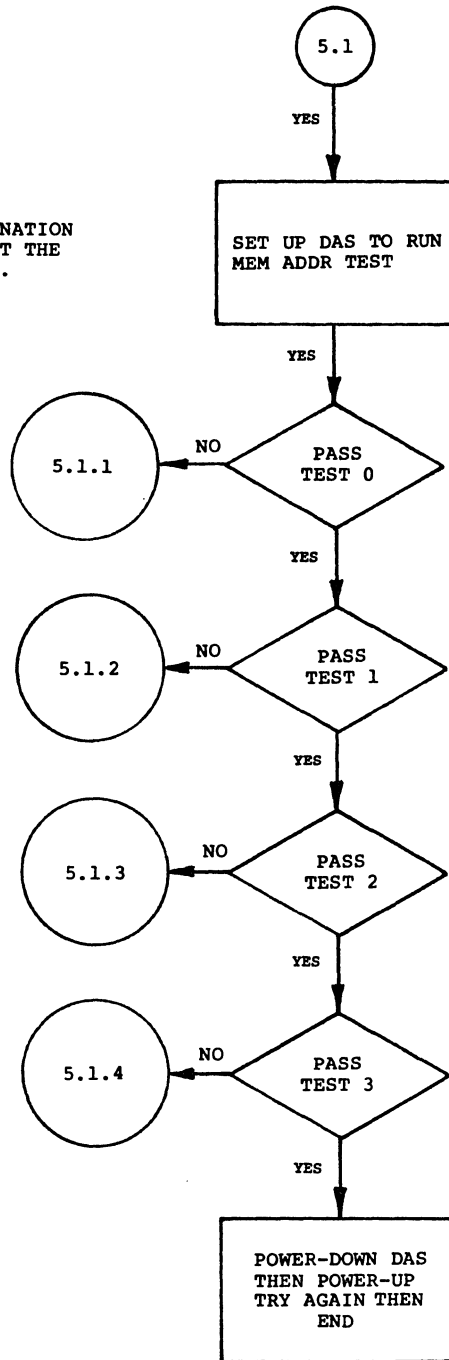


Figure 7-61. Troubleshooting Chart 7 cont (sheet 2 of 25).

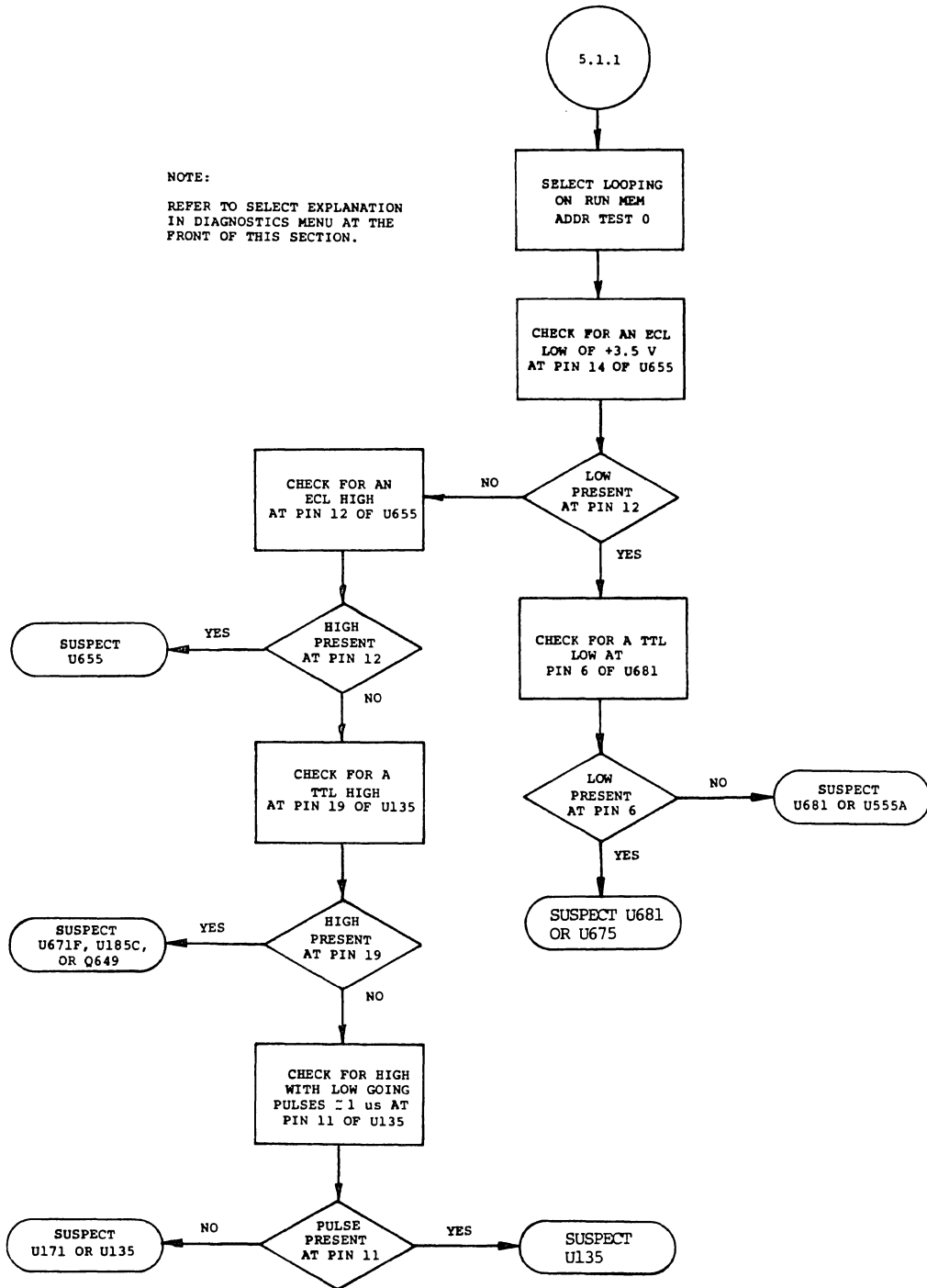


Figure 7-62. Troubleshooting Chart 7 cont (sheet 3 of 25).

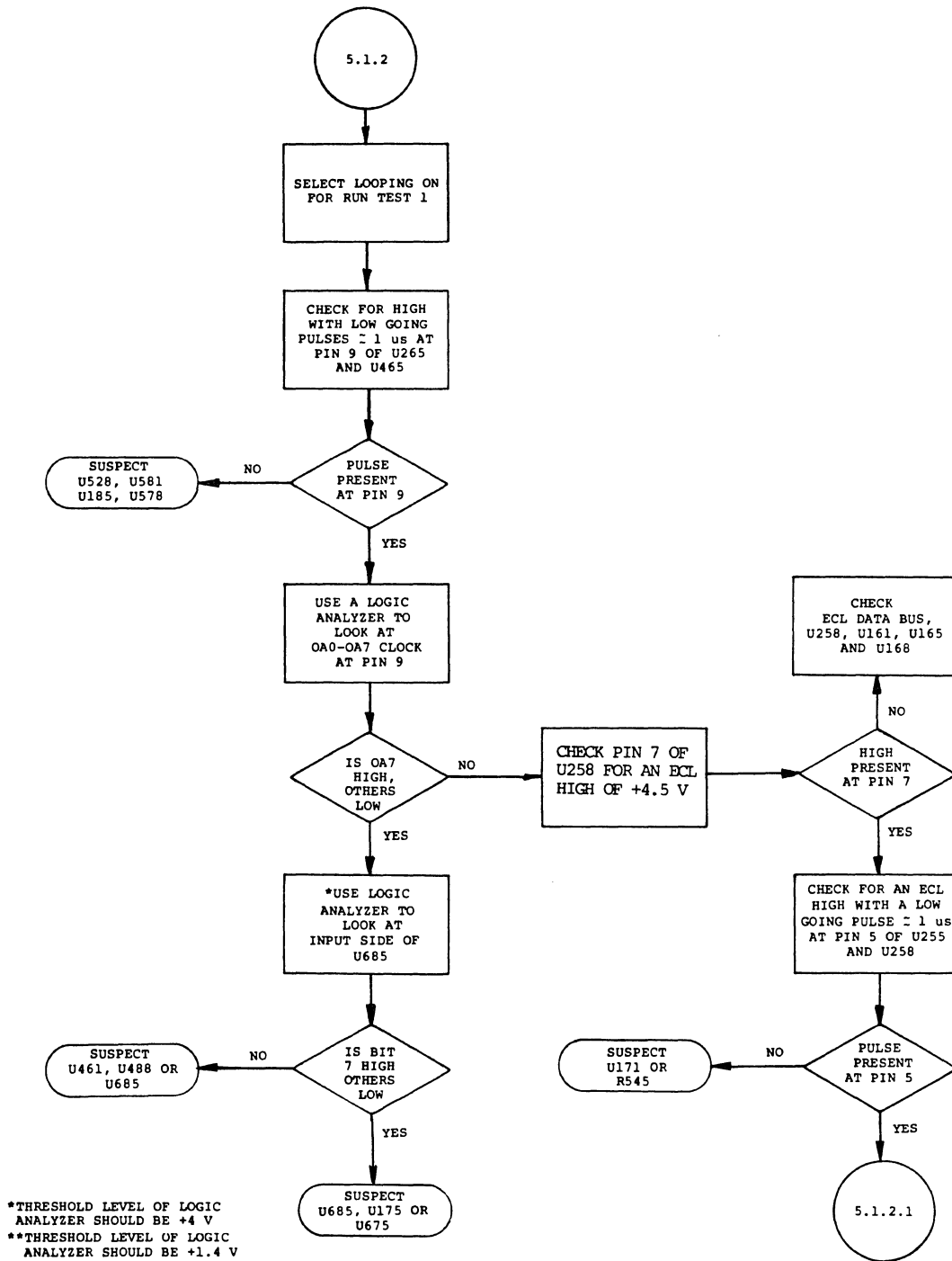


Figure 7-63. Troubleshooting Chart 7 cont (sheet 4 of 25).

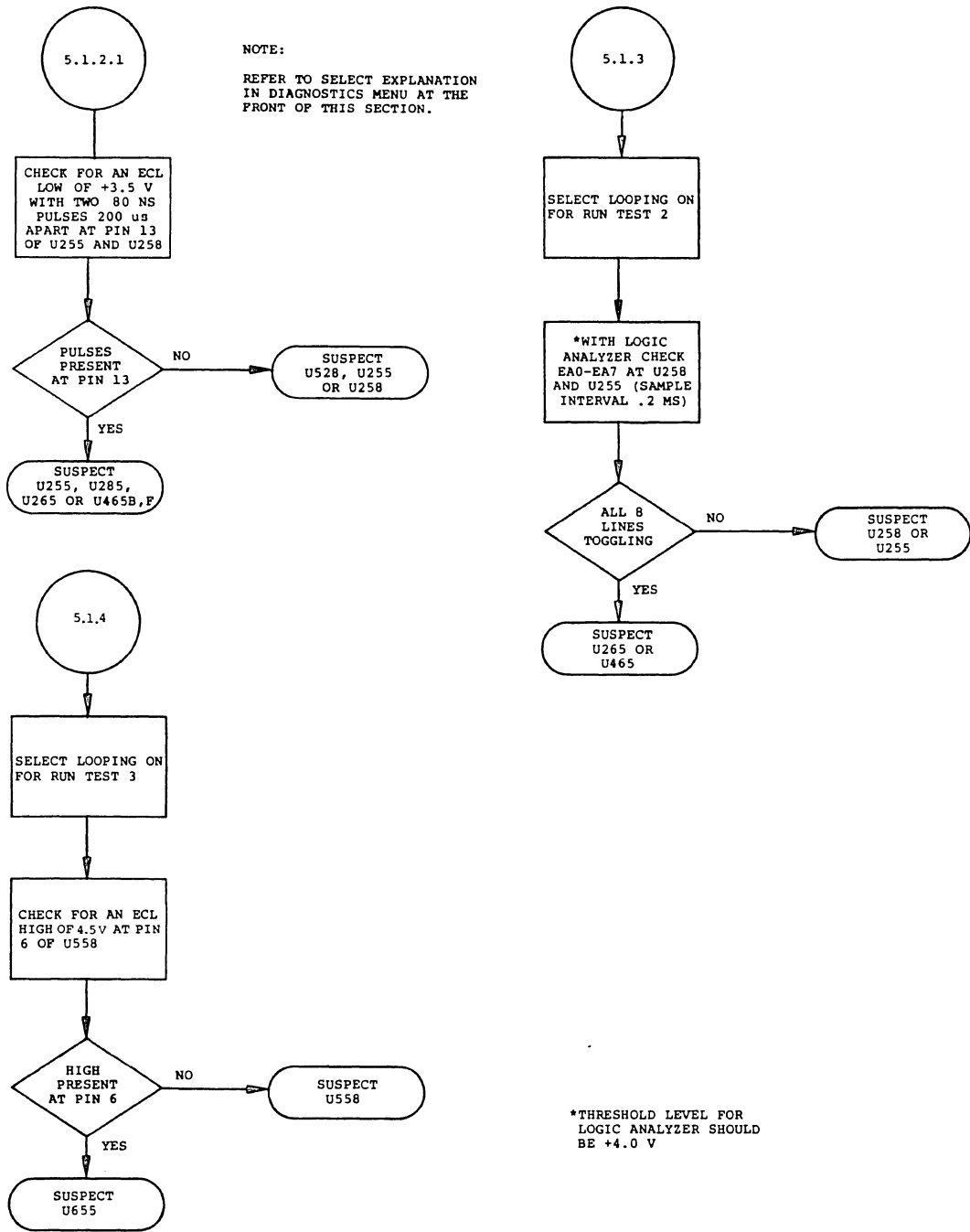


Figure 7-64. Troubleshooting Chart 7 cont (sheet 5 of 25).

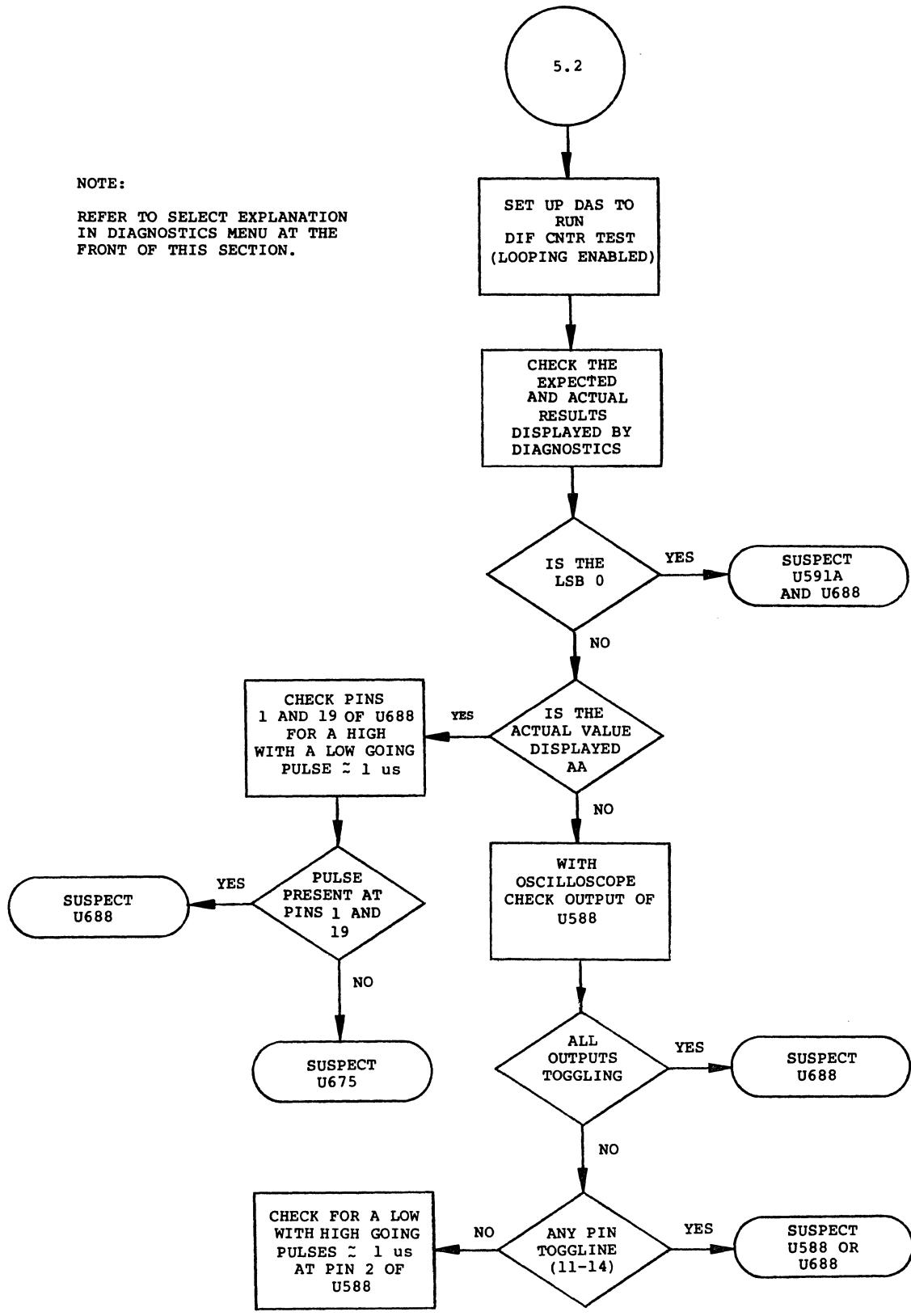


Figure 7-65. Troubleshooting Chart 7 cont (sheet 6 of 25).

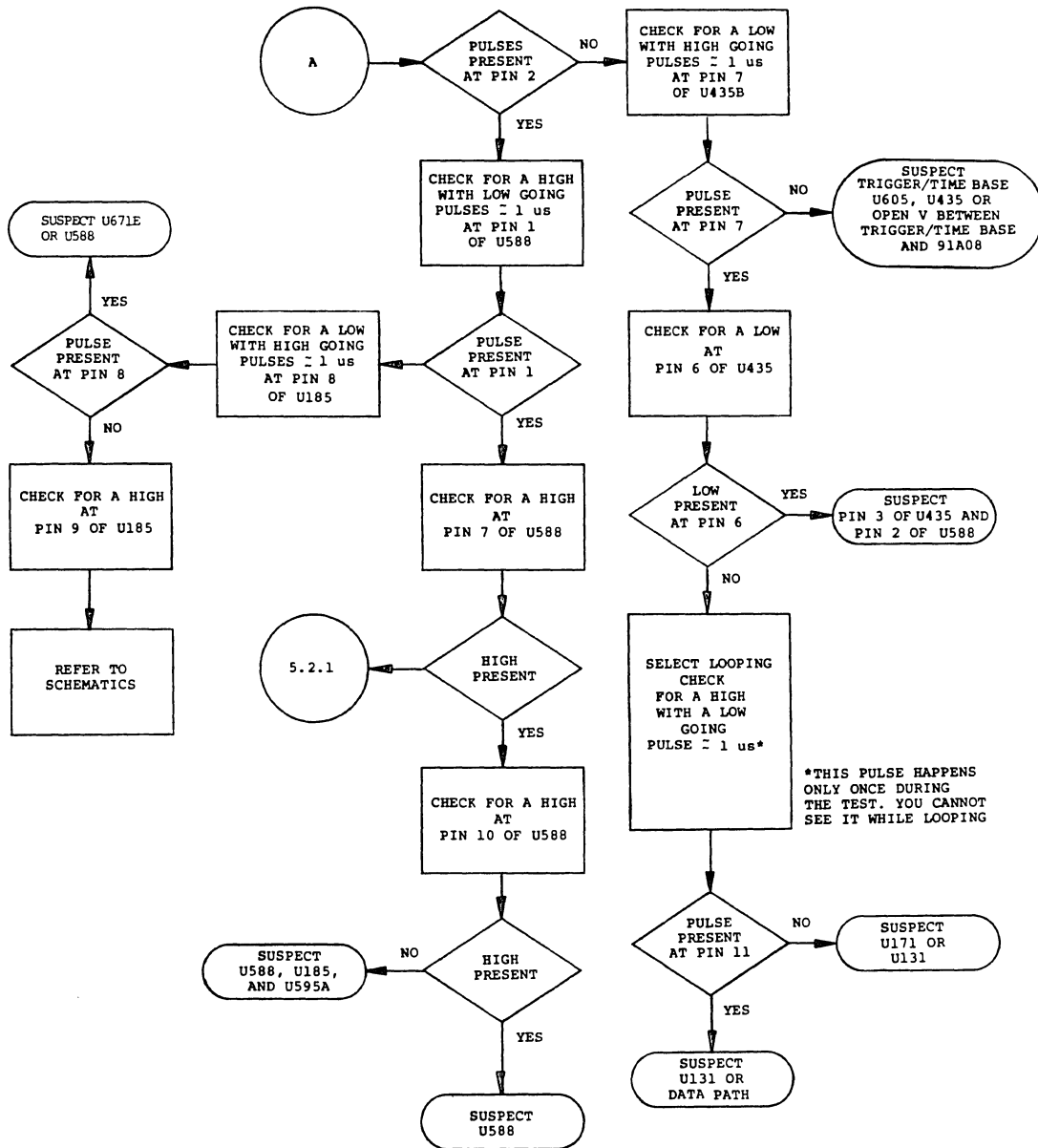


Figure 7-66. Troubleshooting Chart 7 cont (sheet 7 of 25).

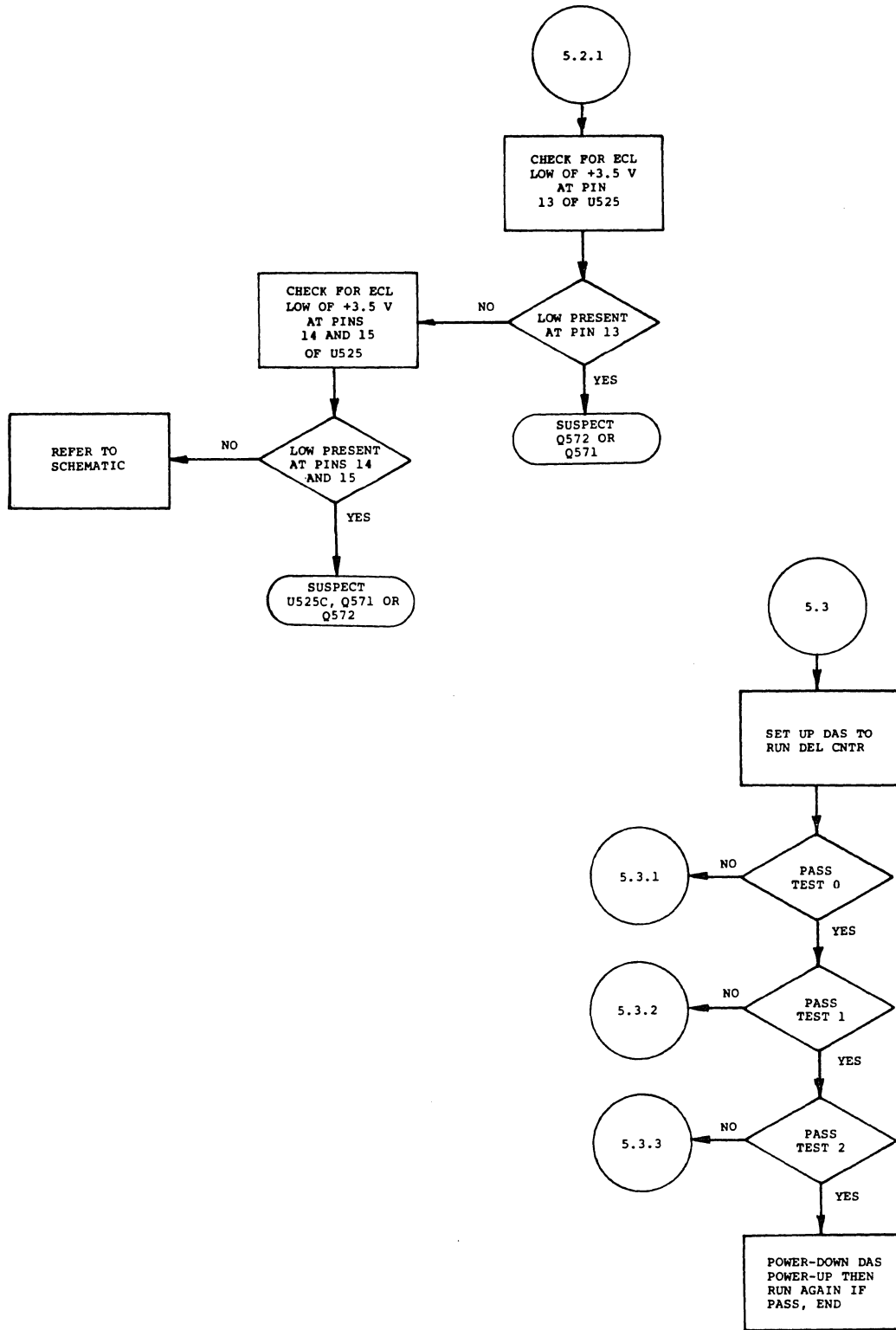


Figure 7-67. Troubleshooting Chart 7 cont (sheet 8 of 25).

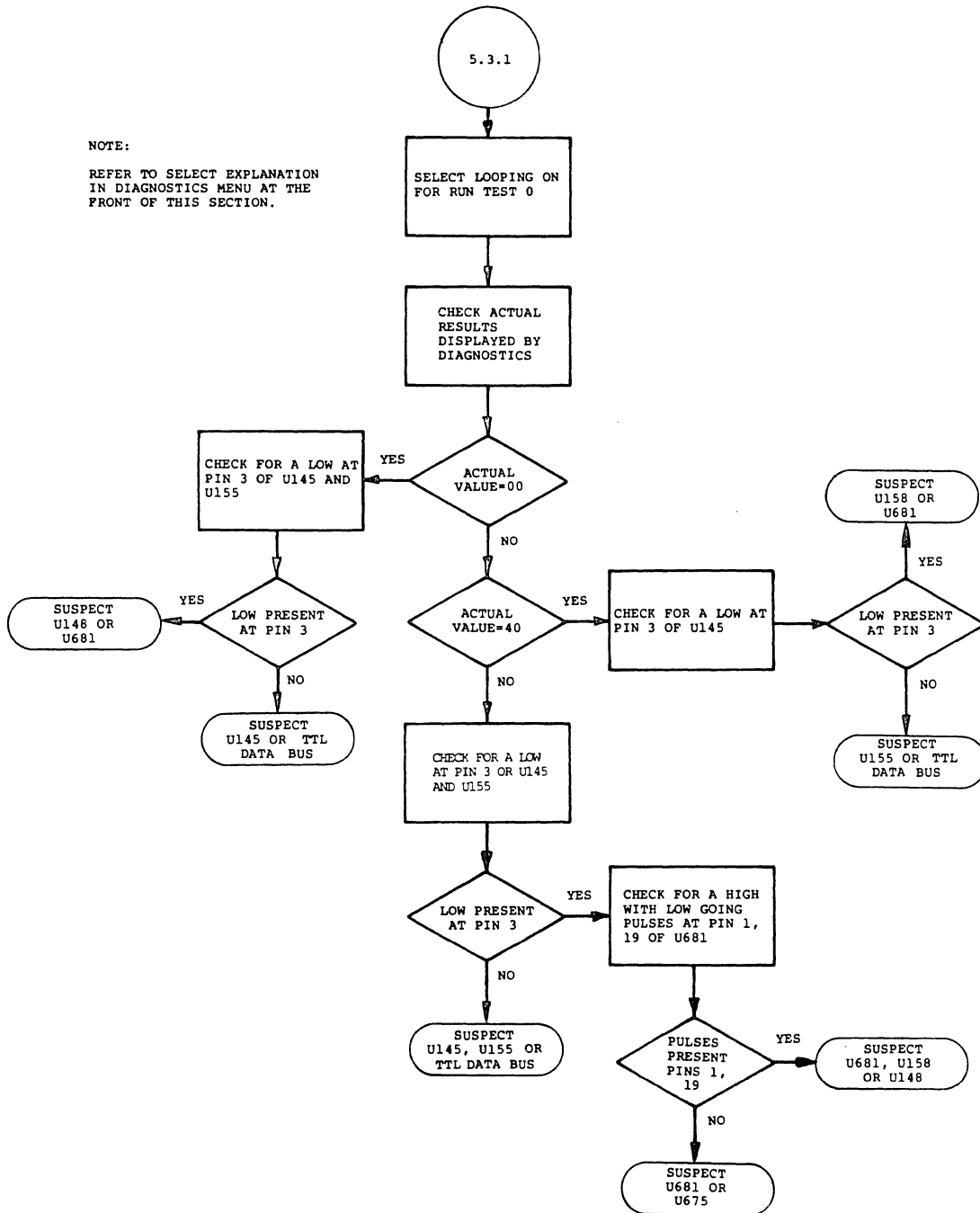


Figure 7-68. Troubleshooting Chart 7 cont (sheet 9 of 25).

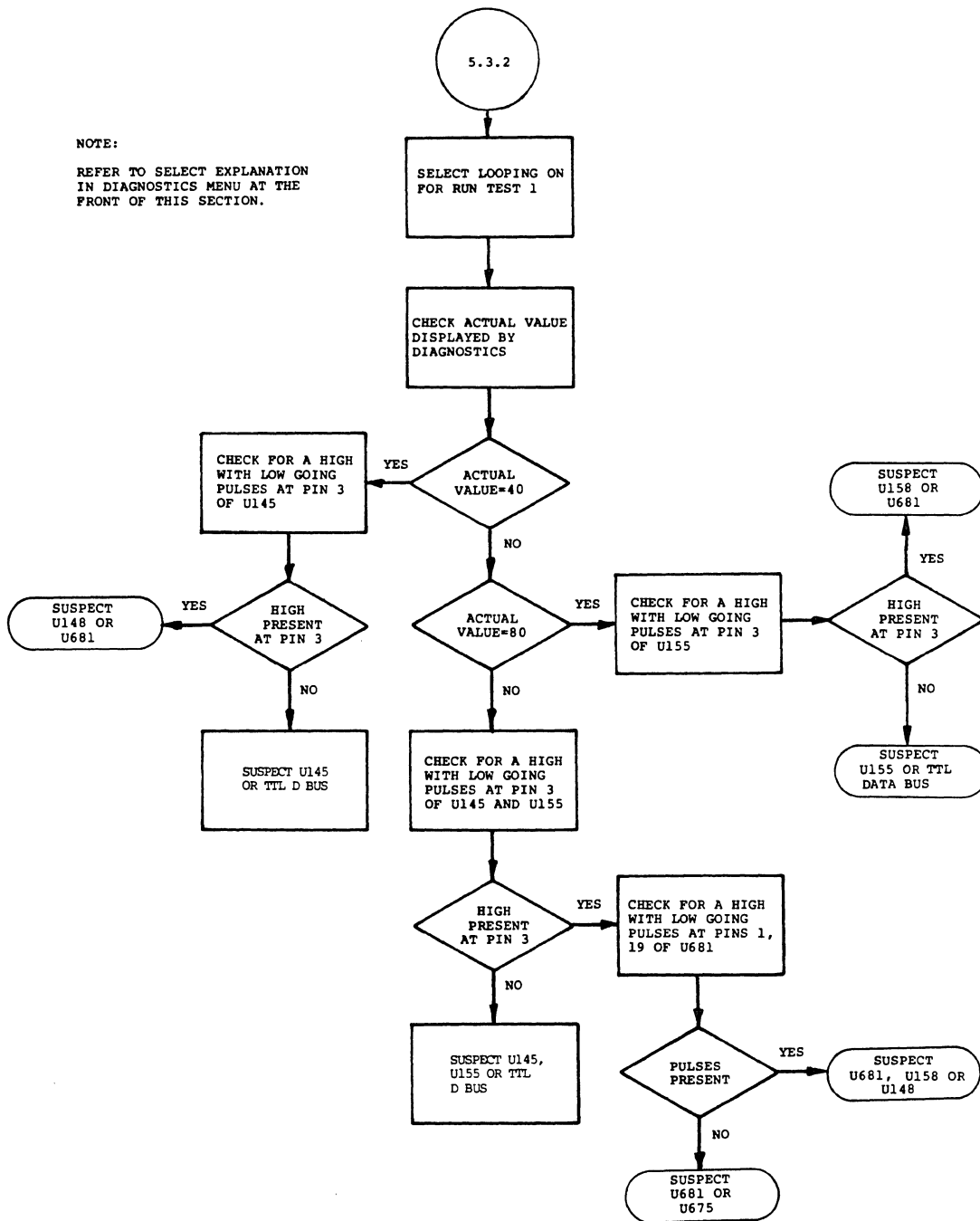


Figure 7-69. Troubleshooting Chart 7 cont (sheet 10 of 25).

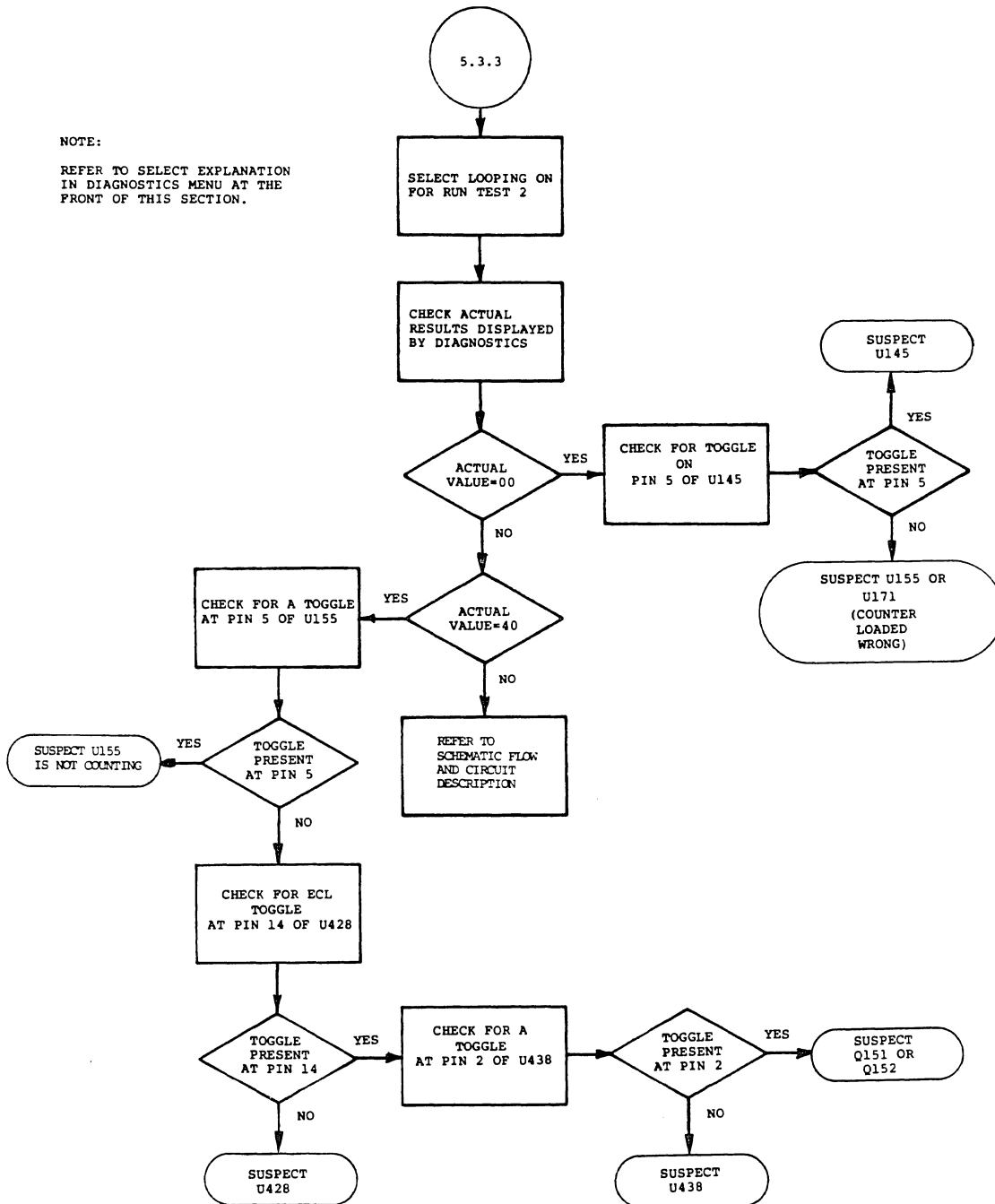


Figure 7-70. Troubleshooting Chart 7 cont (sheet 11 of 25).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

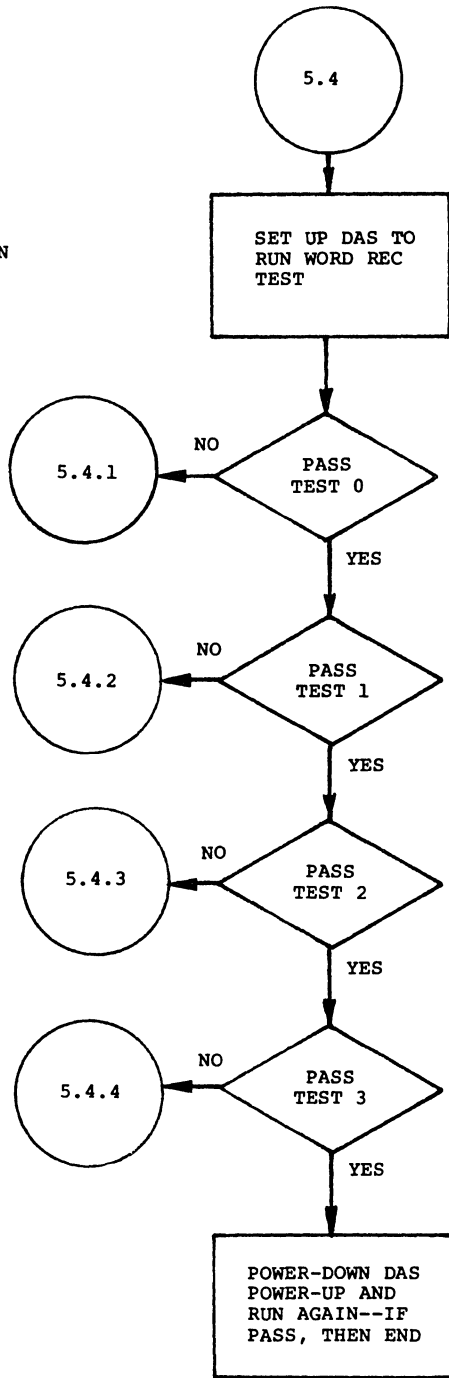


Figure 7-71. Troubleshooting Chart 7 cont (sheet 12 of 25).

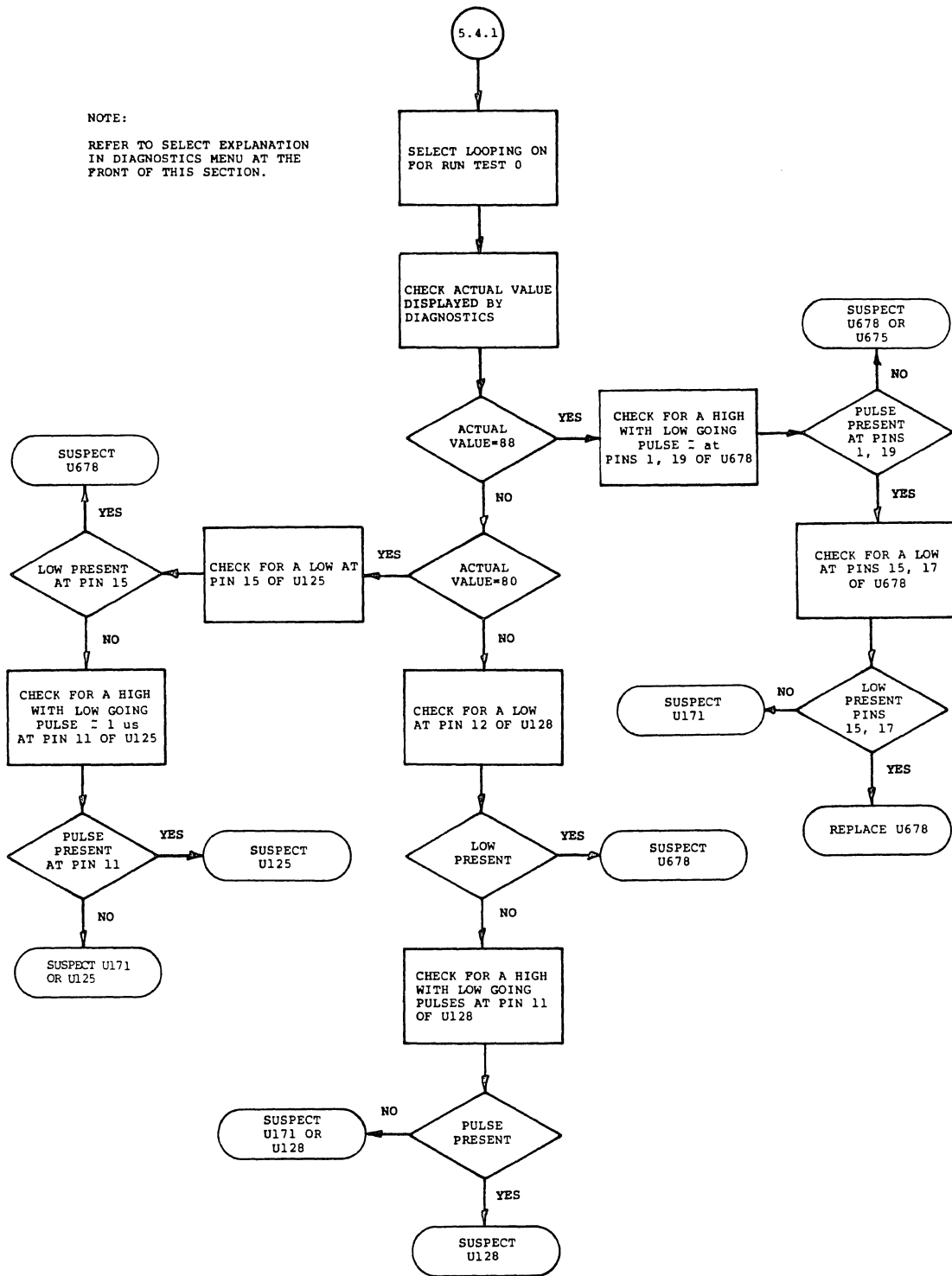


Figure 7-72. Troubleshooting Chart 7 cont (sheet 13 of 25).

NOTE:
REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

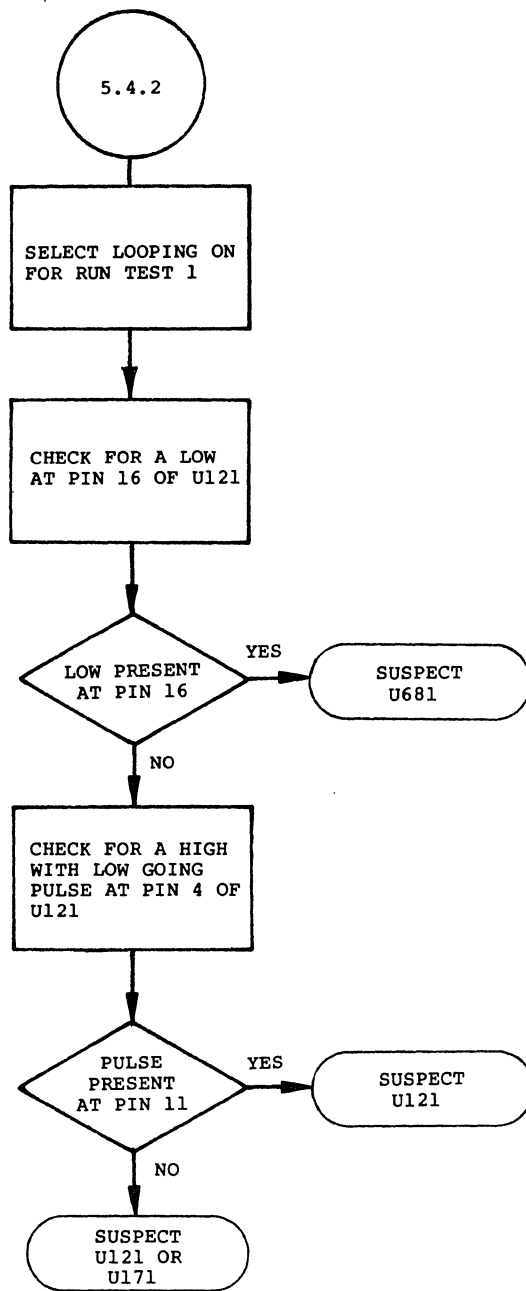


Figure 7-73. Troubleshooting Chart 7 cont (sheet 14 of 25).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

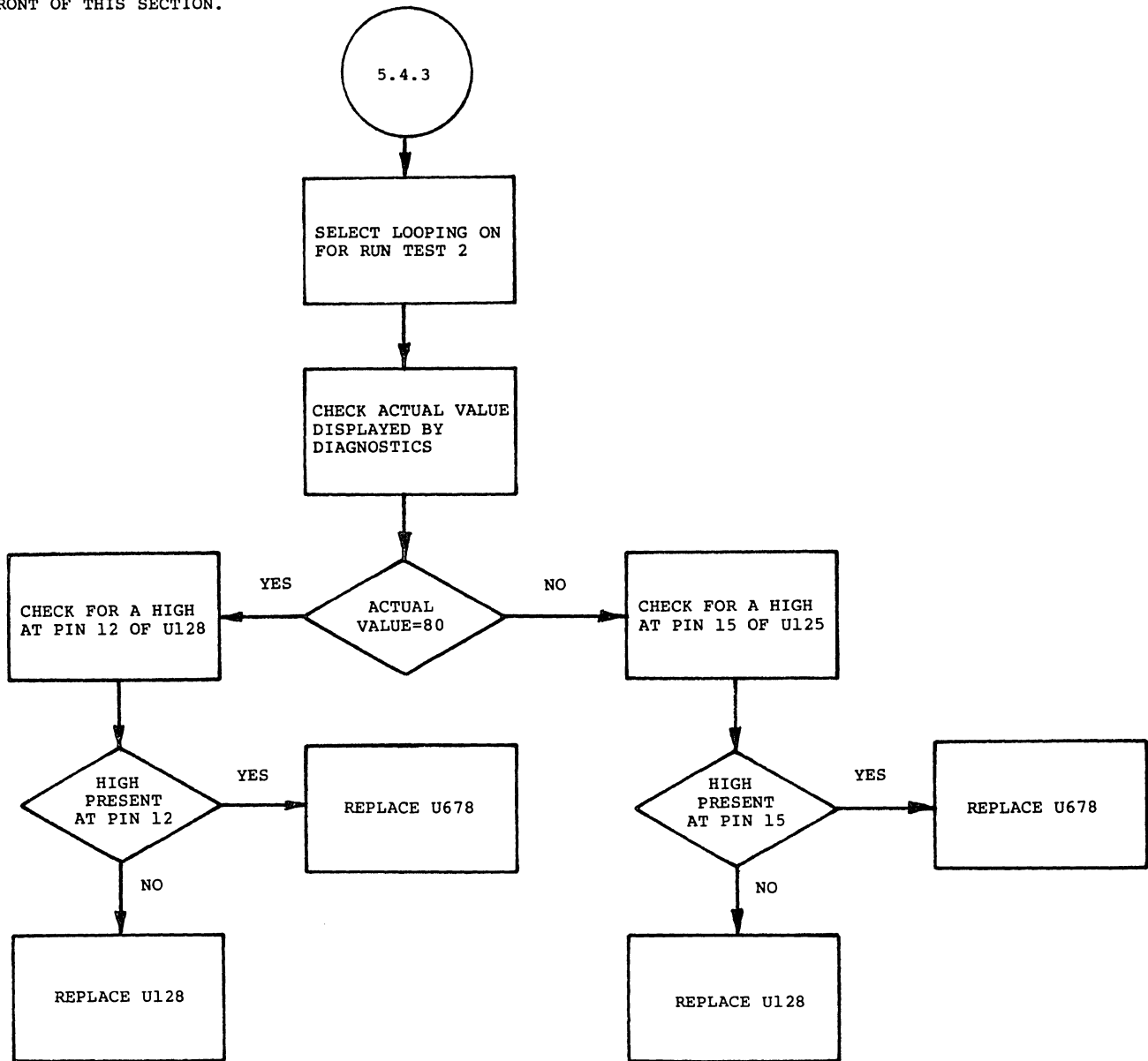


Figure 7-74. Troubleshooting Chart 7 cont (sheet 15 of 25).

NOTE:
REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

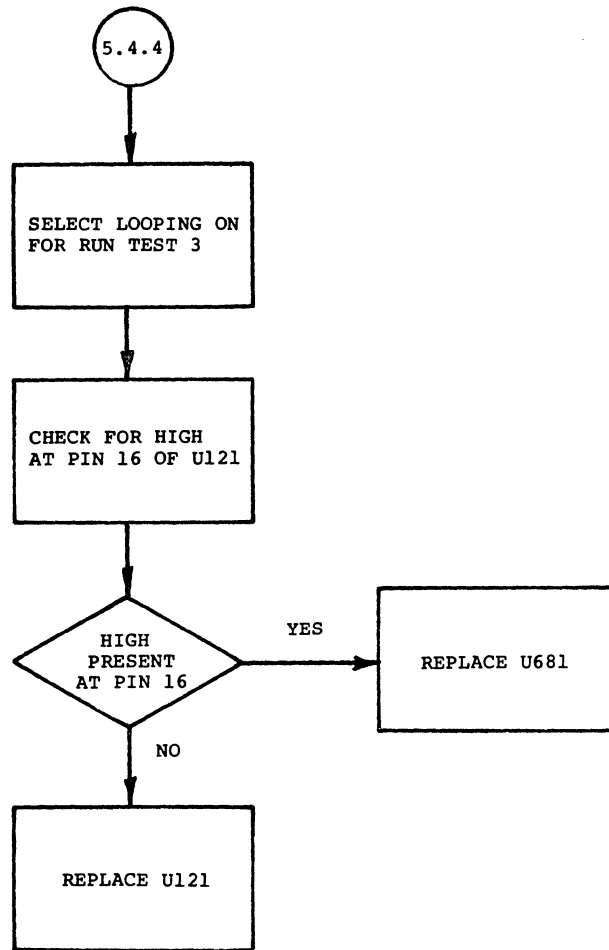


Figure 7-75. Troubleshooting Chart 7 cont (sheet 16 of 25).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

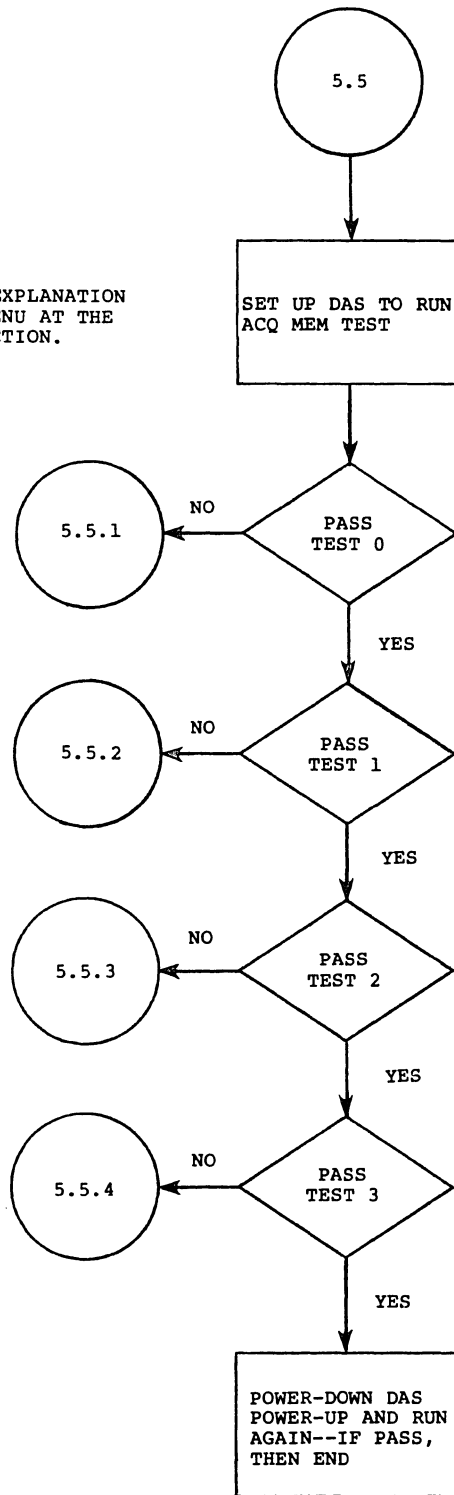


Figure 7-76. Troubleshooting Chart 7 cont (sheet 17 of 25).

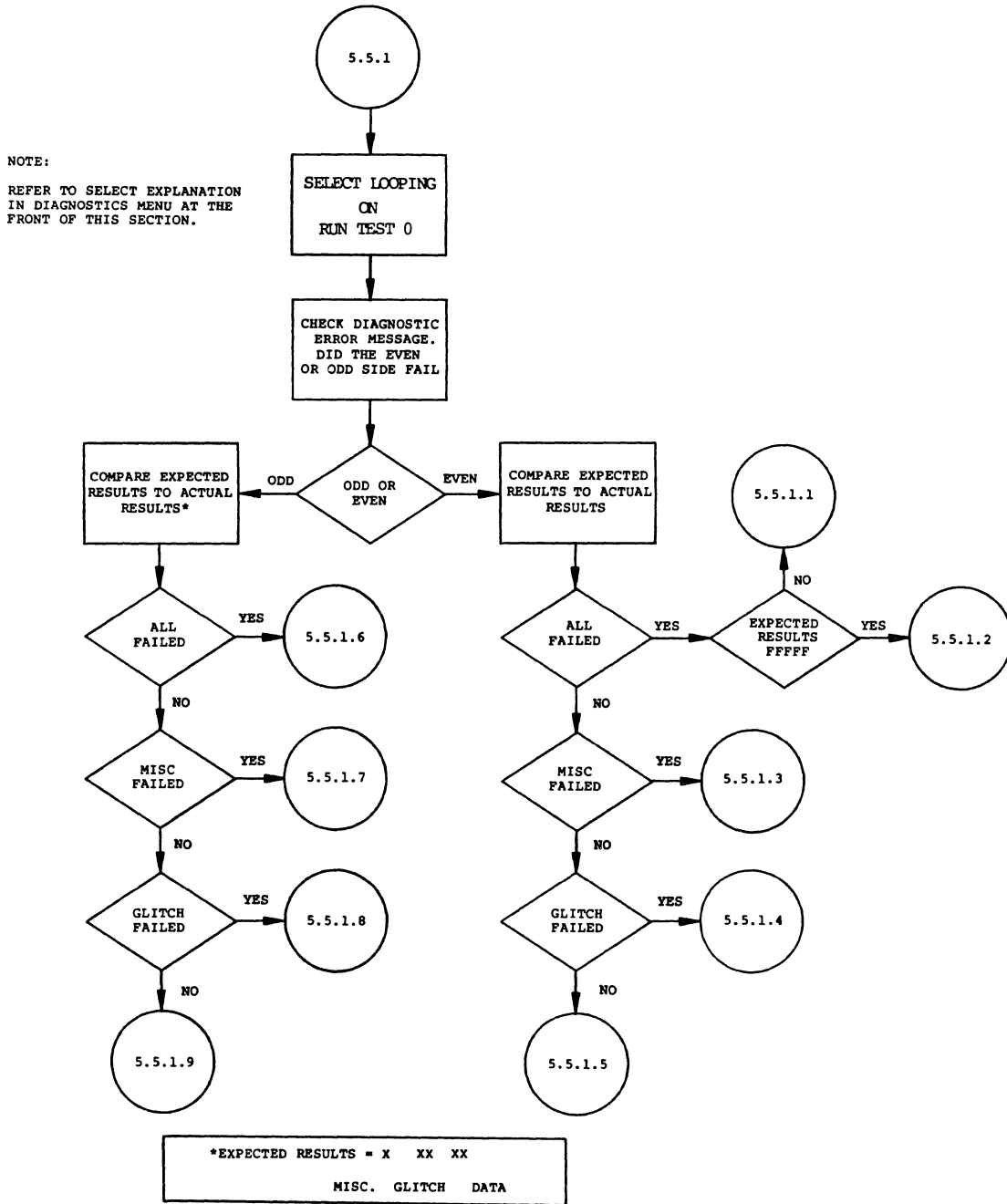


Figure 7-77. Troubleshooting Chart 7 cont (sheet 18 of 25).

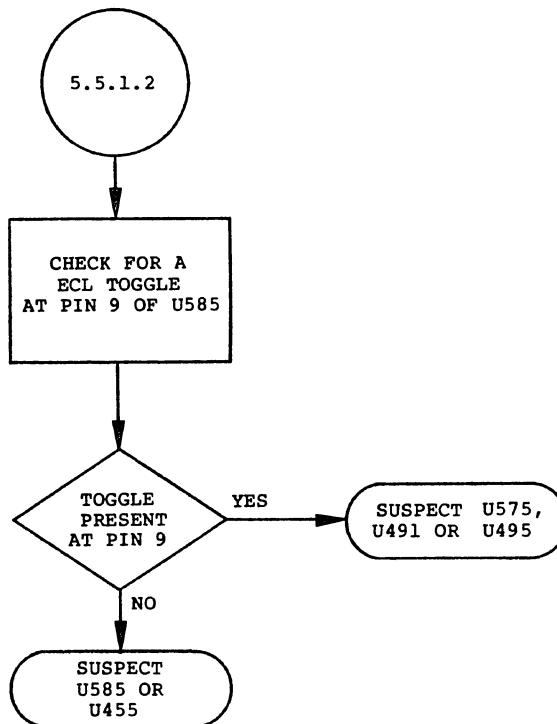
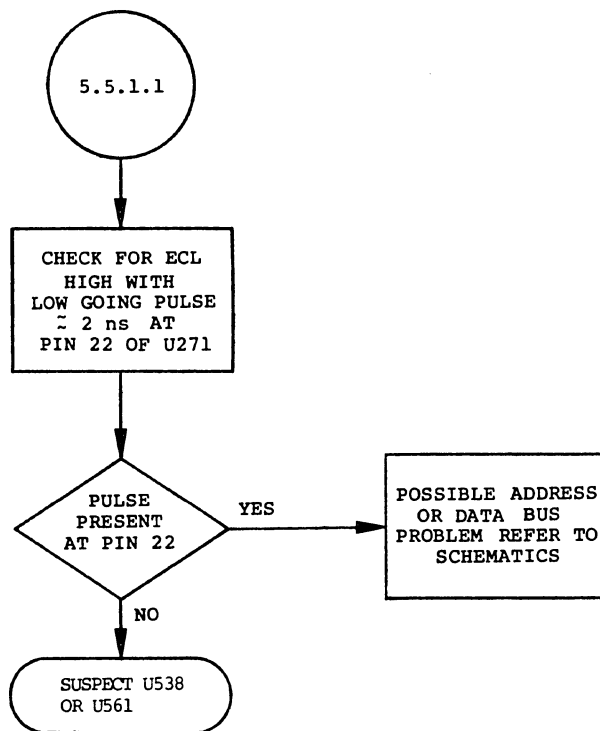


Figure 7-78. Troubleshooting Chart 7 cont (sheet 19 of 25).

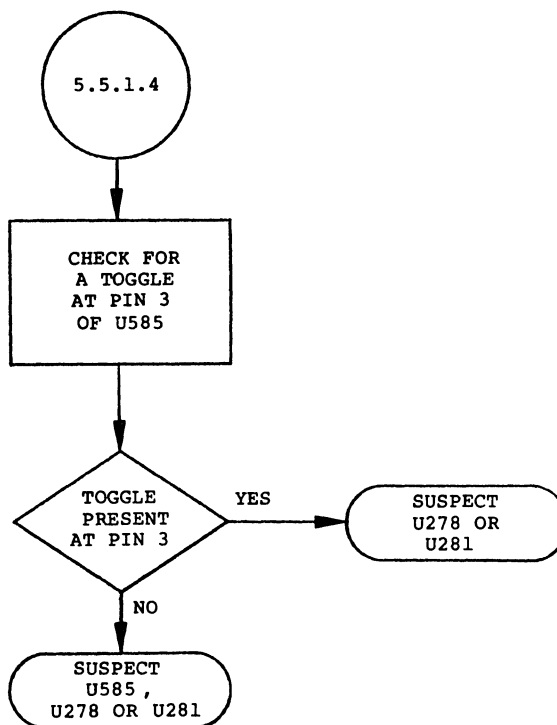
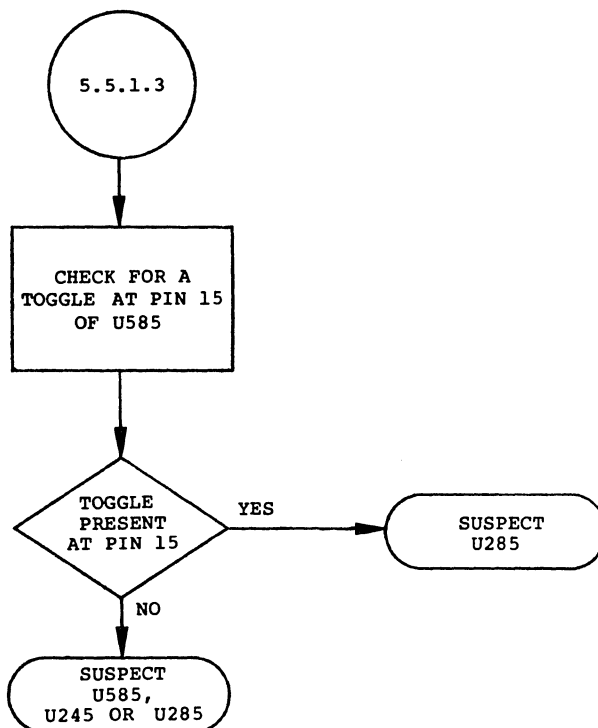


Figure 7-79. Troubleshooting Chart 7 cont (sheet 20 of 25).

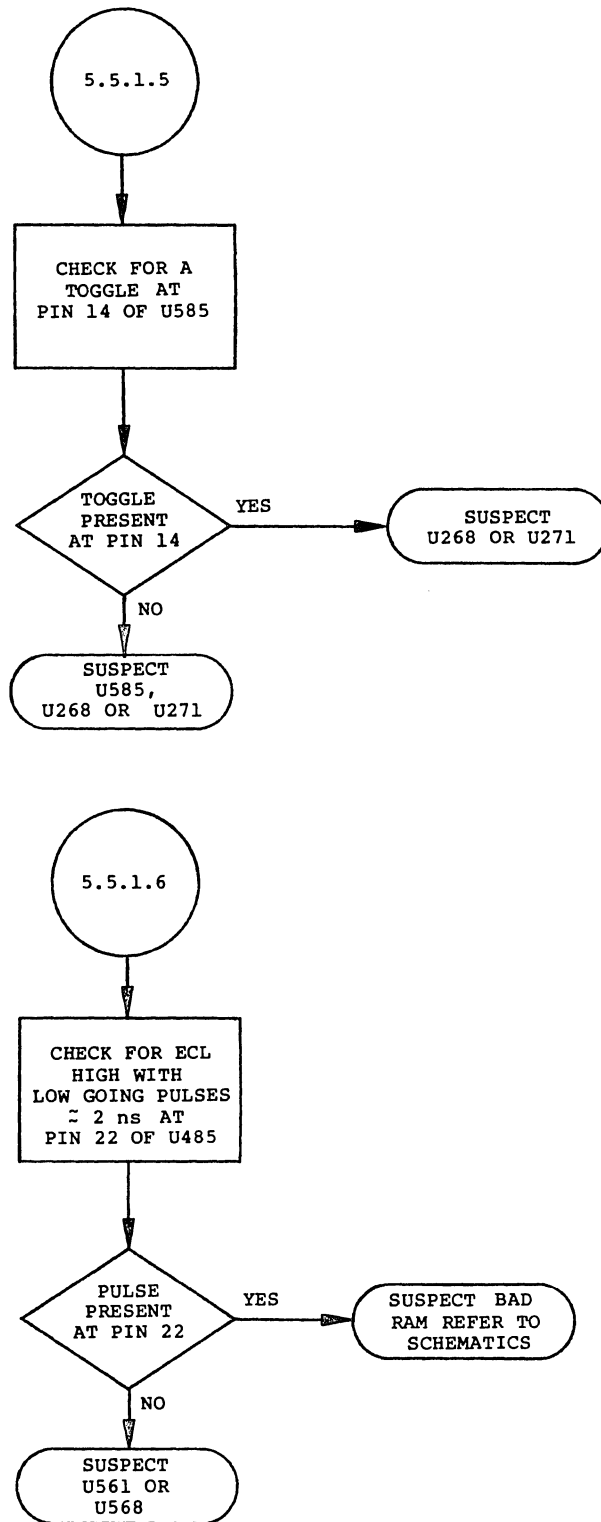


Figure 7-80. Troubleshooting Chart 7 cont (sheet 21 of 25).

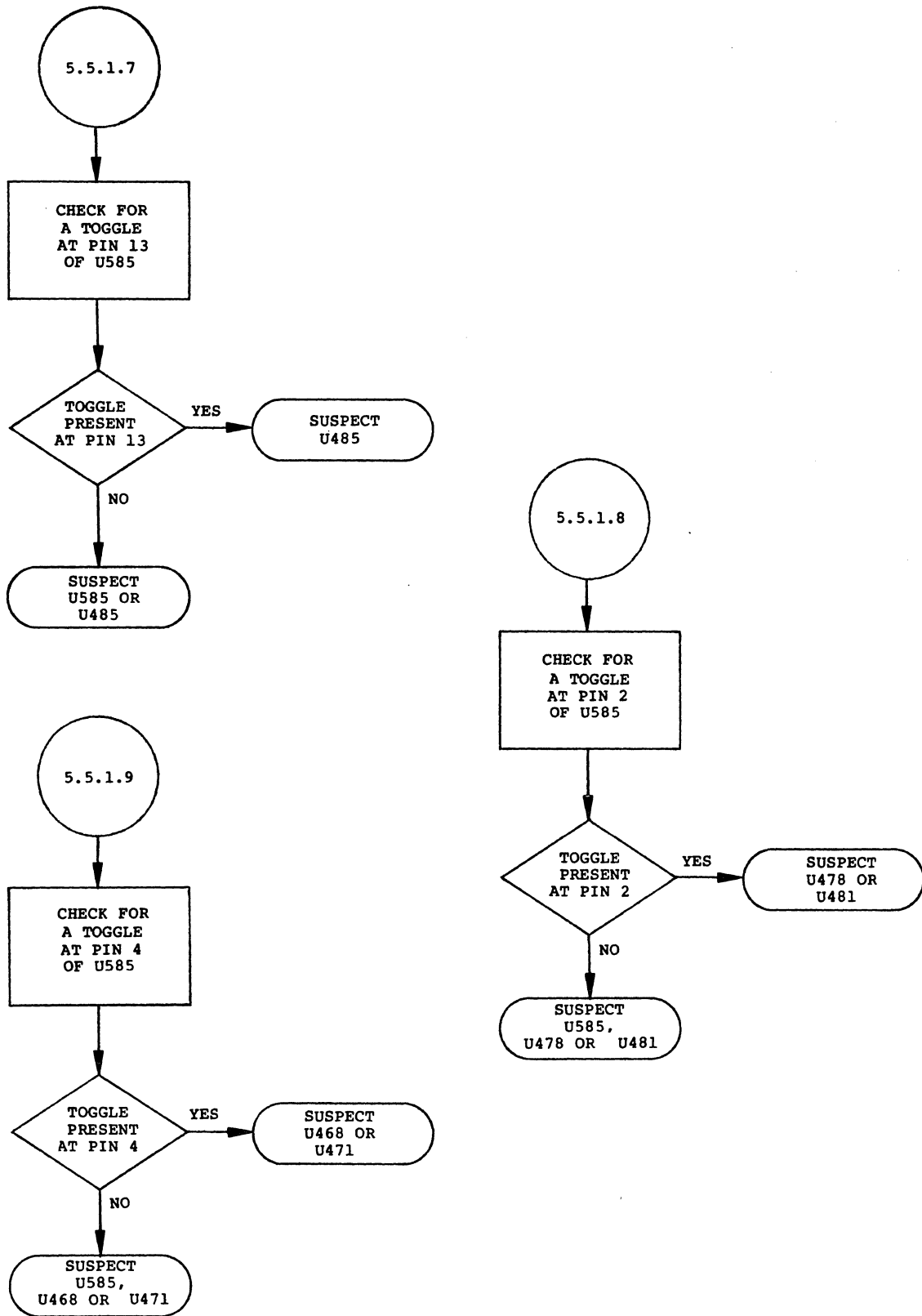


Figure 7-81. Troubleshooting Chart 7 cont (sheet 22 of 25).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

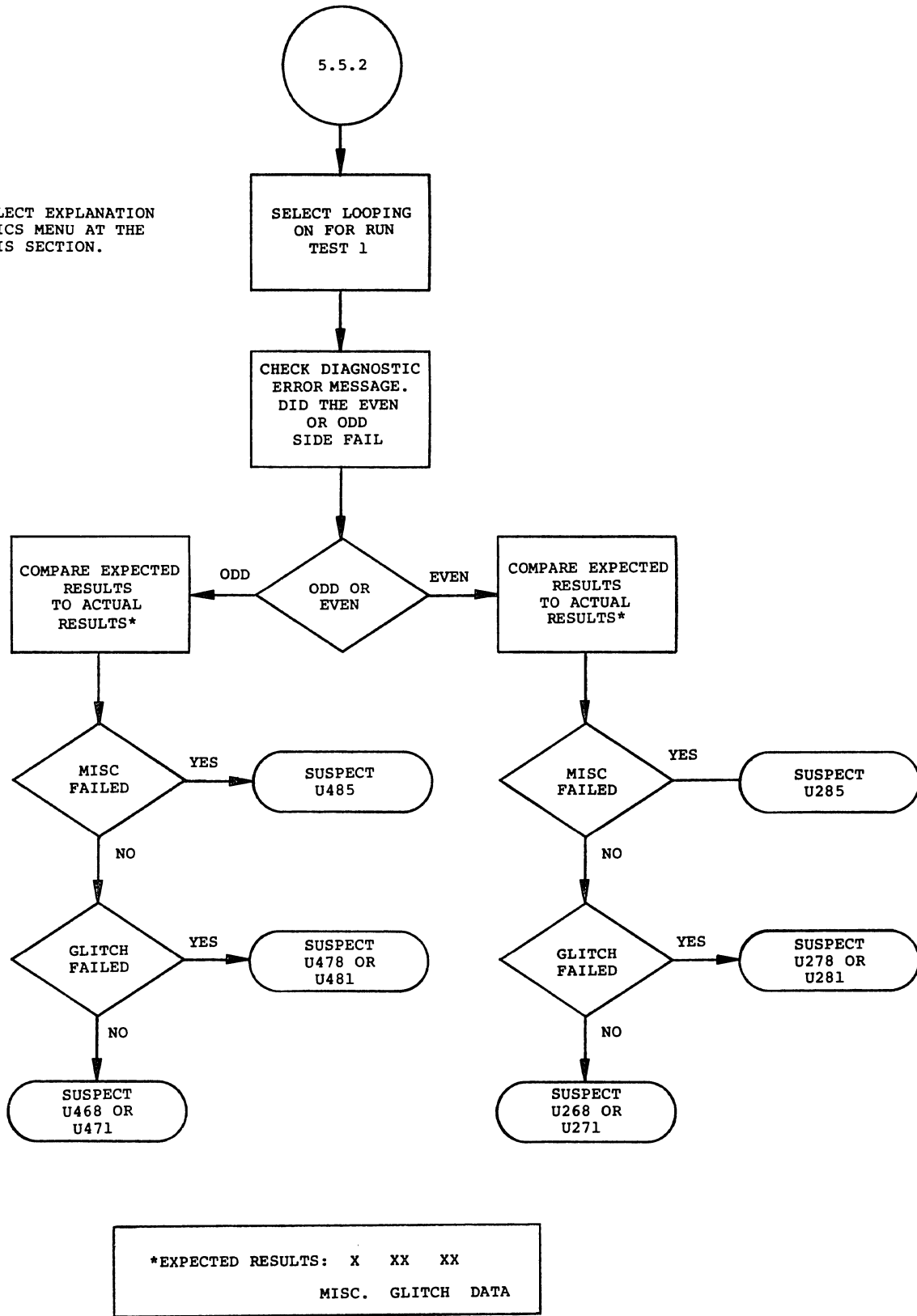
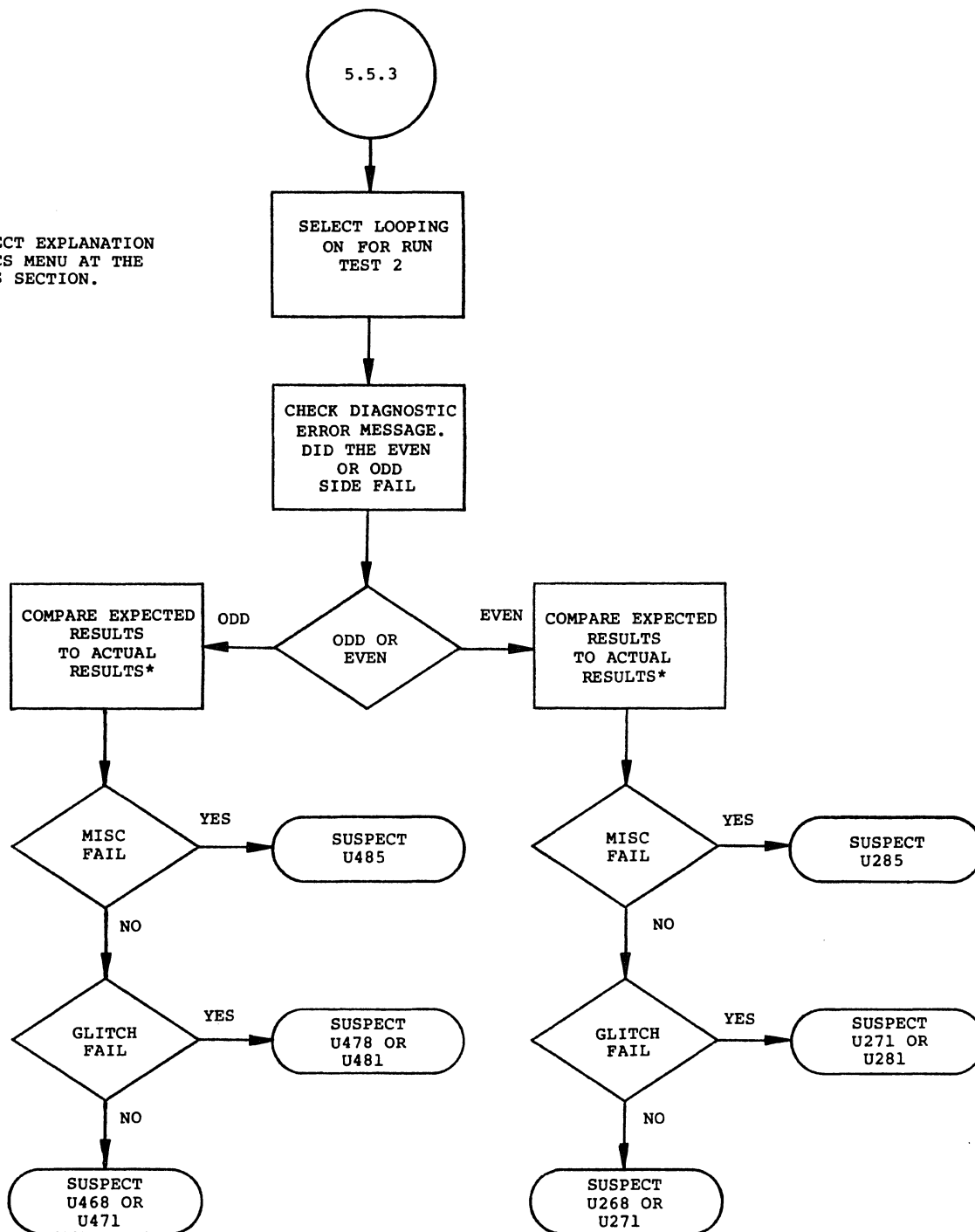


Figure 7-82. Troubleshooting Chart 7 cont (sheet 23 of 25).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

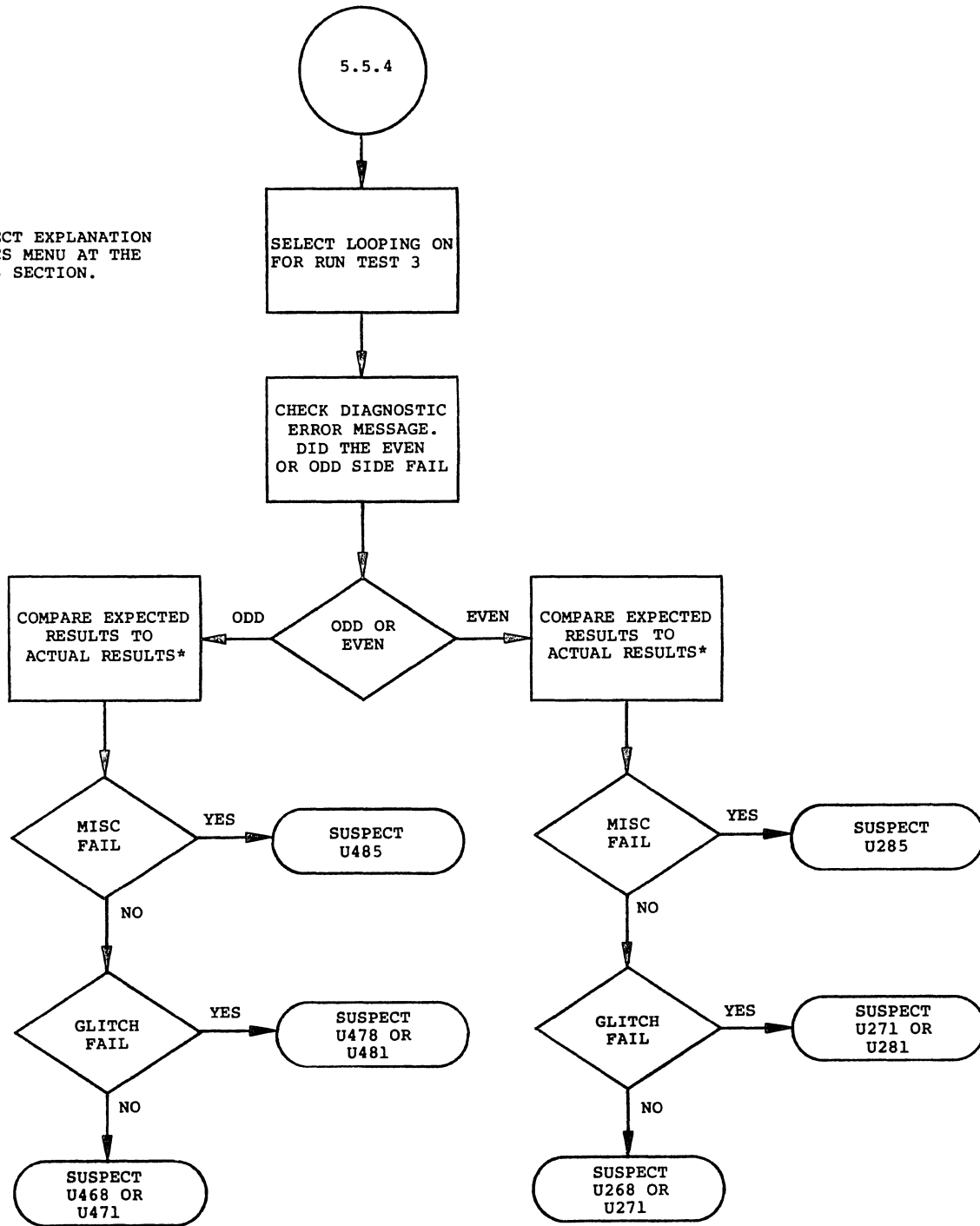


*EXPECTED RESULTS: X XX XX
MISC GLITCH DATA

Figure 7-83. Troubleshooting Chart 7 cont (sheet 24 of 25).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.



*EXPECTED RESULTS:	X	XX	XX
	MISC	GLITCH	DATA

Figure 7-84. Troubleshooting Chart 7 cont (sheet 25 of 25).

NOTE:

REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

USE EXTENDER BOARD FROM
SERVICE MAINTENANCE KIT TO
EXTEND PATT GEN BOARD
ABOVE DAS FOR EASY ACCESS
TO COMPONENTS AND TEST POINTS.

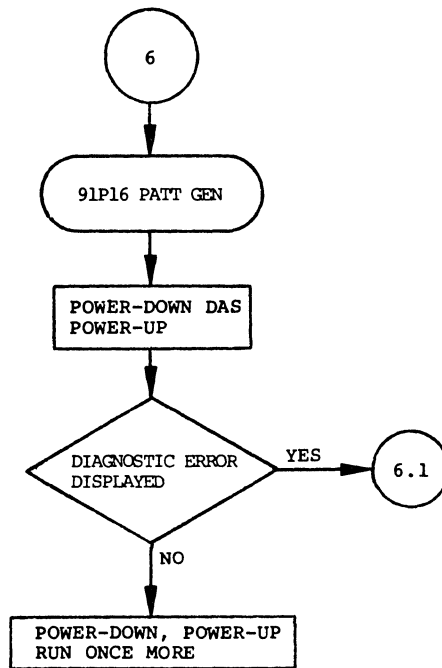
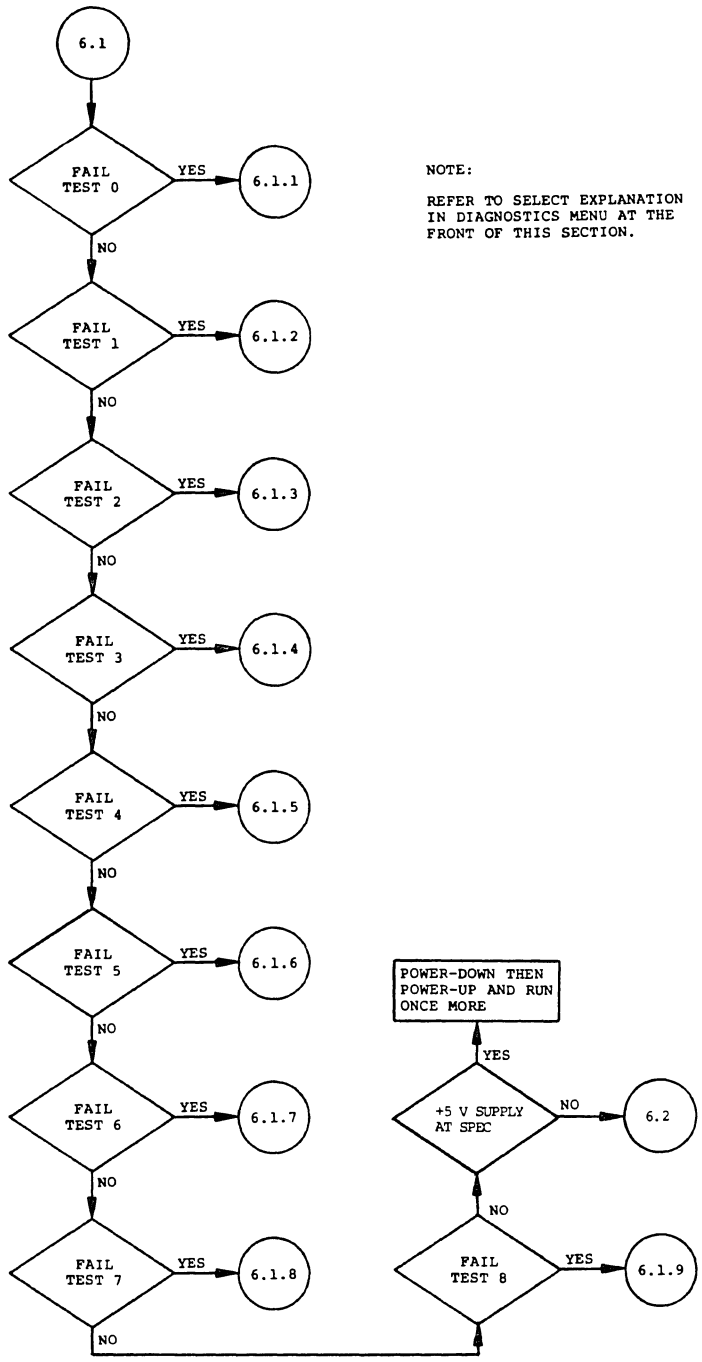


Figure 7-85. Troubleshooting Chart 8—91P16 Pattern Generator failure (sheet 1 of 23).



NOTE:
REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

Figure 7-86. Troubleshooting Chart 8 cont (sheet 2 of 23).

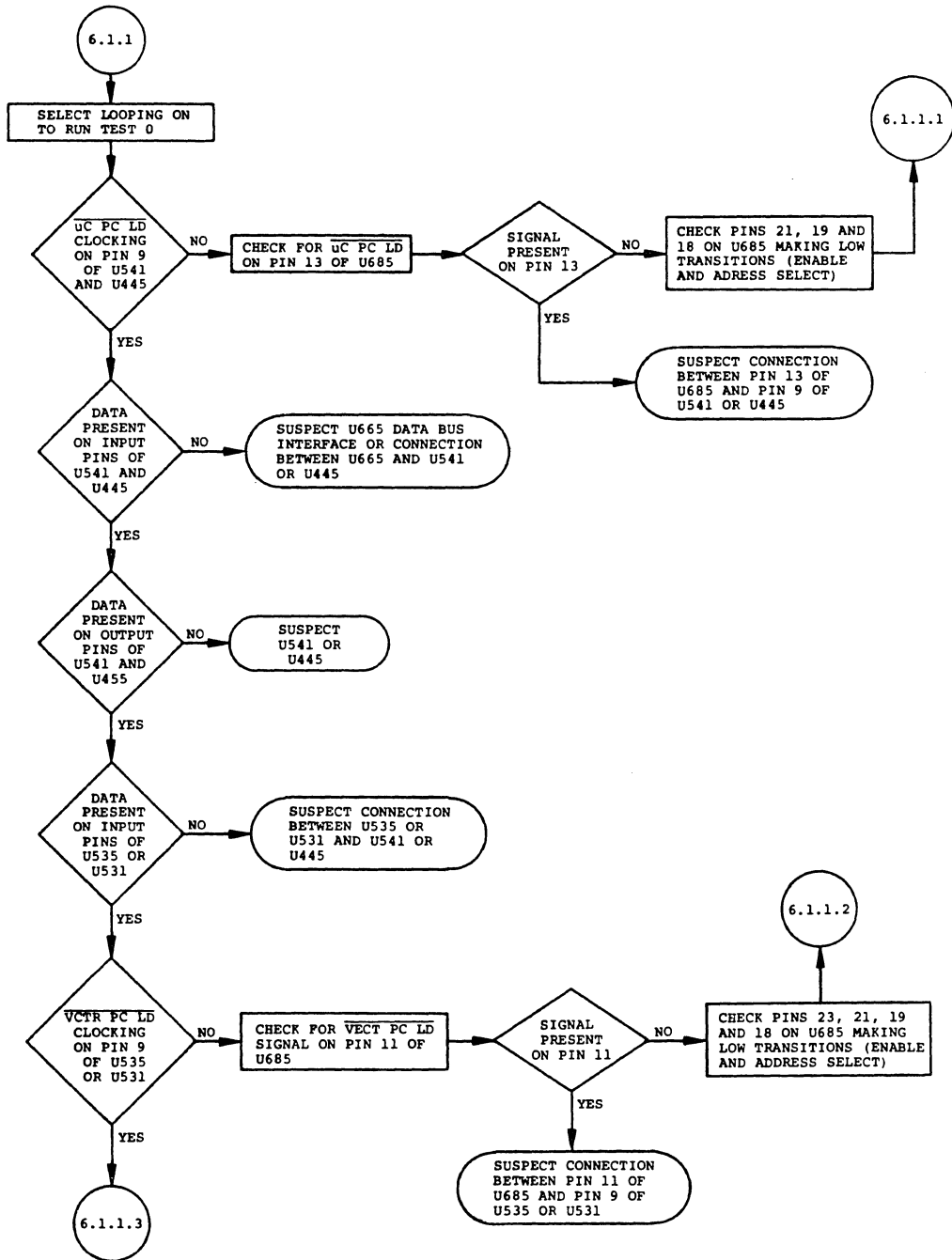


Figure 7-87. Troubleshooting Chart 8 cont (sheet 3 of 23).

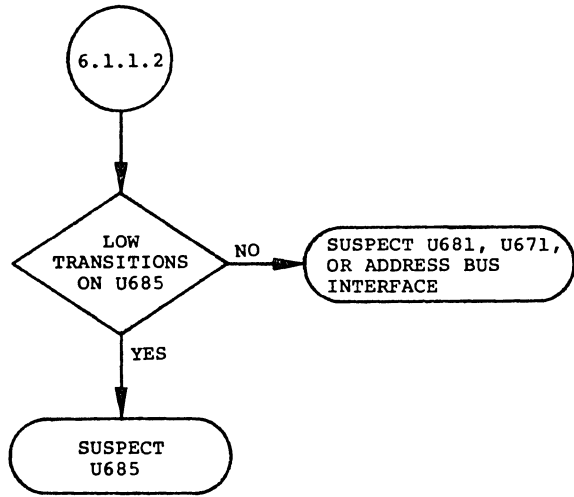
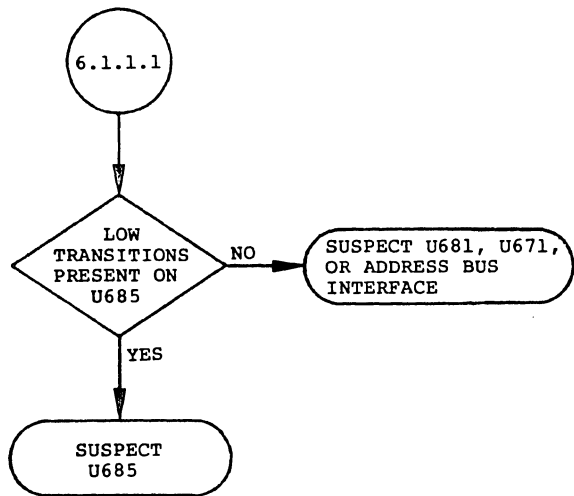


Figure 7-88. Troubleshooting Chart 8 cont (sheet 4 of 23).

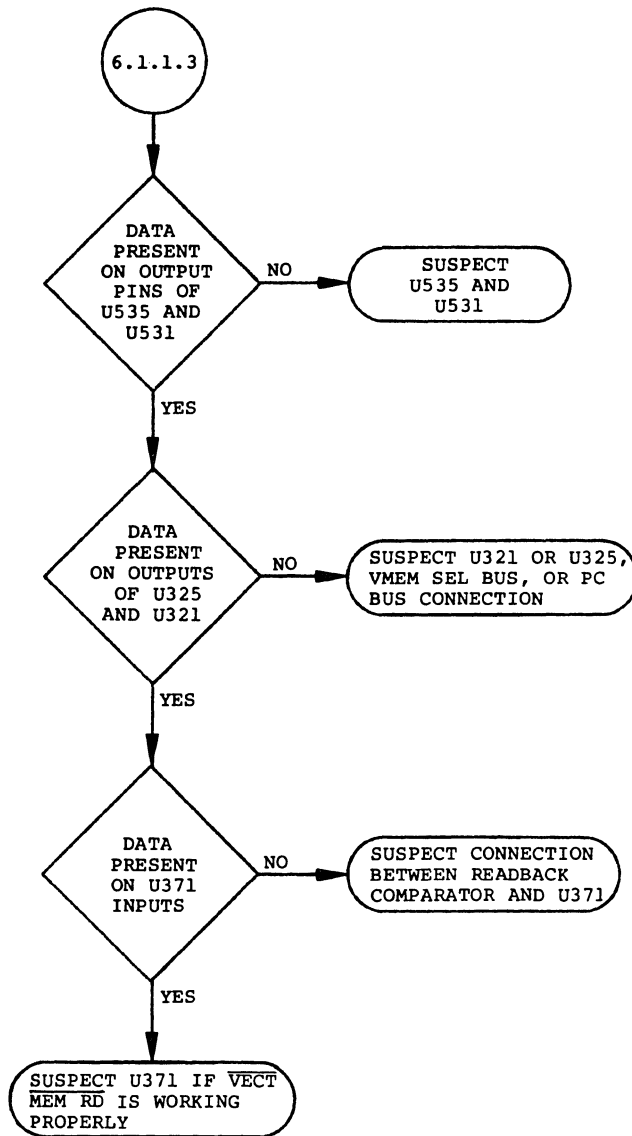


Figure 7-89. Troubleshooting Chart 8 cont (sheet 5 of 23).

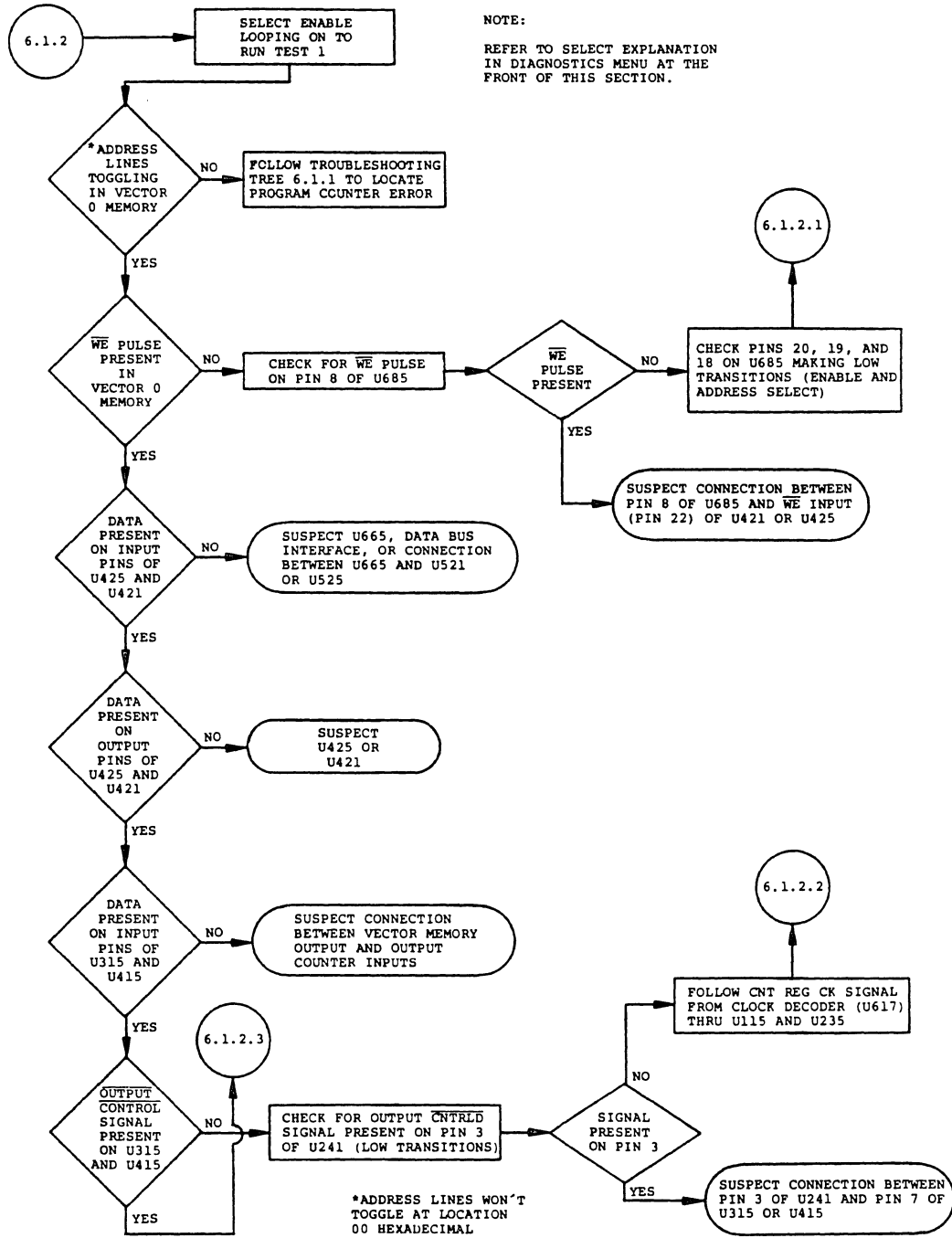


Figure 7-90. Troubleshooting Chart 8 cont (sheet 6 of 23).

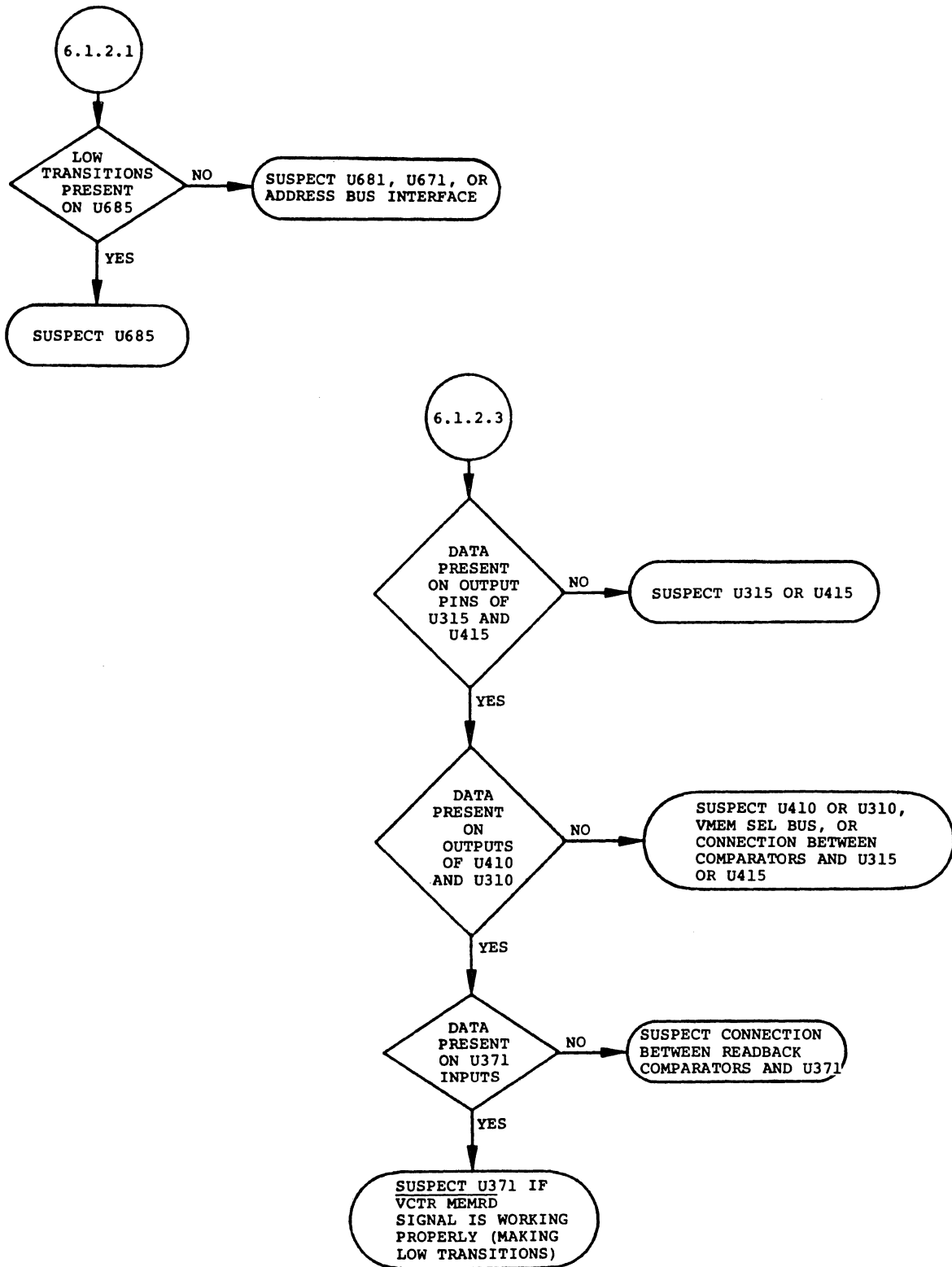


Figure 7-91. Troubleshooting Chart 8 cont (sheet 7 of 23).

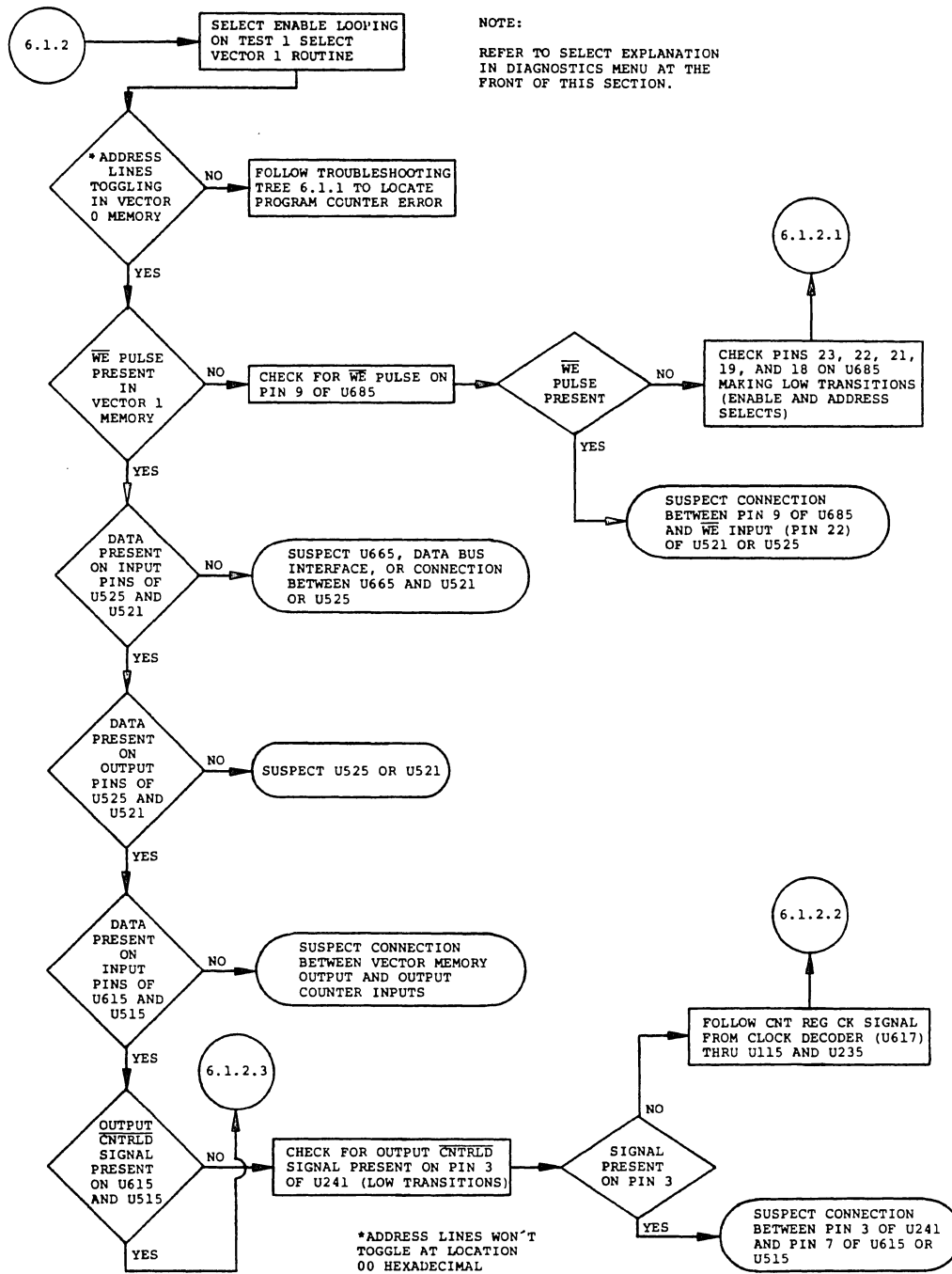


Figure 7-92. Troubleshooting Chart 8 cont (sheet 8 of 23).

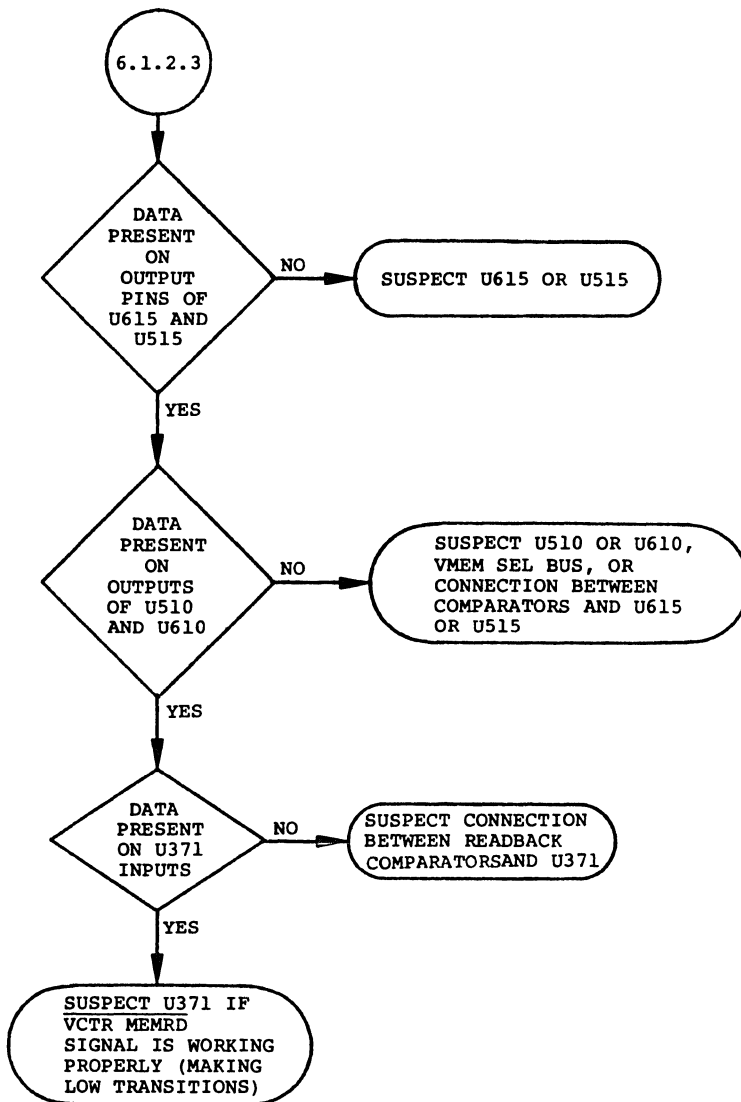
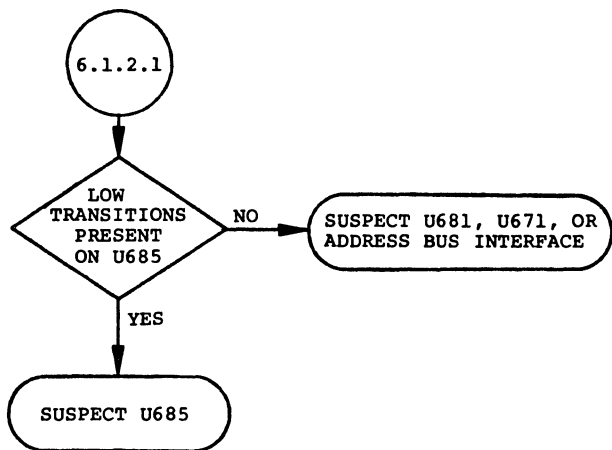


Figure 7-93. Troubleshooting Chart 8 cont (sheet 9 of 23).

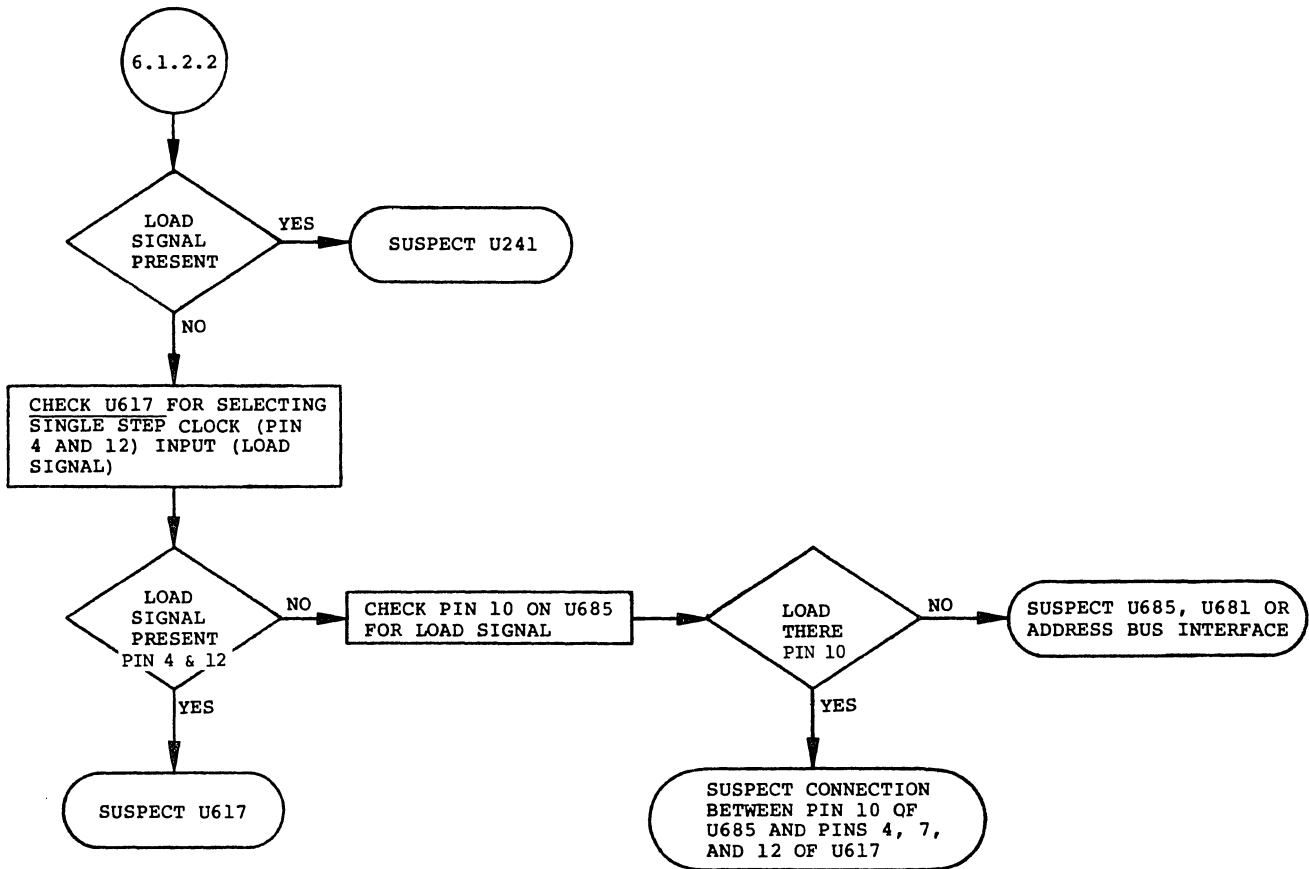


Figure 7-94. Troubleshooting Chart 8 cont (sheet 10 of 23).

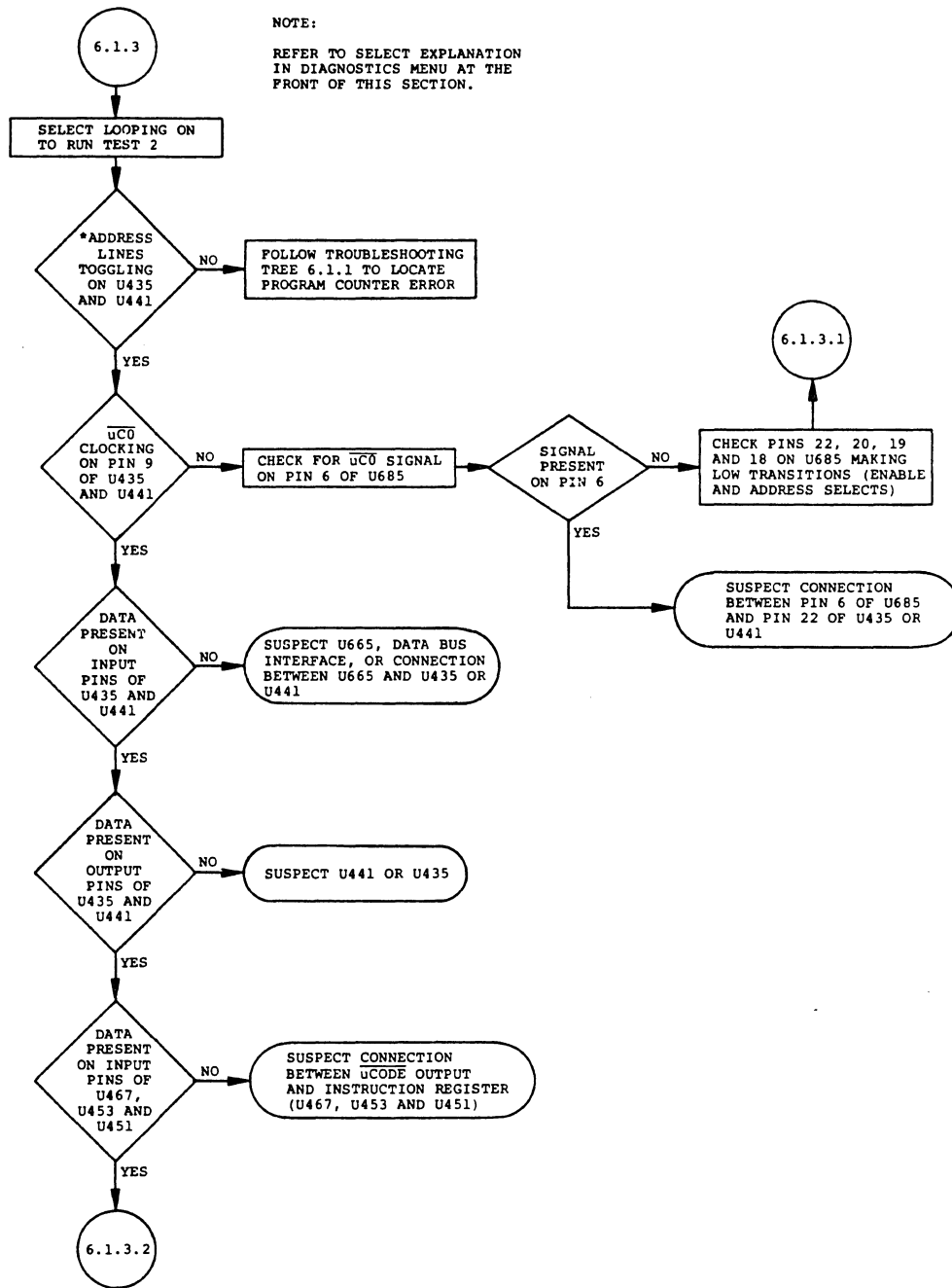


Figure 7-95. Troubleshooting Chart 8 cont (sheet 11 of 23).

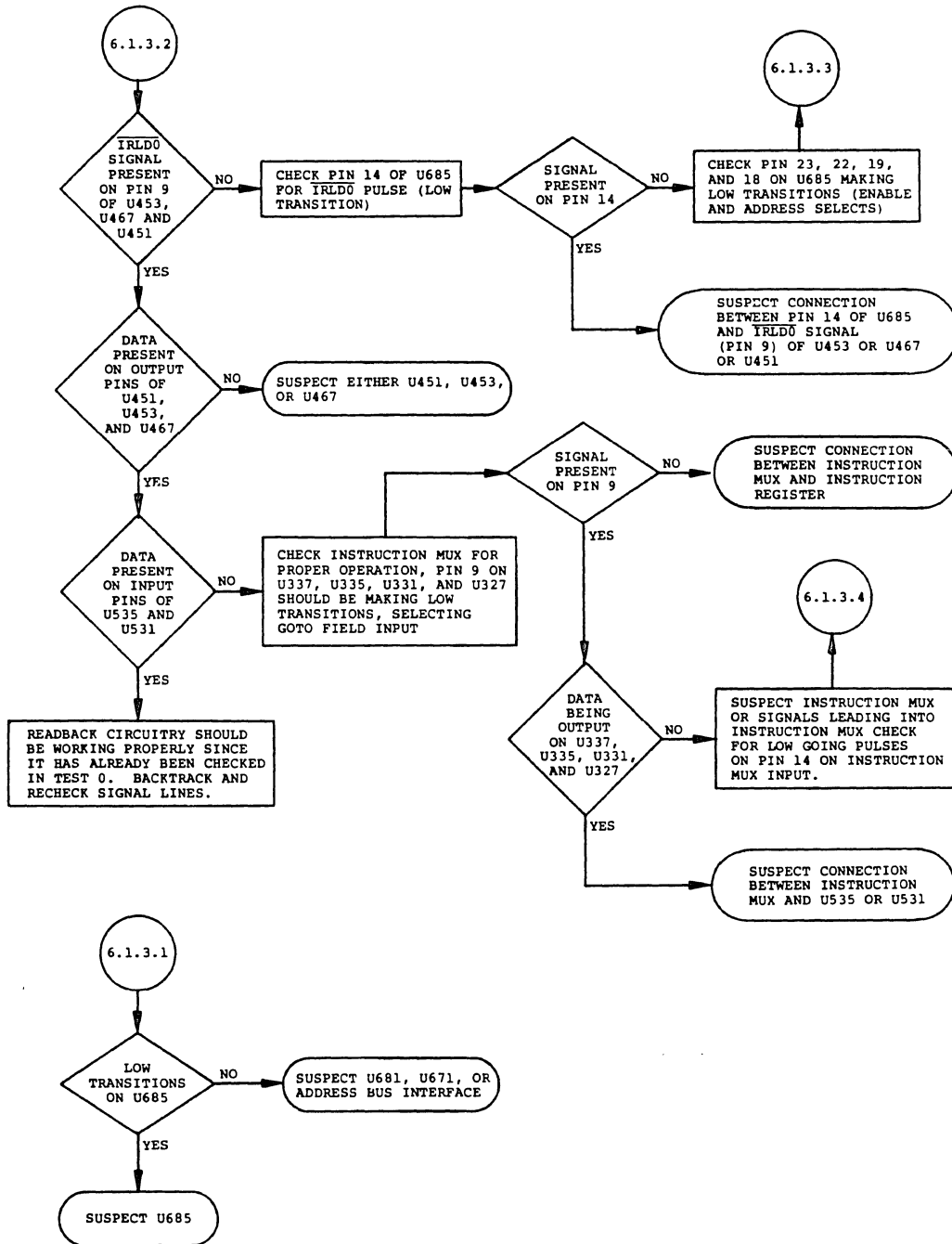


Figure 7-96. Troubleshooting Chart 8 cont (sheet 12 of 23)

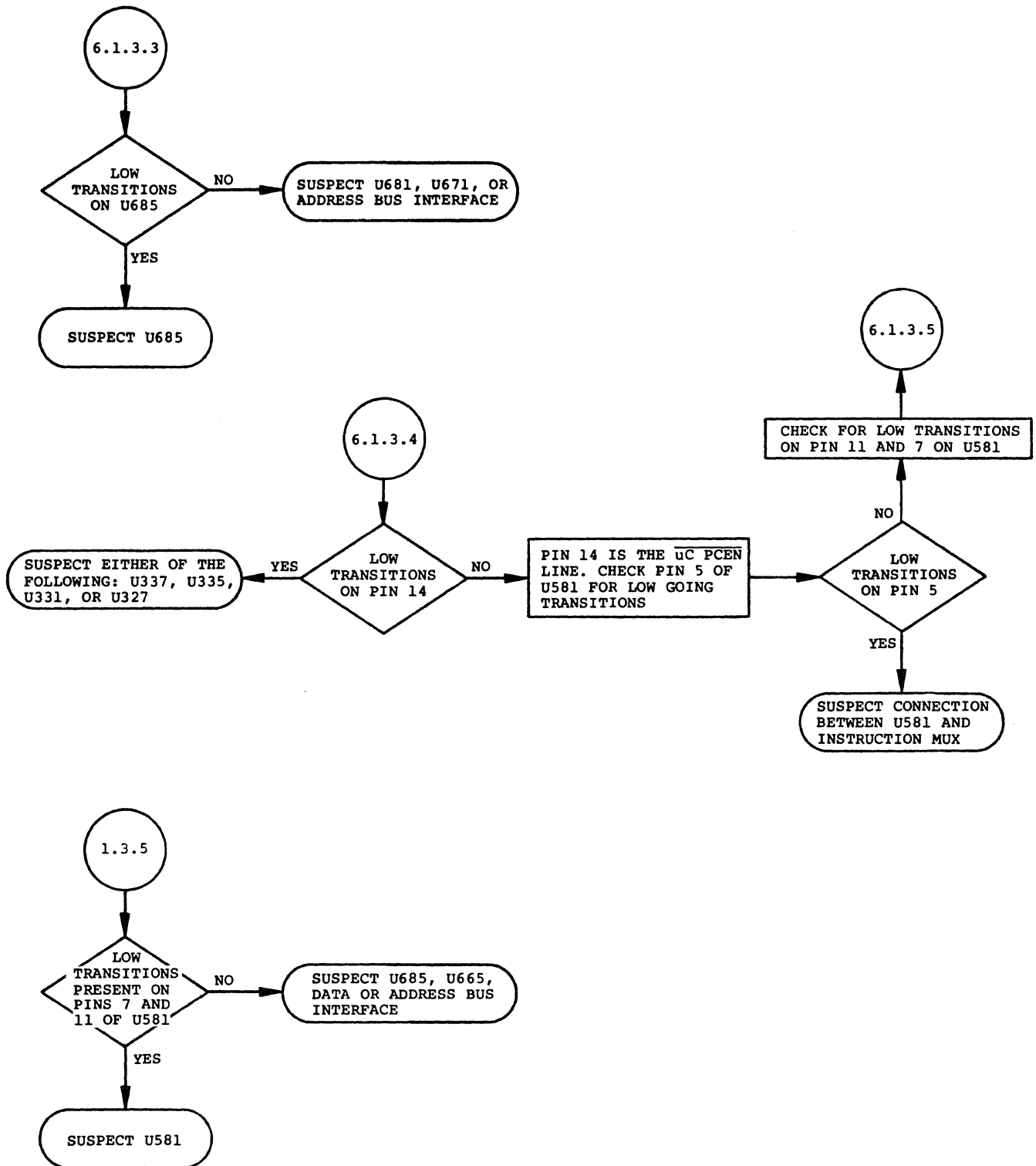


Figure 7-97. Troubleshooting Chart 8 cont (sheet 13 of 23).

TROUBLESHOOTING ADVANCES IN THE 91P16

Text Reference to Figure 7-101, point 6.1.4.1.

Troubleshoot problems in the Advance area of the 91P16 Pattern Generator Module by writing a program in the Pattern Generator Program menu that exercises the malfunctioning area. The following is an example of how such a program can be written.

Figure 7-98 shows the Diagnostics menu with an ADVANCE failure in TEST 0. This figure shows that at address 1F hexadecimal (31 decimal), the test expects to read 20 hexadecimal (32 decimal) but actually reads 00. The hexadecimal address in memory corresponds to the sequence numbers used to program the pattern generator, according to the following equation:

$$\text{Sequence Number} = \text{Memory Address} - 1.$$

Note, however, that the memory address must be translated into decimal before making this conversion.

The information in the Diagnostics menu means that rather than stepping from sequence 30 to sequence 31 as expected, the 91P16 actually stepped from sequence 30 to sequence 255. (Sequence 255 is calculated by finding address 00—1, which on an 8-bit bus is 255 decimal.) The desired and actual steps are shown below.

	Desired		Actual	
SEQ	--	PASS	--	PASS
SEQ	29	PASS	29	PASS
SEQ	30	PASS	30	PASS
SEQ	31	PASS	255	#FAIL#
SEQ	32	PASS	--	
SEQ	--			

Verify the actual sequence of events as follows:

1. Set the pattern generator to the single-step mode and watch the sequence numbers at the top of the menu. Single-step the pattern generator until you reach the sequence number that corresponds to the diagnostic failure.
2. Press the START PAT GEN key again to ensure the sequence number at the top of the menu goes to the expected value. In this example, the pattern generator stepped from sequence 30 (Figure 7-99) to sequence 255 (Figure 7-100) and then to sequences 0, 1, 2, 3,.....
3. Having verified the above sequence of events, re-enter the troubleshooting tree at 6.1.4.1. While in this small section of the tree, stay in the Pattern Generator Program menu and leave the pattern generator in single-step mode. Hold down the START PAT GEN key so that the pattern generator single-steps continuously.

NOTE

If the pattern generator reaches sequence 254, halt the pattern generator by pressing the STOP key. Then continue following the tree, again holding down the START PAT GEN key.

```

DAS 9100 DIAGNOSTICS      MODULE: SINGLE  SLOT: 1      LOOPING: OFF
                           MODE: SINGLE  FUNCTION: 3

FUNCTIONS FOR SLOT: 1, 91P16
  0 PC          4 GOTO      8 CLOCK
  1 VECTOR RAM  5 CALL
  2 MICRO RAM   6 RETURN
  3 ADVANCE     7 STACK RAM

PRESS: START SYSTEM TO BEGIN TEST.
-----
SLOT: 1, 91P16
  ADDR  EXPECTED  ACTUAL
3 ADVANCE TEST 0  1F      20      00      FAIL
3 ADVANCE TEST 1  00      AA      AA      PASS
3 ADVANCE TEST 2  00      AA      AA      PASS
3 ADVANCE TEST 3  00      AA      AA      PASS
    
```

3836-212

Figure 7-98. Diagnostics Menu showing selections for Pattern Generator test program.

```

PATTERN GENERATOR: PROGRAM      INTERRUPT: CALL [ ] ON [ ]
SEQ: 30 VECTOR: XXXX
CLOCK: 100  TTL + 1.40V  PAUSE ON: [ ] INHIBIT ON: [ ]

  POD1CB
  SEQ LABEL  HEX INSTRUCTIONS  STROBES
  0 [ ] [ ] GOTO 25 [ ]
  25 25 XXXX
  26 XXXX
  27 XXXX
  28 XXXX
  29 XXXX
  30 XXXX
  31 XXXX
  32 XXXX
  33 XXXX
  34 XXXX
  35 XXXX
  36 XXXX
  37 XXXX
  38 XXXX
  39 XXXX
  40 XXXX
    
```

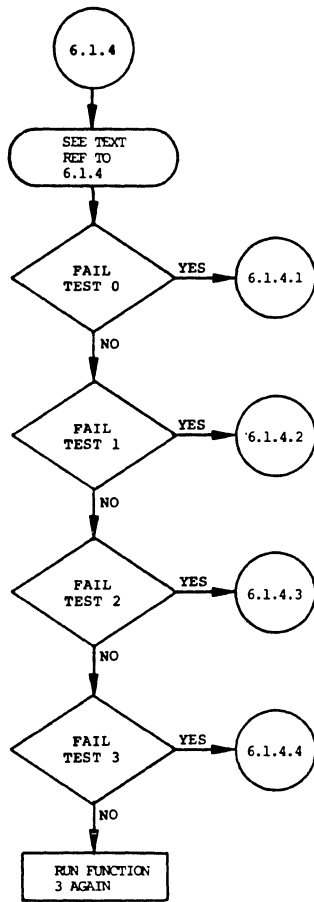
3836-213

Figure 7-99. Program example, SEQ 30, shown on Pattern Generator Program Sub-menu.

PATTERN GENERATOR: PROGRAM		INTERRUPT: CALL ON	
SEQ: 255 VECTOR: 0100			
CLOCK: 100 TTL + 1.40V		PAUSE ON: 1 INHIBIT ON: 1	
	POD1CB		
SEQ	LABEL	HEX INSTRUCTIONS	STROBES
0		XXXX GOTO 25	
25	25	XXXX	
26		XXXX	
27		XXXX	
28		XXXX	
29		XXXX	
30		XXXX	
31		XXXX	
32		XXXX	
33		XXXX	
34		XXXX	
35		XXXX	
36		XXXX	
37		XXXX	
38		XXXX	
39		XXXX	
40		XXXX	

3836-214

Figure 7-100. Program example, SEQ 255, shown on Pattern Generator Sub-menu.



NOTE:

REFER TO SELECT EXPLANATION IN DIAGNOSTICS MENU AT THE FRONT OF THIS SECTION.

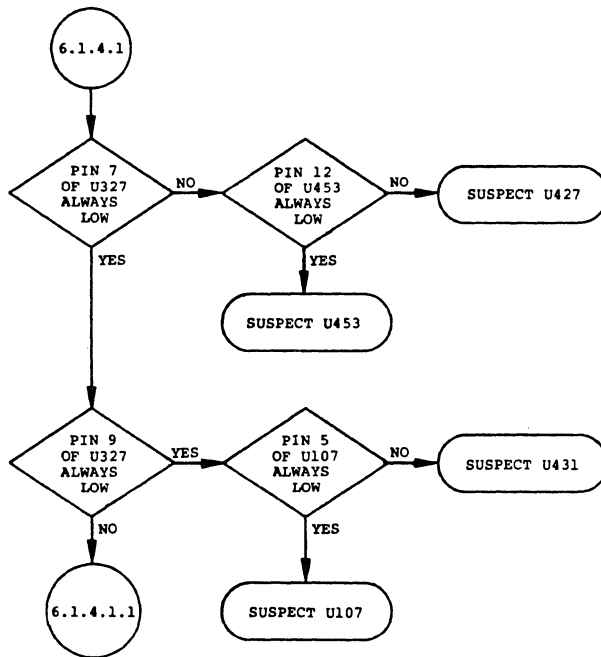


Figure 7-101. Troubleshooting Chart 8—91P16 Pattern Generator failure (sheet 14 of 23).

```

PATTERN GENERATOR: PROGRAM          INTERRUPT: CALL ON
CLOCK: 14S      TTL + 1.40V    PAUSE ON: 1  INHIBIT ON: 1
          POD1CB
SEQ LABEL  HEX INSTRUCTIONS  STROBES
0      0000  XXXX  GOTO  30
25
26      XXXX
27      XXXX
28      XXXX
29      XXXX
30  30  XXXX  GOTO  31
31  31  XXXX  GOTO  30
32      XXXX
33      XXXX
34      XXXX
35      XXXX
36      XXXX
37      XXXX
38      XXXX
39      XXXX
40      XXXX
    
```

3836-215

Figure 7-102. Pattern Generator Program showing GOTO sequences.

TROUBLESHOOTING ADVANCES IN THE 91P16, continued

Text Reference to Figure 7-103 point 6.1.4.1.1

At this point, the circuit problem has been isolated to the advance generator circuitry. To check the advance generator, a looping program must be written to exercise the point that does not advance properly. In the previous example, it was found that the pattern generator would not advance from sequence 30 to sequence 31 (memory address 1F hexadecimal to 20 hexadecimal). Figure 7-102 shows a program that forces the advance generator to exercise at those addresses.

To exercise the sequences through which your pattern generator cannot advance, enter a similar program into the Pattern Generator Program menu.

Note that the GOTO bus in the 91P16 has the correct data when the advance bus goes astray. Because of this, the GOTO bus can be used as a reference in performing the next few steps.

Below is a listing that compares the values in the GOTO bus to the values in the advance bus in the example given previously.

GOTO Bus	Advance Bus
1F	21
20	20
1F	21
20	20

The troubleshooting tree can now be re-entered at 6.1.4.1.1. The pattern generator should be loaded with the exercising program, and the clock for the pattern generator should be set to internal, at 1 μ s. Press the START PAT GEN key to start operation of the pattern generator.

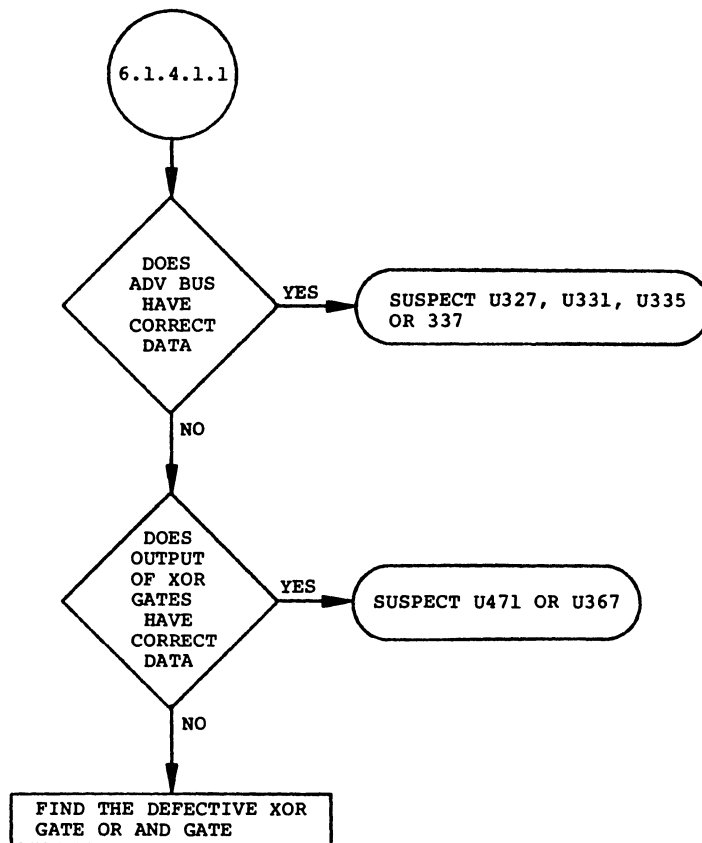


Figure 7-103. Troubleshooting Chart 8—91P16 Pattern Generator failure (sheet 15 of 23).

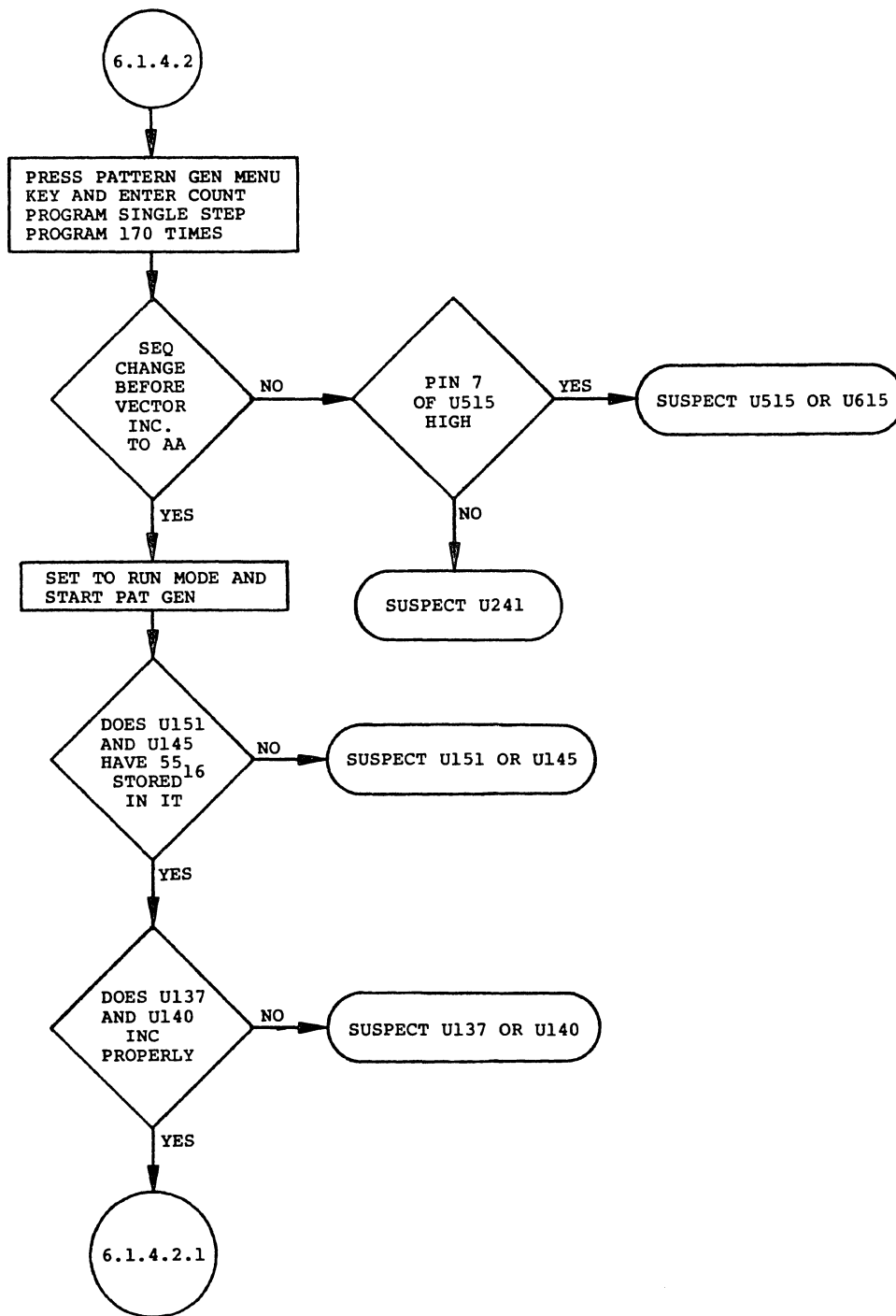


Figure 7-104. Troubleshooting Chart 8 cont (sheet 16 of 23).

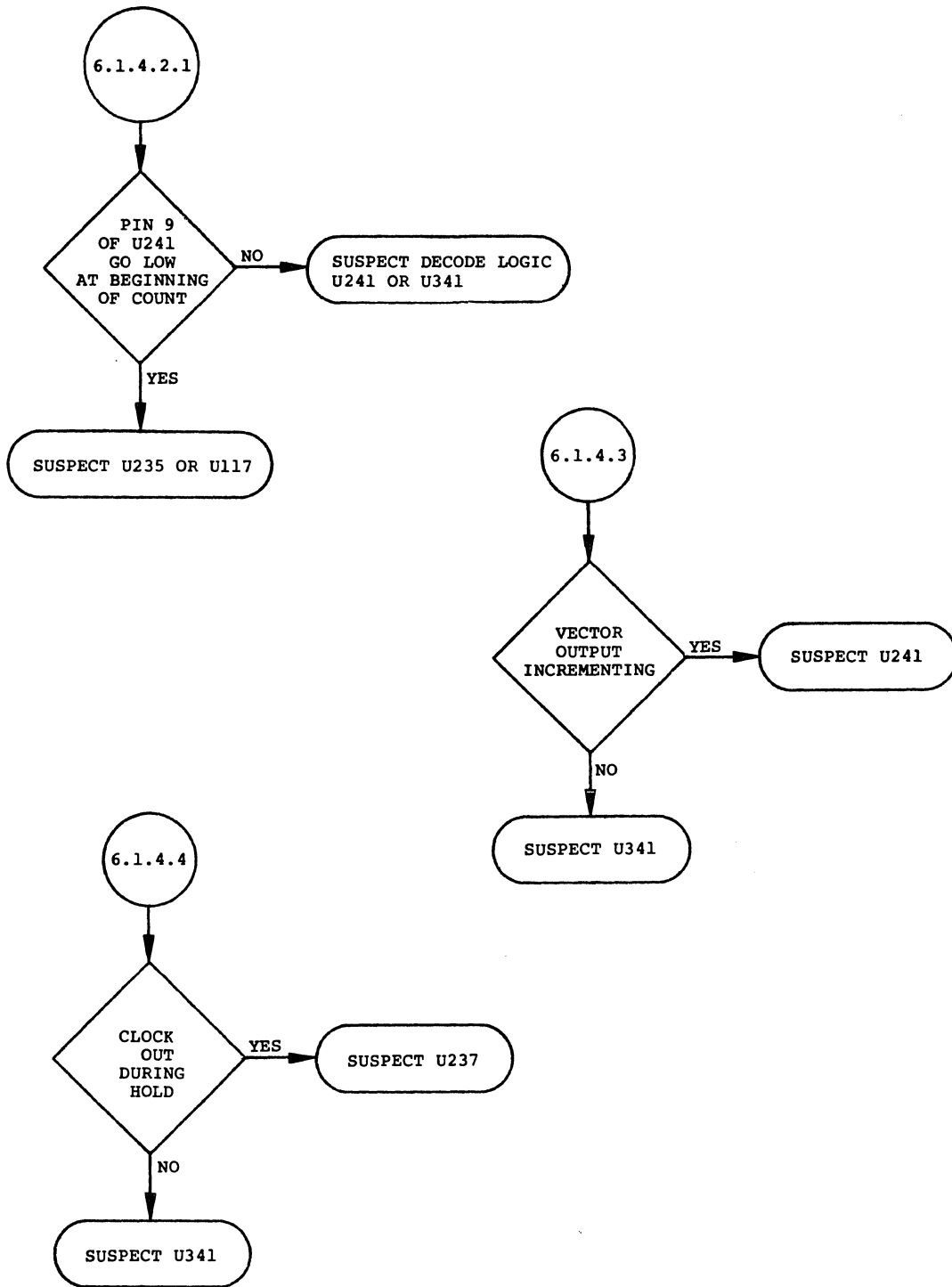


Figure 7-105. Troubleshooting Chart 8 cont (sheet 17 of 23).

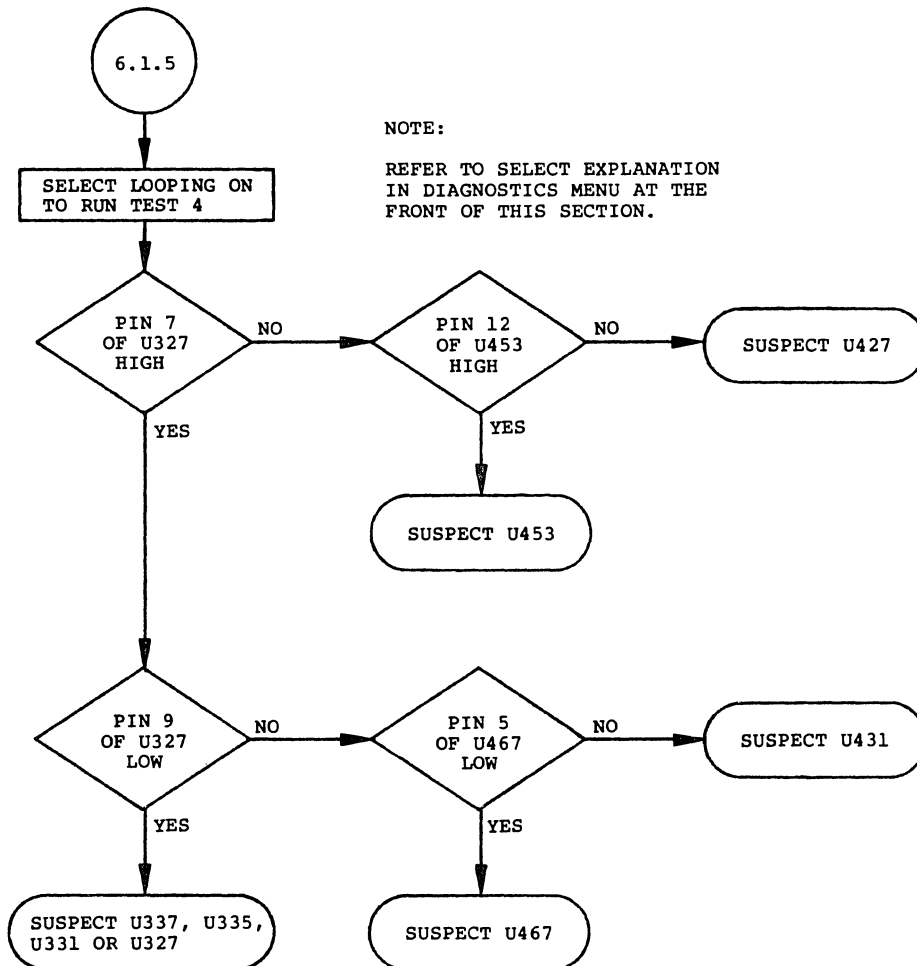


Figure 7-106. Troubleshooting Chart 8 cont (sheet 18 of 23).

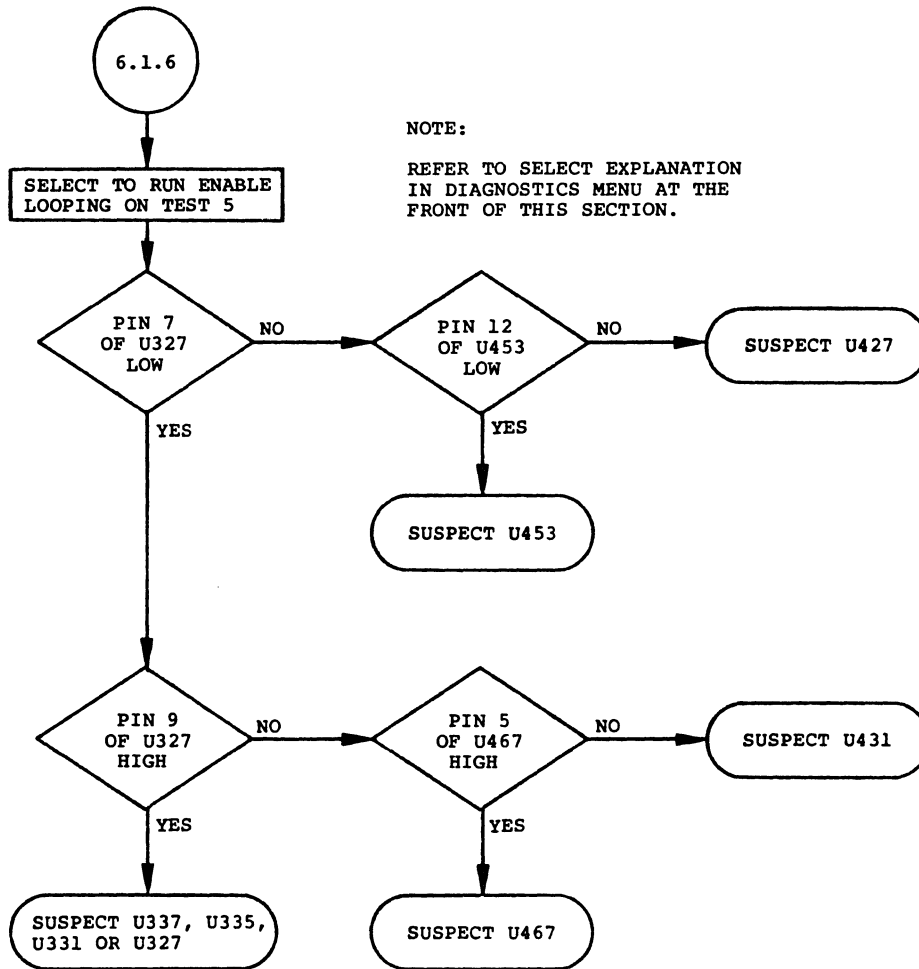


Figure 7-107. Troubleshooting Chart 8 cont (sheet 19 of 23).

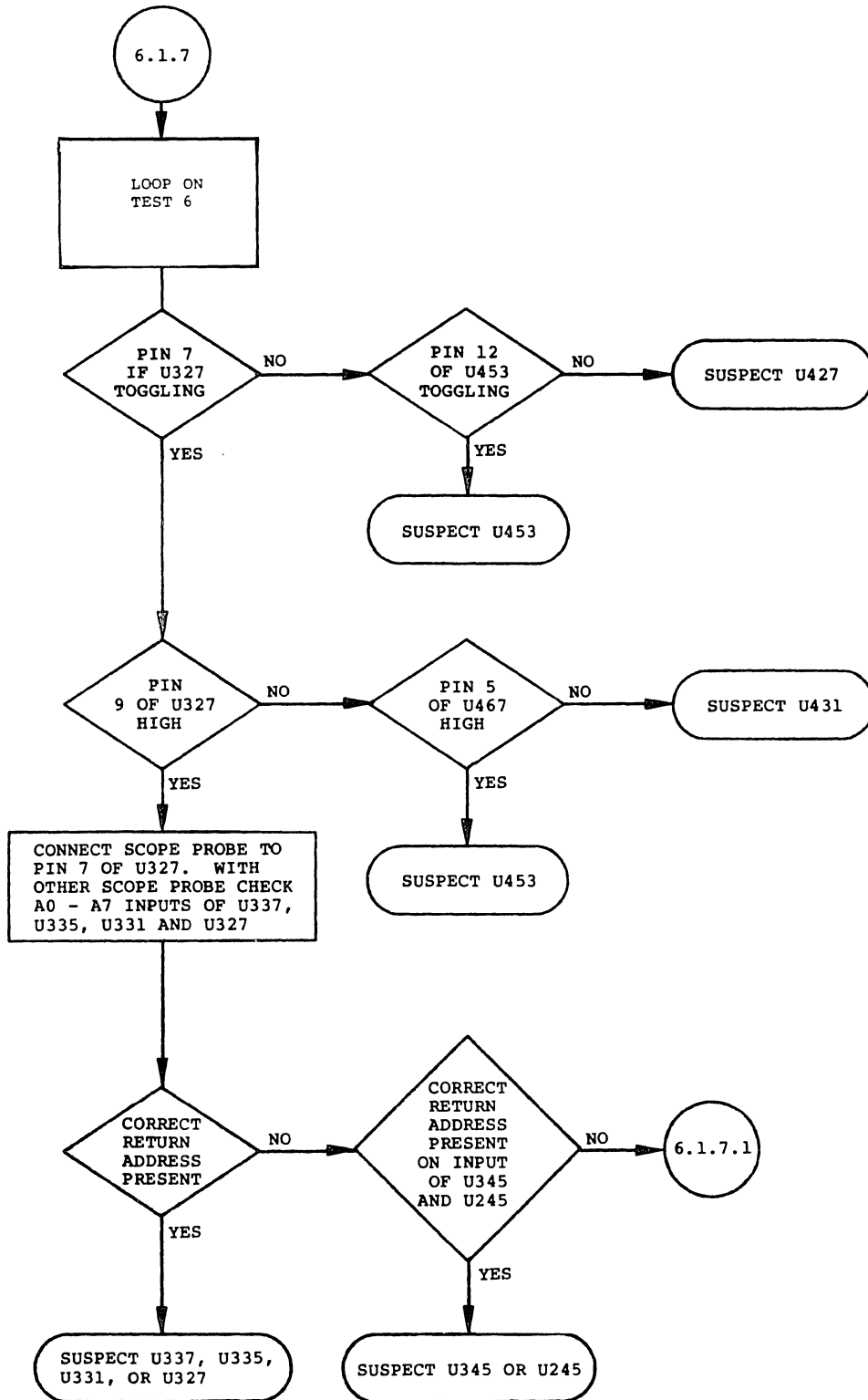


Figure 7-108. Troubleshooting Chart 8 cont (sheet 20 of 23).

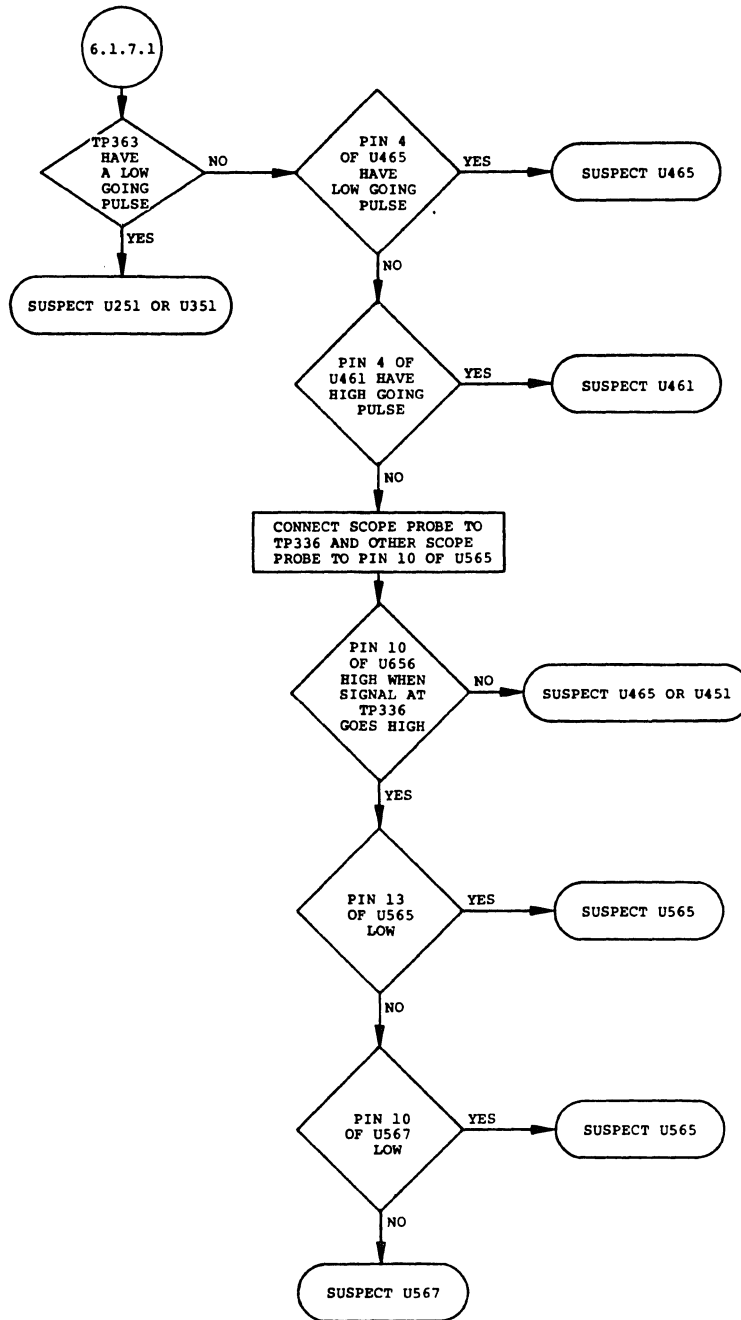


Figure 7-109. Troubleshooting Chart 8 cont (sheet 21 of 23).

NOTE:
REFER TO SELECT EXPLANATION
IN DIAGNOSTICS MENU AT THE
FRONT OF THIS SECTION.

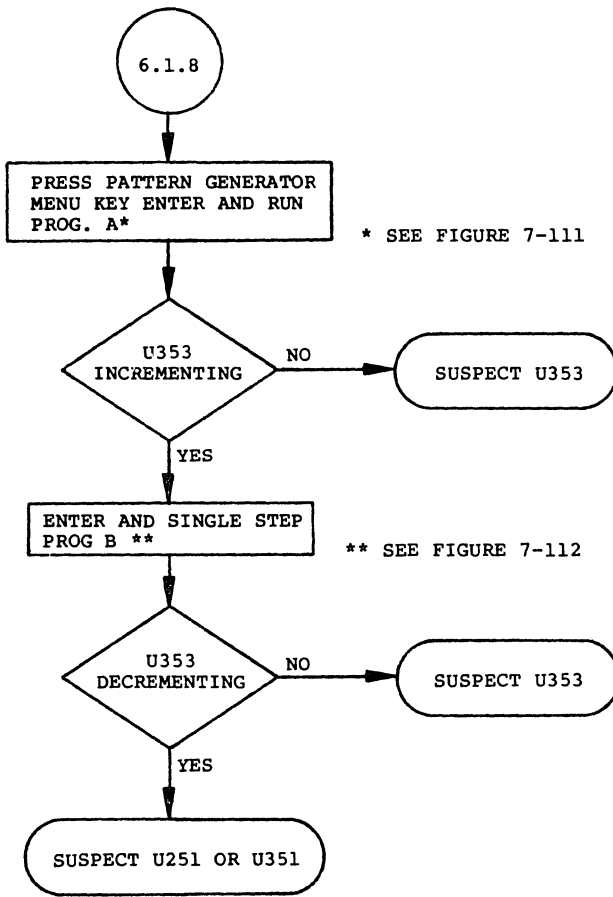


Figure 7-110. Troubleshooting Chart 8 cont (sheet 22 of 23).

```

PATTERN GENERATOR: PROGRAM          INTERRUPT: CALL [ ] ON [ ]
      CLOCK: [ 105 ] [ TTL ] + 1.40V PAUSE ON: [ ] INHIBIT ON: [ ]

      POD1CB
SEQ LABEL [ ] [ ] [ ] INSTRUCTIONS STROBES
[ ] [ ] [ ] [ ] [ ] [ ]
1      XXXX
2      XXXX
3      XXXX
4      XXXX
5      XXXX
6      XXXX
7      XXXX
8      XXXX
9      XXXX
10     XXXX
11     XXXX
12     XXXX
13     XXXX
14     XXXX
15     XXXX
16     XXXX
    
```

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Figure 7-111. Pattern Generator Program example A for troubleshooting.

```

PATTERN GENERATOR: PROGRAM          INTERRUPT: CALL [ ] ON [ ]
      CLOCK: [ 105 ] [ TTL ] + 1.40V PAUSE ON: [ ] INHIBIT ON: [ ]

      POD1CB
SEQ LABEL [ ] [ ] [ ] INSTRUCTIONS STROBES
[ ] [ ] [ ] [ ] [ ]
1      0000 RETURN
2      XXXX
3      XXXX
4      XXXX
5      XXXX
6      XXXX
7      XXXX
8      XXXX
9      XXXX
10     XXXX
11     XXXX
12     XXXX
13     XXXX
14     XXXX
15     XXXX
16     XXXX
    
```

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Figure 7-112. Pattern Generator Program example B for troubleshooting.

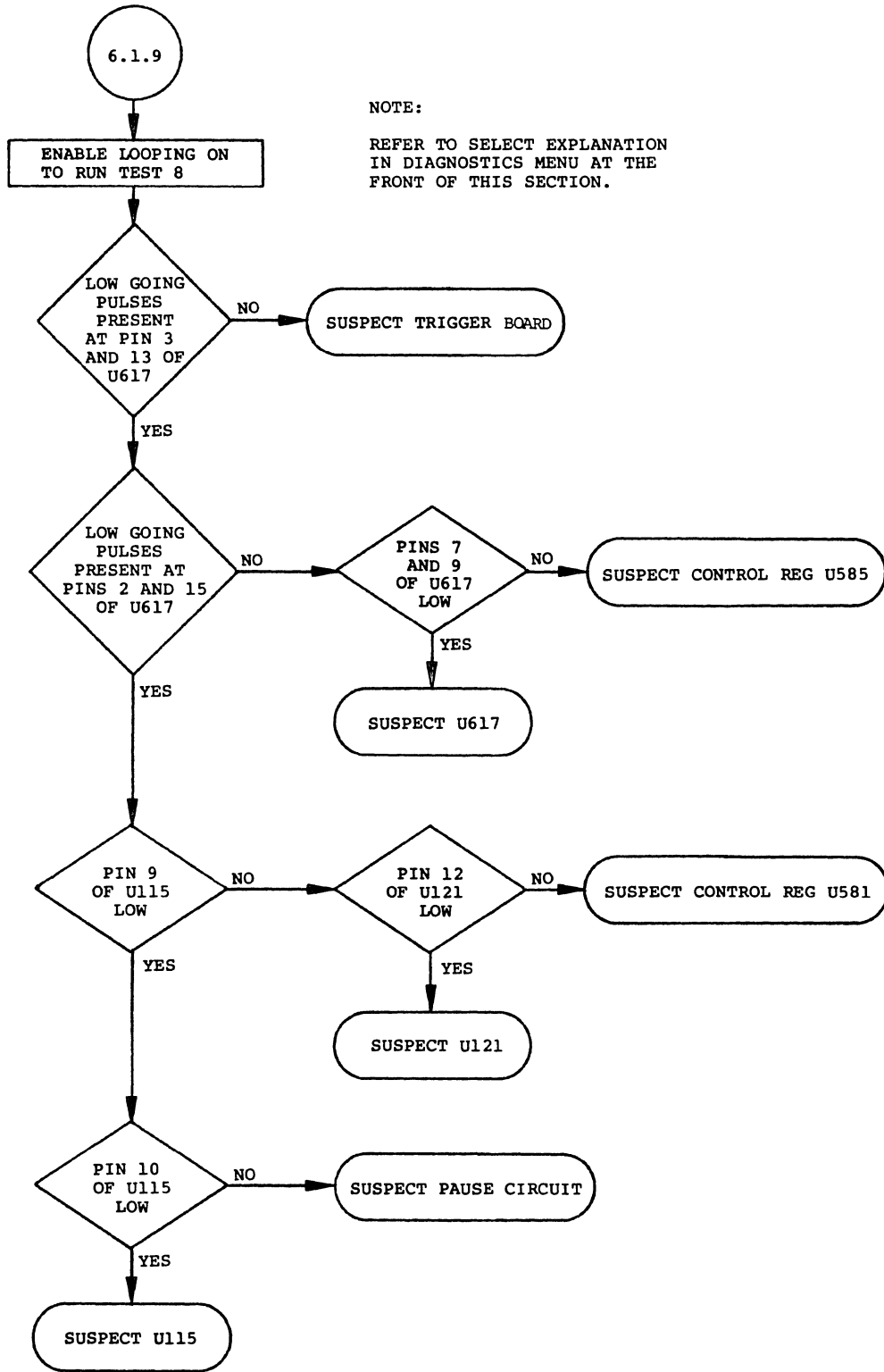


Figure 7-113. Troubleshooting Chart 8—91P16 Pattern Generator failure (sheet 23 of 23).

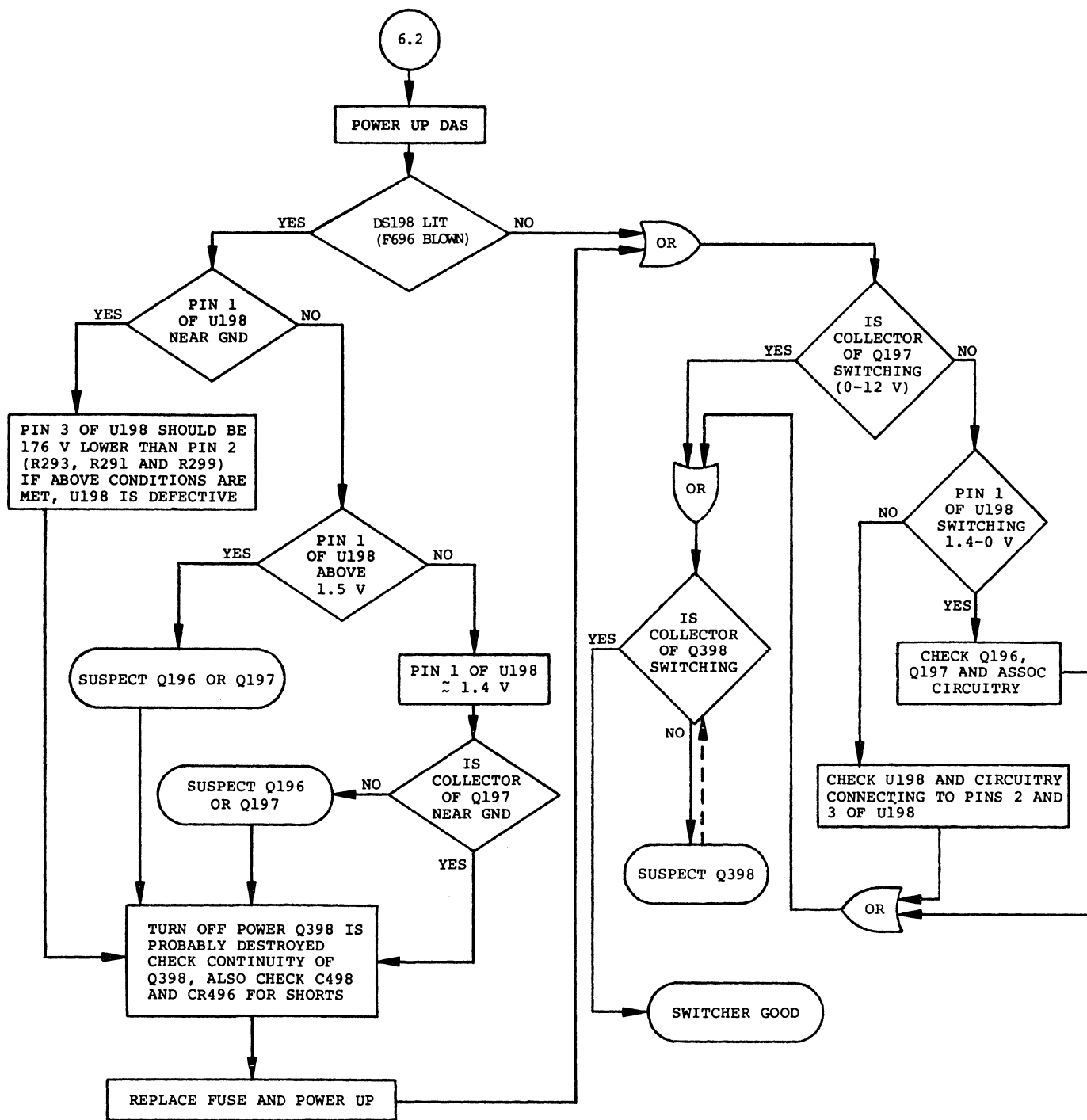


Figure 7-114. Troubleshooting Chart 9—Pattern Generator Power Supply failure.

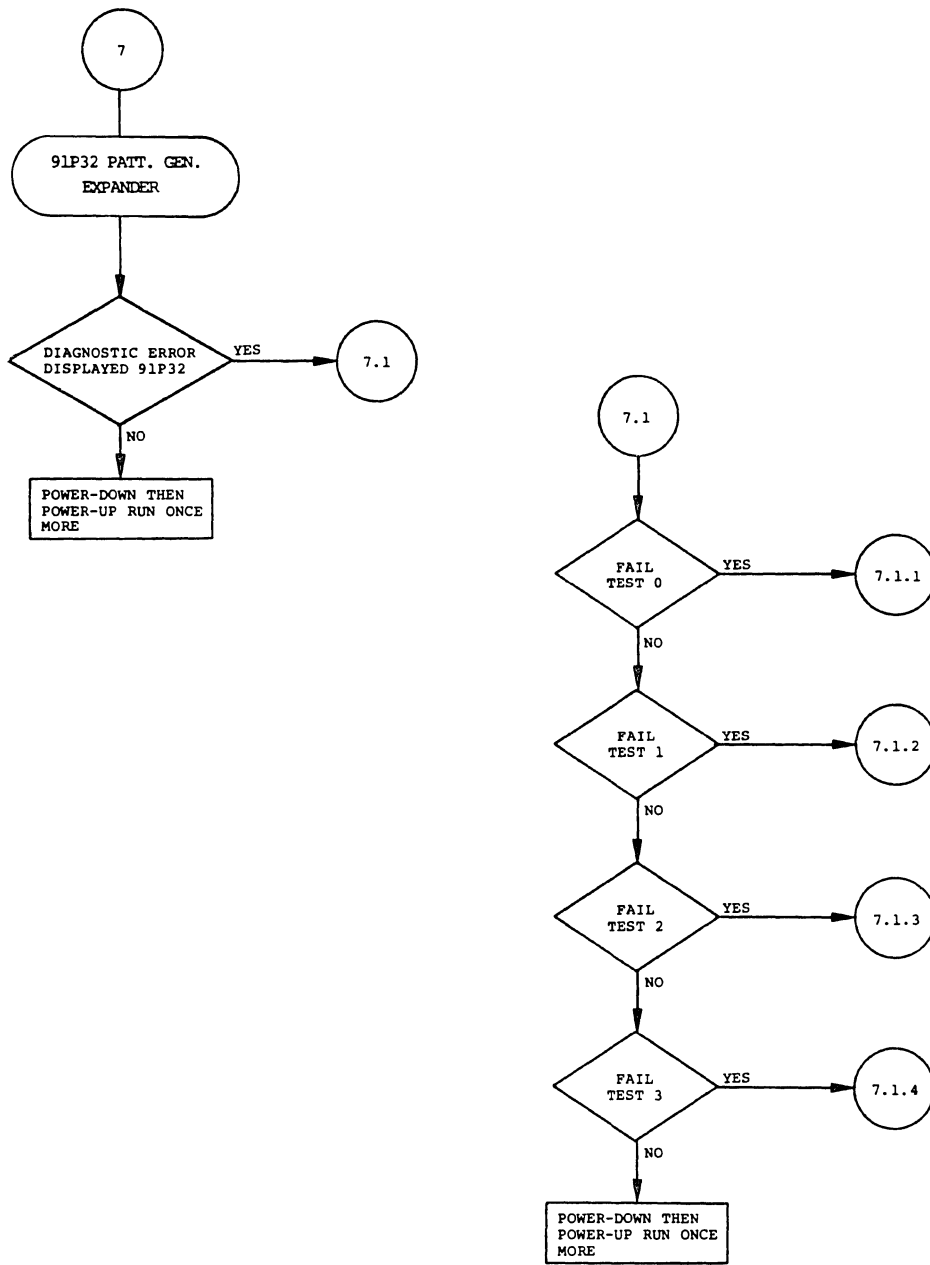


Figure 7-115. Troubleshooting Chart 10—91P32 Pattern Generator failure (sheet 1 of 5).

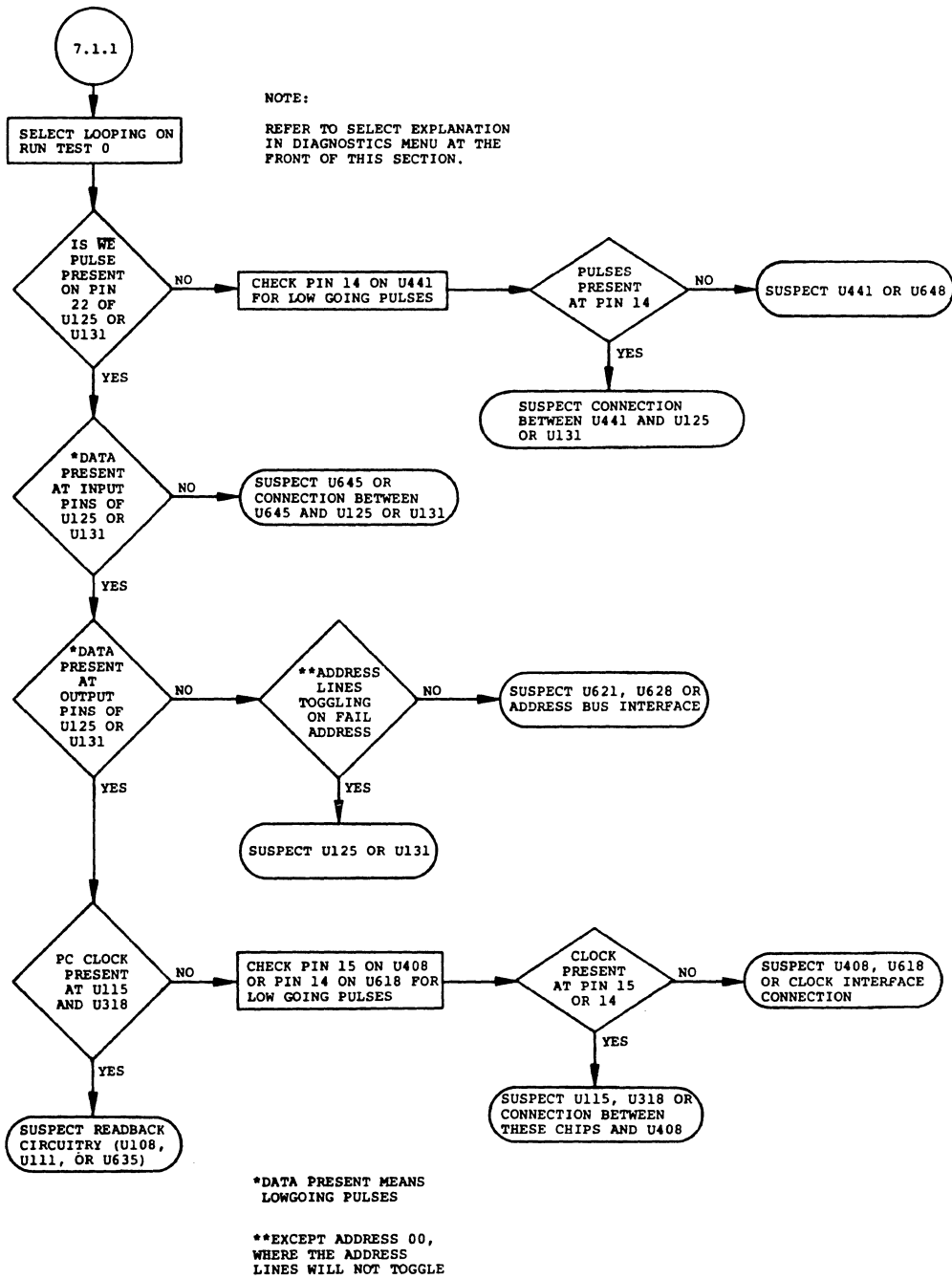


Figure 7-116. Troubleshooting Chart 10 cont (sheet 2 of 5).

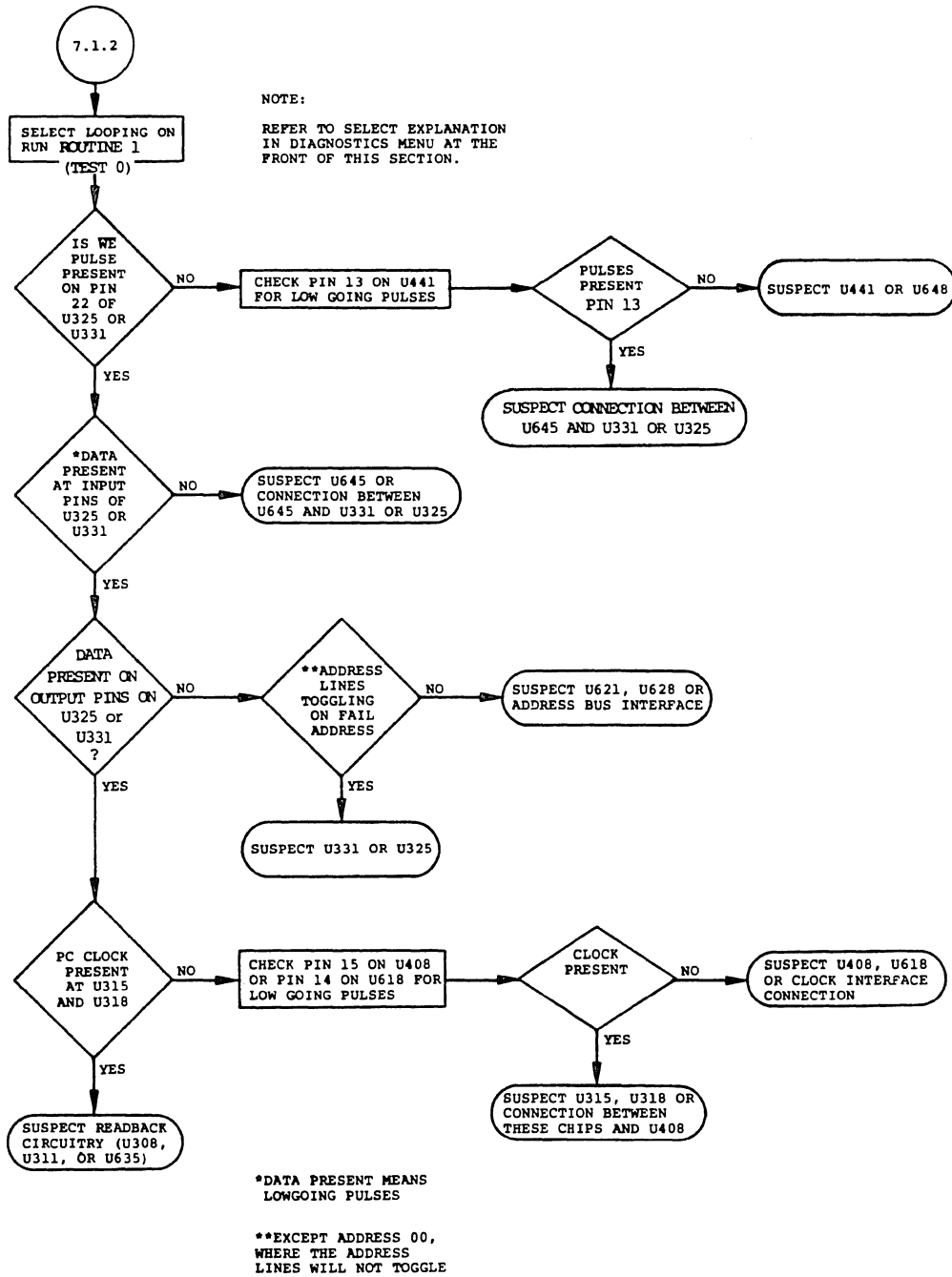


Figure 7-117. Troubleshooting Chart 10 cont (sheet 3 of 5).

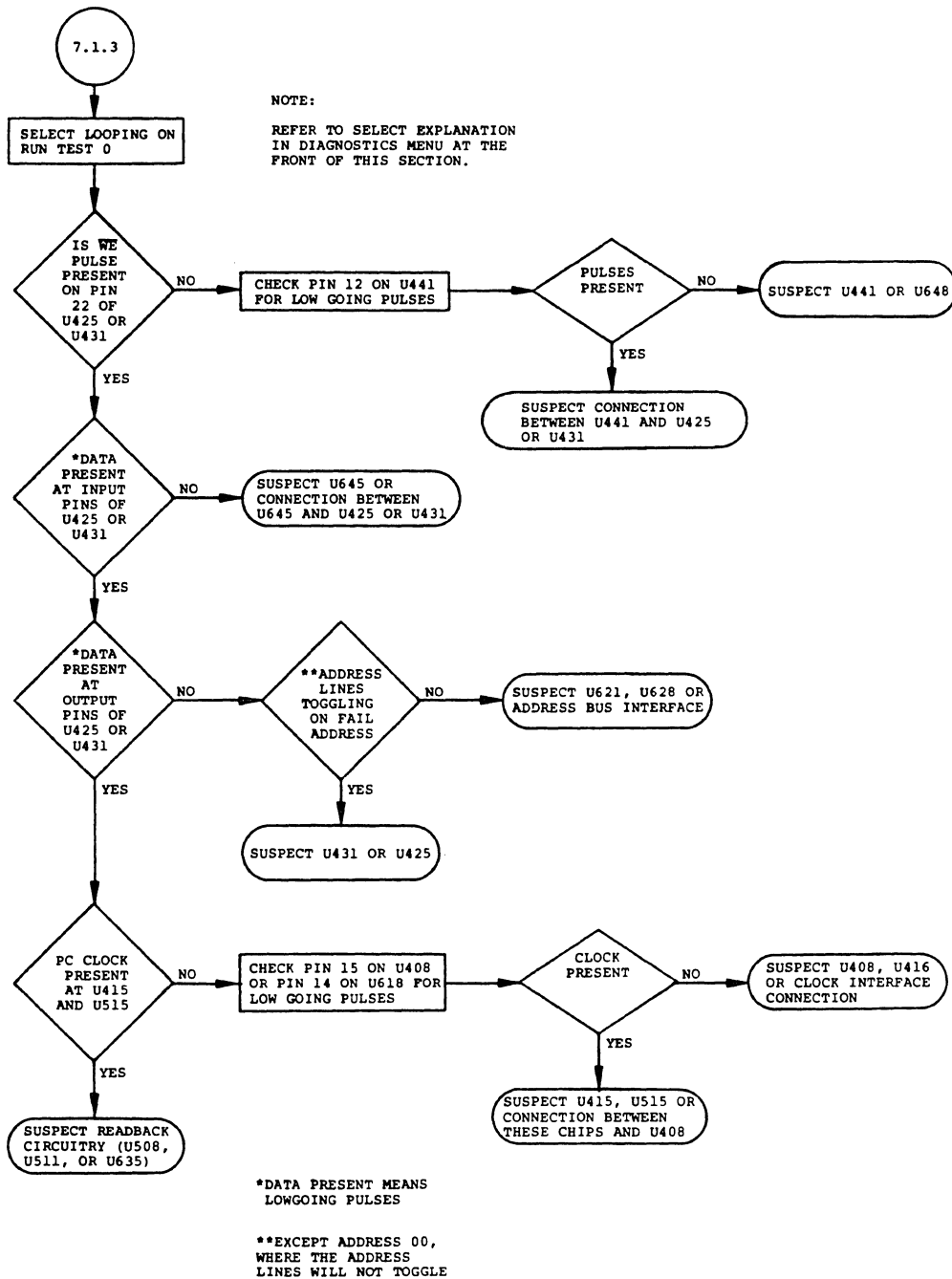


Figure 7-118. Troubleshooting Chart 10 cont (sheet 4 of 5).

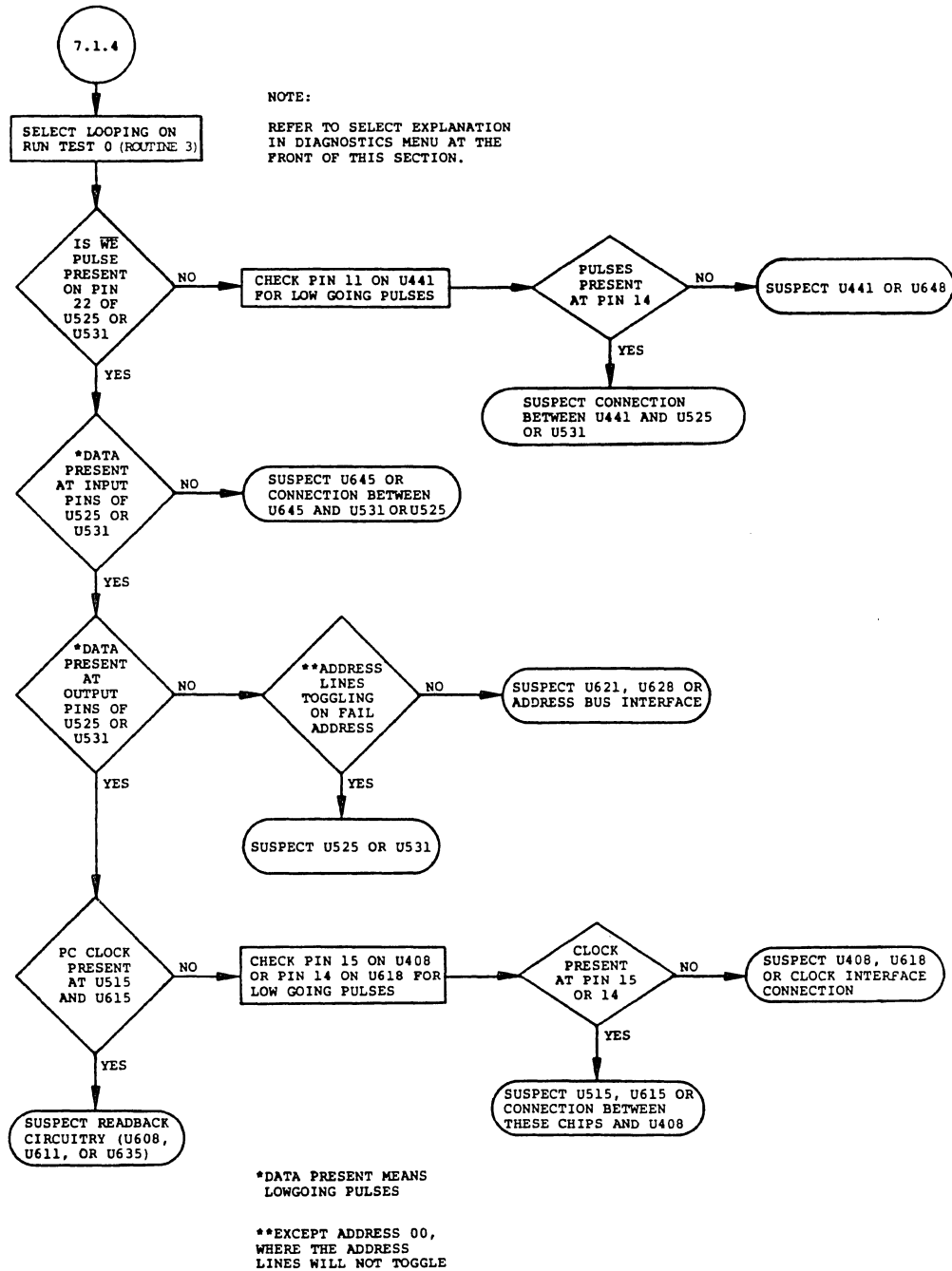


Figure 7-119. Troubleshooting Chart 10 cont (sheet 5 of 5).

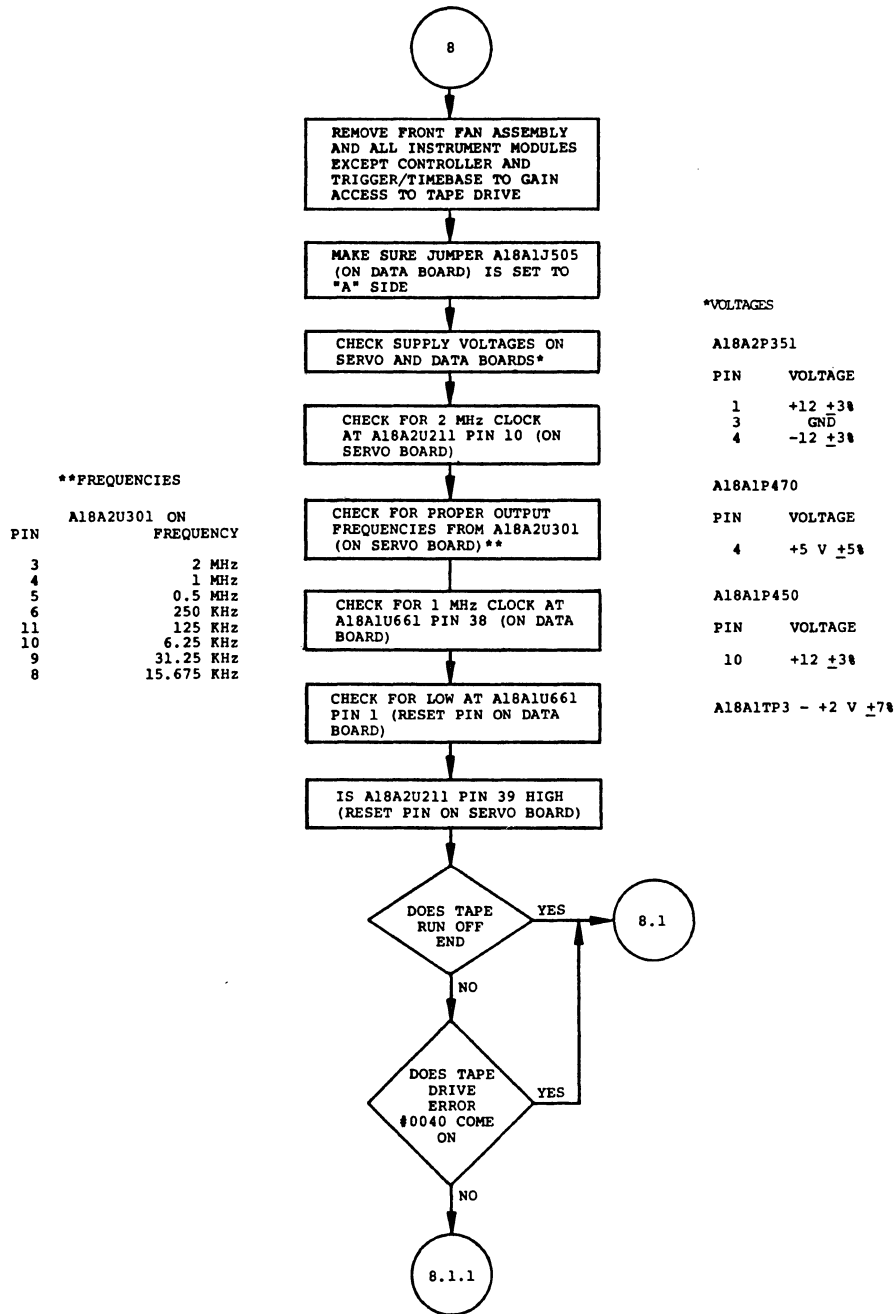


Figure 7-120. Troubleshooting Chart 11—Tape Drive failure (sheet 1 of 6).

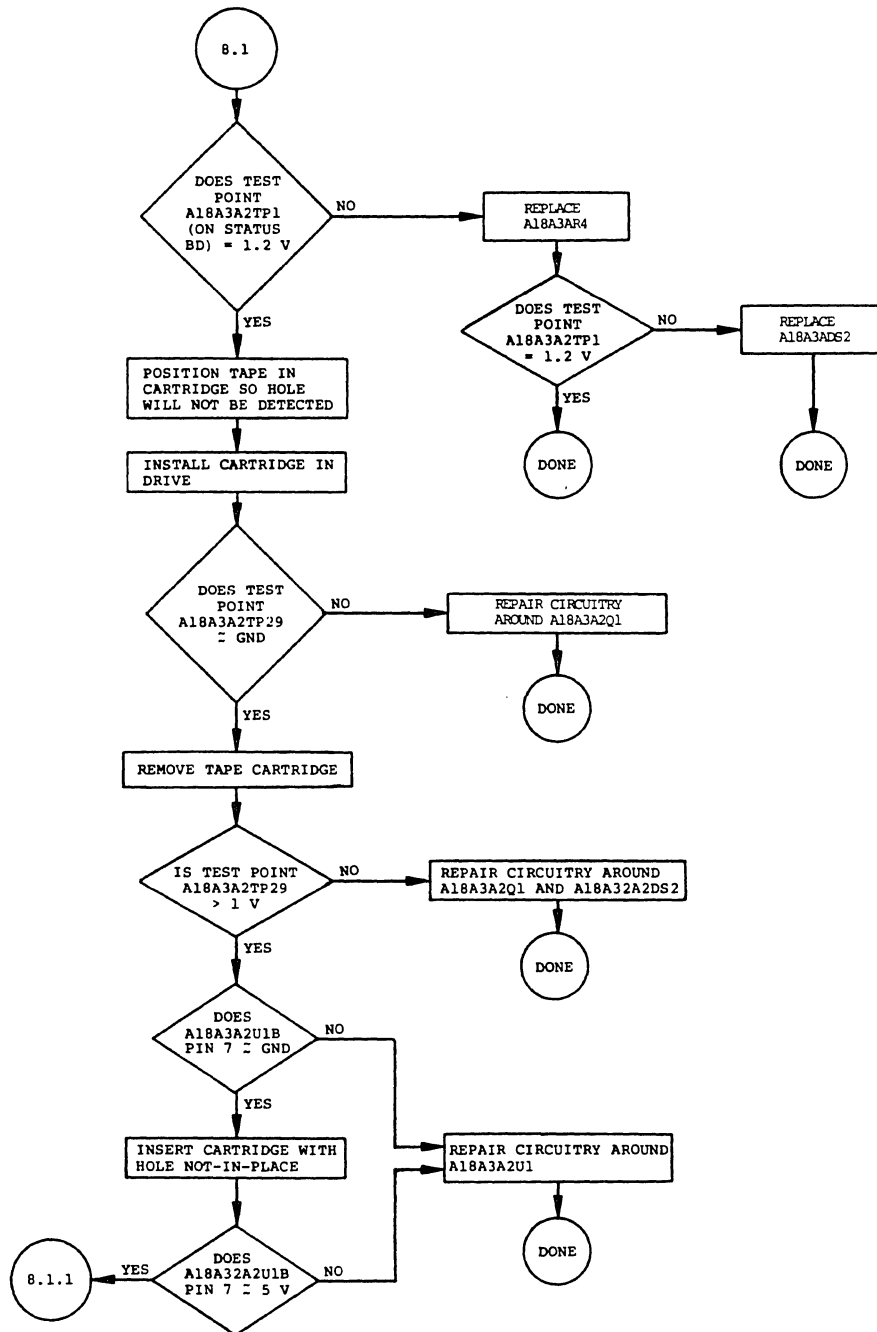


Figure 7-121. Troubleshooting Chart 11 cont (sheet 2 of 6).

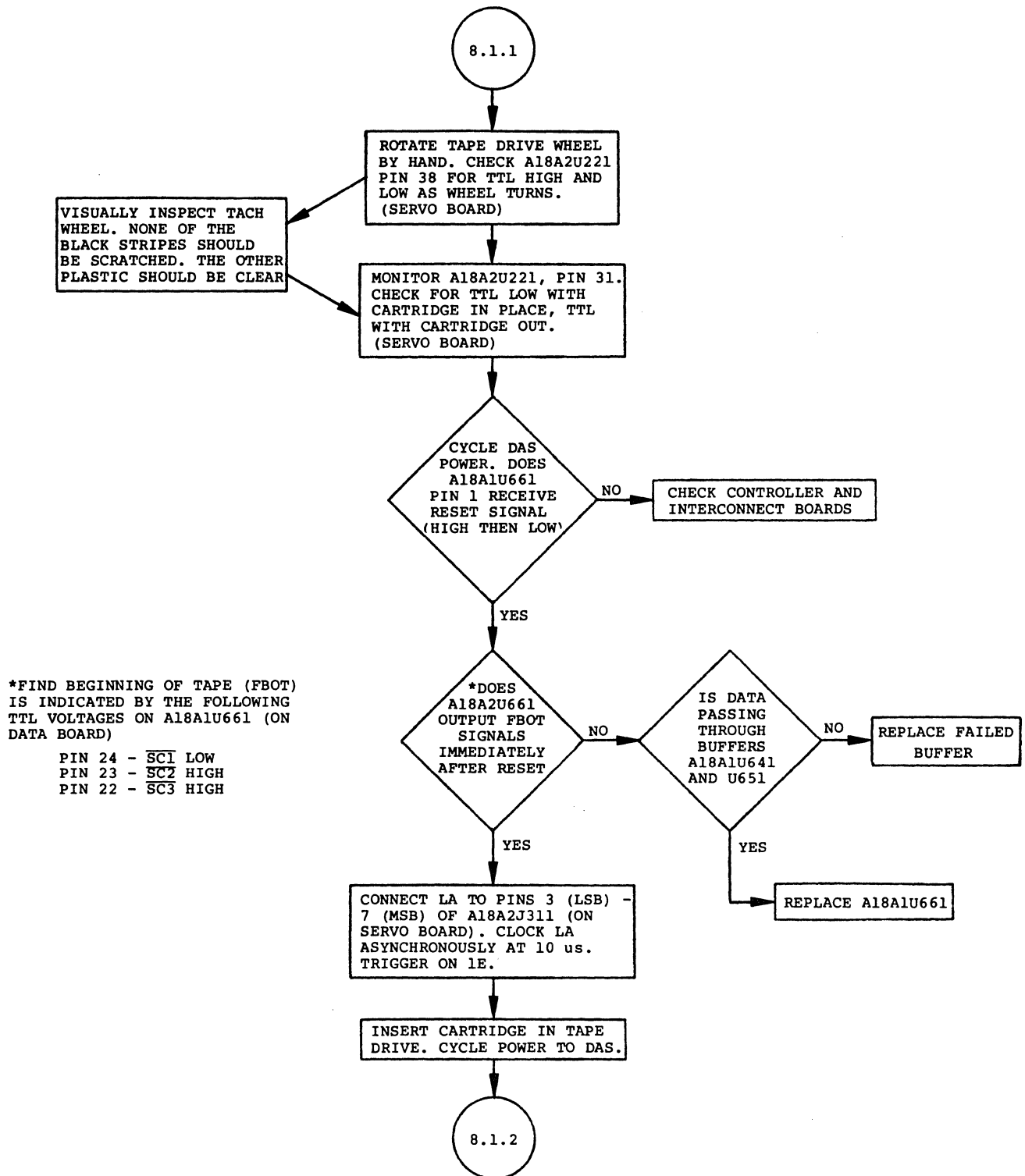


Figure 7-122. Troubleshooting Chart 11 cont (sheet 3 of 6).

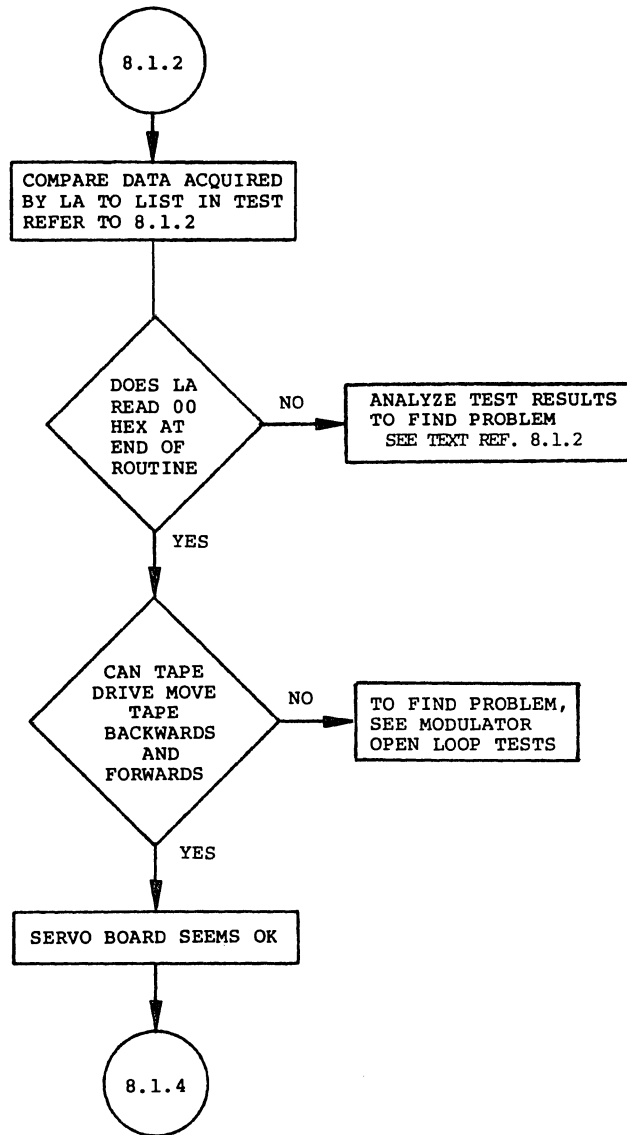


Figure 7-123. Troubleshooting Chart 11 cont (sheet 4 of 6).

TROUBLESHOOTING THE TAPE DRIVE SERVO BOARD

Text Reference to Figure 7-123, point 8.1.2.

When the servo controller on the tape drive is reset, the 6500/1 does a self test. The status of the self test is indicated by the data read on pins 3 through 7 of the 6500/1 (A18A2J311). If the test does not get past any of the values 1E through 1B hexadecimal (as read on pins 3 through 7), then the 6500/1 is faulty.

Values 1A through 00 hexadecimal indicate the firmware routine being performed by the 6500/1 during operation. If the value reaches 00, then the 6500/1 is probably functional.

NOTE

Some of the steps between 1F and 00 hexadecimal may be skipped. As long as the value at the port reads 00 at some point, the 6500/1 is probably functional.

If the value at the port cannot get past some point between (but not including) 00 and 1B hexadecimal, then analyze the test results to see what might cause the error other than the 6500/1. The fault may lie with either the external circuitry or the 6500/1.

**Table 7-2
6500/1 Check Port Values**

Port Value	Meaning
1F	Hardware reset.
1E	Internal ROM check in progress, ports assigned.
1D	RAM check in progress, ROM OK.
1C	Modulator check in progress, RAM OK.
1B	Modulator OK. Signal the Controller board that everything works.
1A	Acknowledgment received from the Controller board. Start tape operation.
19	The sequence does not progress past this point if the tape drive does not detect a cartridge in place
18	Fault 1 error.
17	Waiting for cartridge removal.
16	Hole detected.
15	Waiting for fault acknowledge, hole too long. This may indicate that the tape ran off the end.
14	BRK error.
13	Waiting for hole acknowledge from the Controller board.
12	Waiting for fault acknowledge from the Controller board.

Table 7-2 (cont)
6500/1 Check Port Values

Port Value	Meaning
11	Slow clock error.
10	Fast clock error.
0F	Waiting for BOT (beginning of tape acknowledge).
0E	Double hole found (located at beginning of tape).
0D	Start BOT sequence (find the beginning of the tape).
0C	Executing the HARDRAMP sequence.
0B	Executing SLOWDOWN25 sequence. This sequence slows the drive from 60 ips to 25 ips.
0A	Executing STOP60. Brings tape motion to a stop.
09	Executing REG60. Brings the tape drive up to 60 ips and regulates the speed.
08	RAMPC subroutine entered. Brings the tape drive from 0 ips up to 25 ips.
07	Executing the HARDSTOP routine.
06	6500/1 sets up the pointers for the SLOWDOWN25 routine and turns off the tape drive motor.
05	Executing the COAST routine, which sets up pointers for the STOP60 routine, and turns off the tape drive motor.
04	Setting up pointers for ramping the tape drive up to 60 ips.
03	Setting up pointers for ramping the tape drive up to 25 ips.
02	Executing the DLY100 subroutine. This subroutine delays 100 counts. It is used for final tape positioning at the end of a BOT (find beginning of tape) command.
01	Executing the tape hole checking subroutine.
00	Executing SCAN. This subroutine ensures that tape motion commands are valid and executed in a manner that is safe for the magnetic tape.

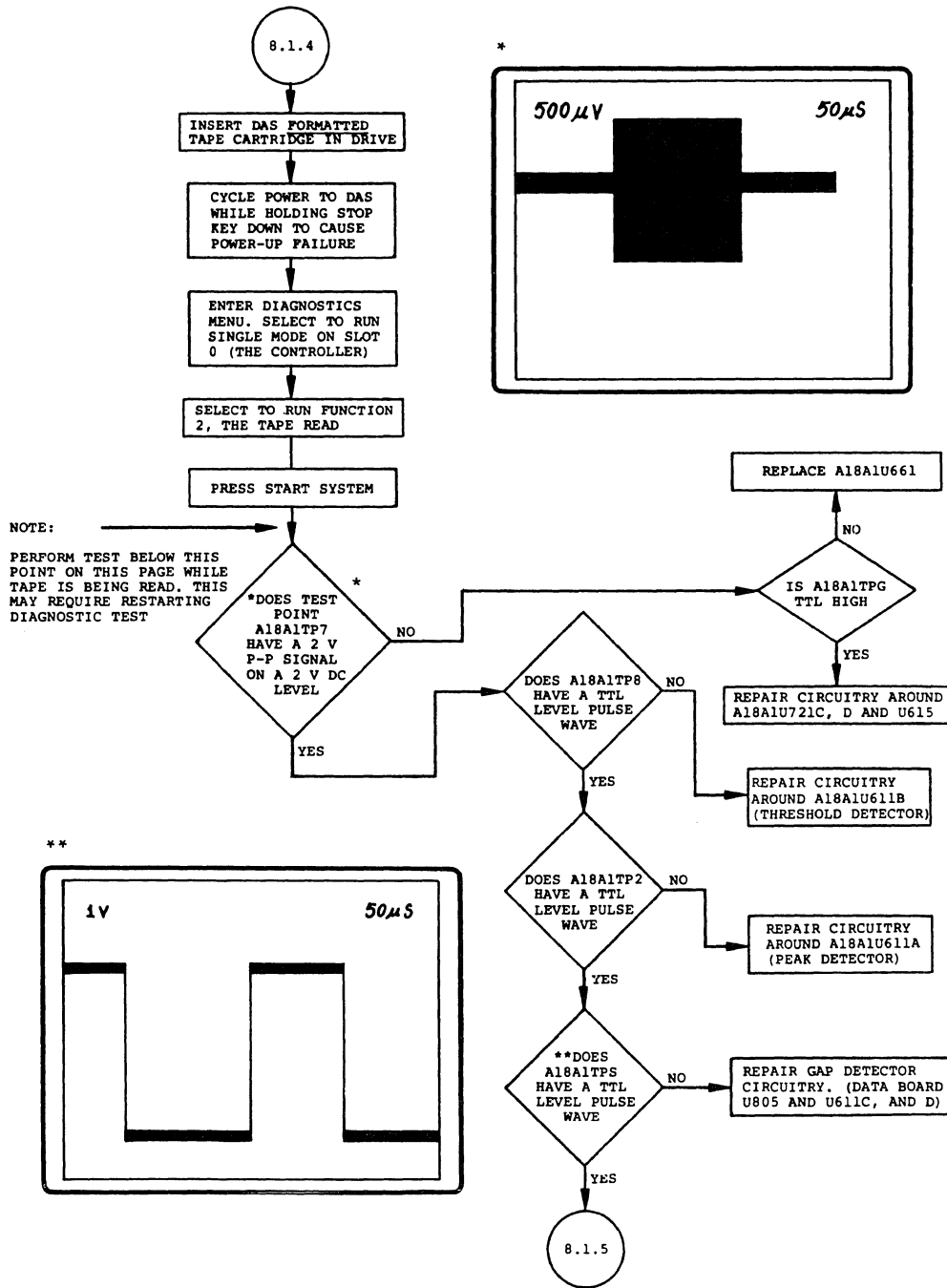


Figure 7-124. Troubleshooting Chart 11—Tape Drive failure cont (sheet 5 of 6).

CAUTION:

*ANY DATA STORED ON A TAPE WILL BE OVER-WRITTEN BY THE TAPE WRITE TEST. USE A FORMATTED BLANK TAPE OR A TAPE WITH UNIMPORTANT DATA.

NOTE:

PERFORM TESTS BELOW THIS POINT ON THIS PAGE WHILE TAPE HEAD IS WRITING. THIS MAY REQUIRE RESTARTING THE DIAGNOSTIC TEST.

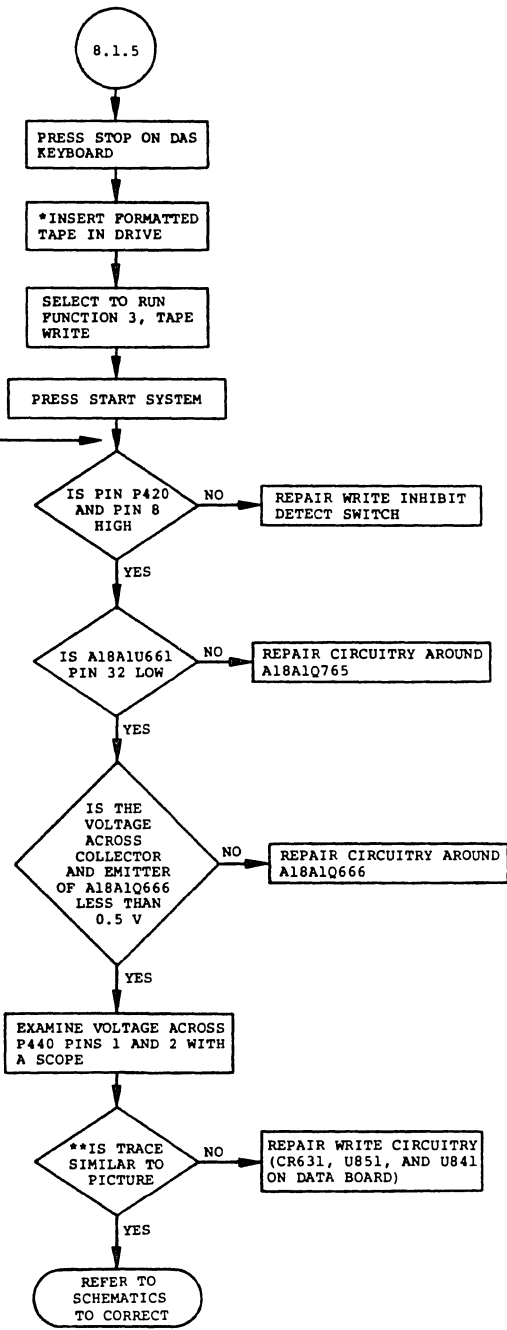
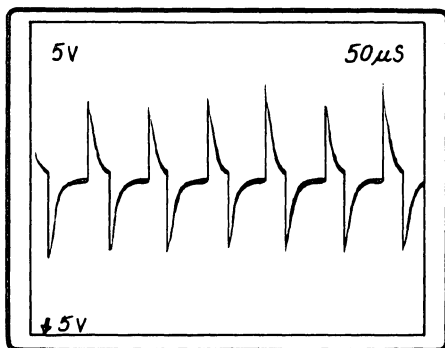


Figure 7-125. Troubleshooting Chart 11 cont (sheet 6 of 6)

TROUBLESHOOTING THE TAPE DRIVE SERVO BOARD, continued

Modulator Open-Loop Tests

At this point, the fault in the tape drive seems to be isolated to the modulator circuitry. There is a special routine in the 6500/1 on the servo board (A18A2U211) that provides an open loop test for the modulator circuits. The low duration of NMI determines which test is performed.



Running the drive at high speeds for prolonged periods of time may burn out the motor. Modulator tests should be performed with the bridge off (see Table 7-3). Bridge tests should be performed at low modulator values.

Running these tests with a data cartridge in place will run the tape off the end.

During these tests, the values at pins 16 (MSB) through pin 20 (LSB) take on new meanings. Table 7-3 gives the tests available, how long NMI must be held low to activate them, and the new port meanings.

Table 7-3
Servo Board Test Routine

Port Value	Drive Direction (Bridge)	Modulator Value	NMI held low
00	Forward	00	64.77 ms
01	Forward	20	63.03 ms
02	Forward	40	60.70 ms
03	Forward	60	58.63 ms
04	Forward	80	56.57 ms
05	Forward	A0	54.53 ms
06	Forward	C0	52.44 ms
07	Forward	E0	50.42 ms
08	Reverse	00	48.22 ms
09	Reverse	20	46.18 ms
0A	Reverse	40	44.14 ms
0B	Reverse	60	42.03 ms
0C	Reverse	80	40.01 ms
0D	Reverse	A0	37.95 ms
0E	Reverse	C0	36.01 ms
0F	Reverse	E0	33.77 ms
10	Off	00	31.78 ms
11	Off	20	29.75 ms
12	Off	40	27.68 ms
13	Off	60	25.61 ms
14	Off	80	23.59 ms
15	Off	A0	21.54 ms
16	Off	C0	19.50 ms
17	Off	E0	17.59 ms

TROUBLESHOOTING OPTION 02, THE I/O INTERFACE

Option 02, the I/O Interface, involves four major divisions:

- Interface to the DAS—If the interface to the DAS is nonfunctioning, it will cause some obvious problems that are difficult to work around. Troubleshoot this first.
- RS-232 Interface—The RS-232 interface is the least complicated of the two remaining interfaces. Troubleshoot it next.
- GPIB Interface—The GPIB interface is the last part of the I/O Interface to troubleshoot.
- Composite Video Output—The composite video output involves very few components, so no troubleshooting procedures are included here. Since the composite video output doesn't interact with any other circuits on the I/O interface, you can troubleshoot it at any point.

Equipment Needed to Troubleshoot the I/O Interface

The following equipment is required to troubleshoot the I/O Interface:

- DAS mainframe
- DAS 9100 Service Maintenance Kit (includes an extender board for the I/O Interface)
- 2 Channel Oscilloscope, with probes
- TEKTRONIX 4051 Desktop Computer with Option 01 (Data Communications Interface.)

NOTE

All Basic programs found in this text are written for a Tektronix 4050 series computer, and may be incompatible with other versions of Basic.

- RS-232 cable
- GPIB cable

Troubleshooting the DAS Interface

The Option 02 interface to the DAS consists mainly of the ROM area, the data buffer, and the address decoder.

Turn on the DAS and, after power-up, enter the Input Output menu.

Locate the DIP switch on the back of the DAS. This switch is used to set the address of the DAS on the GPIB. Close switch number 8. Open the other seven switches.

Verify that the message "GPIB TALK/LISTEN ADDRESS: 1" is present at the top of the Input Output menu.

1. If this message is present, the interface between the DAS and the I/O Interface is probably functioning properly.
2. If the message appears at the top of the screen, but calls out the wrong address (e.g., " GPIB TALK/LISTEN ADDRESS: 0") the problem is probably in the DIP switch or the GPIB control buffer, A19A1U135.
3. If the message does not appear at the top of the screen, the problem is probably in the ROM decoding area (A19A1U331 and U335B) or in the data and address buffers (A19A1U551, U545, and U246).
4. If the ROM decoders and address and data buffers are OK, then ROM problems will be found by the power-up checksum.

Troubleshooting the RS-232

The only way to troubleshoot the RS-232 port is to stimulate it in a repetitive manner. To do this, use a TEKTRONIX 4051 Desktop Computer with Option 01, the Data Communications Interface.

Connect the 4051 RS-232 port to the DAS RS-232 port with a modem connector similar to that illustrated in Figure 7-126.

Pin 1 of the connector is the ground line, pin 2 receives data, and pin 3 sends data. The shorted pins on the connector take the place of signals sent to the interface when a modem is ready to send or receive.

Close switches 4 through 8 of the the GPIB Address DIP switch on the back of the DAS. This sets the I/O Interface in a special mode that receives and transmits GPIB commands in ASCII characters through the RS-232 port.

Enter the Input Output menu. Using the SELECT key, set the DEVICE field to RS-232, the STATUS field to OFF, and the BAUD RATE field to 300. There should be a message at the top of the screen that says " GPIB OFFLINE". This verifies that the RS-232 port will receive GPIB commands.

Turn on the 4051. Set the RS-232 port of the 4051 to 300 baud with the following command sequence.

```
CALL "RATE",300,0,2
```

Return to the home page of the 4051 and enter the following program on the 4051.

```
100 PRINT @ 40: "TRIGGER"  
110 GOTO 100  
RUN <CR>
```

This program should cause the DAS to enter the Trigger Specification menu. The loop in the program aids in signal tracing.

At this point, the data is continuously being sent to the DAS. The DAS should be continuously echoing this data.

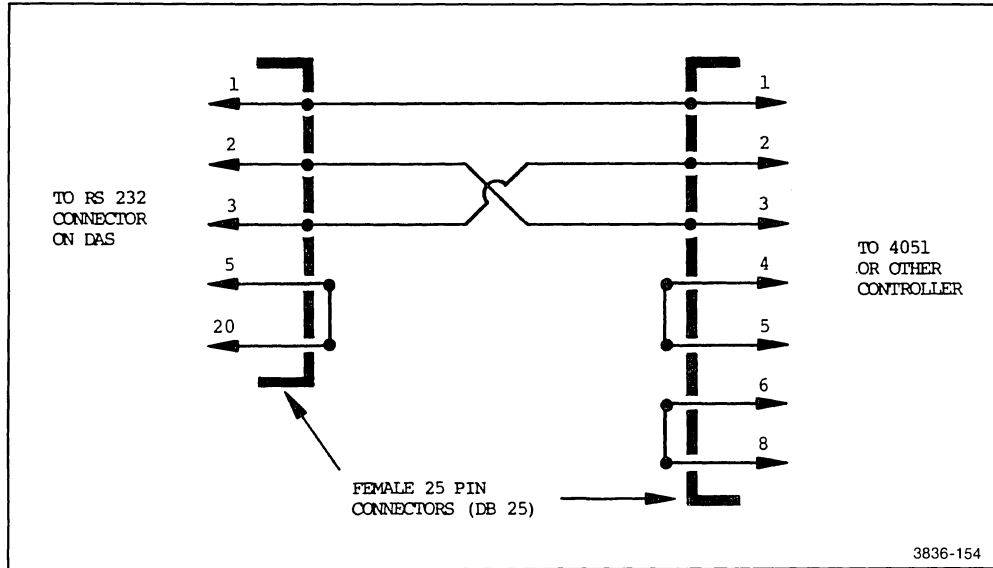


Figure 7-126. Special purpose modem connector.

1. If the DAS does display the Trigger Specification menu, the RS-232 port is receiving and properly interpreting data.
2. Use an oscilloscope to verify that data sent to the DAS (pin 2) is being echoed on pin 3. If the data is echoed, the RS-232 port is operational. If the data is not echoed, trace the signal back onto the I/O Interface board (A19A1) to find the problem.
 - a. If the DAS does not display the Trigger Specification menu, Check the DAS baud rate. It should be set to 300 baud.
 - b. Check for data movement on pin 2 of the DAS RS-232 port with the oscilloscope. If the line does not show high and low states, check the operation of the 4051 RS-232 port.
 - c. Check for data movement on pin 3 of the DAS RS-232 port.
 - i. If data is moving on RS-232 pin 3, then the RS-232 chip cannot communicate with the DAS Controller board.

If data is moving on pin 3, first try replacing the RS-232 IC (A19A1U251). Another possible problem is that the interrupt lines from the RS-232 IC (pins 14 and 15) are not being processed by the DAS Controller board. Also, the RS-232 IC (pins 9 and 25) may not be receiving the baud rate clock.
 - ii. If data is not moving on RS-232 pin 3, then the data is being lost somewhere between pin 2 and pin 3.

If data is moving on pin 3, examine the cable connecting the RS-232 connector to the main I/O board, the input buffer (A19A1U151A), the RS-232 IC (A19A1U251), and the output buffer (A19A1U155A).

Troubleshooting the GPIB

At this point, the serial portion of the I/O Interface has been verified. Troubleshooting the GPIB requires the same equipment used to troubleshoot the RS-232, with the addition of a GPIB cable.

Again, the preferred method for troubleshooting the GPIB port is to stimulate it in a repetitive manner. To do this, use a TEKTRONIX 4051 Desktop Computer.

Connect a GPIB cable between the port on the 4051 and the port on the DAS. Then set the DIP switch on the back of the DAS so switch number 8 is closed and all others are open.

Power-up the 4051 and enter the following program.

Table 7-4
GPIB Stimulation Program

100	ON SRQ THEN 200
110	PRINT @ 1: "ID?"
120	INPUT @ 1: R\$
130	PRINT R\$
140	GOTO 110
200	POLL A0,B0;I
210	PRINT B0
220	RETURN

This program repeatedly asks address 1 on the GPIB to identify itself. The device at address 1 should respond with its identification after each request.

Power up the DAS. When the power-up self test is finished, enter the Input Output menu. Verify that the top of the display has the message "GPIB TALK/LISTEN ADDRESS: 1".

NOTE

If the DAS does not display the proper message at the top of the screen, the interface between the I/O Interface and the DAS is not operational. Repair the DAS I/O Interface problem before repairing the GPIB.

Now enter RUN on the 4051.

1. If the DAS GPIB port is operating properly, the screen of the 4051 should display the DAS identification number, filling the entire page to the bottom.
2. If the 4051 displays "GP INTERFACE BUS I/O ERROR" on the screen, examine the Input Output menu of the DAS. Make sure the message at the top of the screen calls out address 1. If the address is not set to 1, check the setting of the DIP switch on the back of the DAS.
3. If two-way communications with the DAS cannot be established, try a one way communication.

If the DAS will not respond with its identification, the following procedure will attempt to tell the DAS to enter the Trigger Specification menu.

On the 4051, press <BREAK> twice. This will stop execution of the program. Press <HOME PAGE> on the 4051. On the 4051 enter (with no line number)

1: "TRIGGER" <CR>

The DAS screen should change to the Trigger Specification menu. If the screen does not change, the communication is not reaching the DAS. The SRQ LED on the back of the DAS should light and stay on.

- a. If the LED does not light:
 - Check the line driving the LED.
 - Check A19A1U235 pins 8, 11 and pins 9, 12. If the GPIB IC (U242) is driving the SRQ line, but the signal doesn't get through, then replace U235.
 - Replace U242.
- b. If the SRQ LED does come on:
 - Replace A19A1U242 (the GPIB IC).
 - Check the buffers driving the GPIB lines (U431, U127, U227, and U231). The GPIB stimulation program (Table 7-4) can be used to stimulate these buffers.

TROUBLESHOOTING THE COLOR MONITOR

Text Reference to Troubleshooting Chart 12, point 9.1.

At this point, the fault in the Controller with display, CRT controller, or DMA failure seems to be isolated to the color monitor circuitry.

WARNING

CRTs RETAIN HAZARDOUS VOLTAGES FOR LONG PERIODS OF TIME AFTER POWER DOWN. The monitor should be serviced only by qualified personnel familiar with CRT servicing procedures and precautions.

Before attempting to remove the monitor, or to perform any work inside the monitor, discharge the CRT by shorting the anode connection to chassis ground through a 1 M Ω resistor. When discharging, make the first connection to chassis ground, then work toward the anode making sure the shorting probe, resistor, and other conductive materials are well insulated. Allow at least five minutes for discharge of charges on dielectric materials in and around the CRT. Repeat the discharge process several times because dielectric soak-in charges tend to build up again after they have been discharged.

WARNING

USE EXTREME CAUTION WHEN HANDLING THE CRT. Rough handling may cause it to violently implode. Do not nick or scratch the glass or subject it to undue pressures during removal or installation. When handling the CRT, wear safety goggles and heavy gloves for protection.

The color monitor does not require a special extender cable. The existing cables connecting the color monitor to other DAS assemblies are long enough to connect the color monitor to the mainframe after it has been removed from the mainframe.

Remove the color monitor from the mainframe in accordance with the procedures provided in the Maintenance General Information section of this manual, or in the DAS Service Maintenance Kit Instructions.

Place the mainframe flat on the workbench with the color monitor beside the monitor compartment. Reconnect the cables to the monitor and power up the system

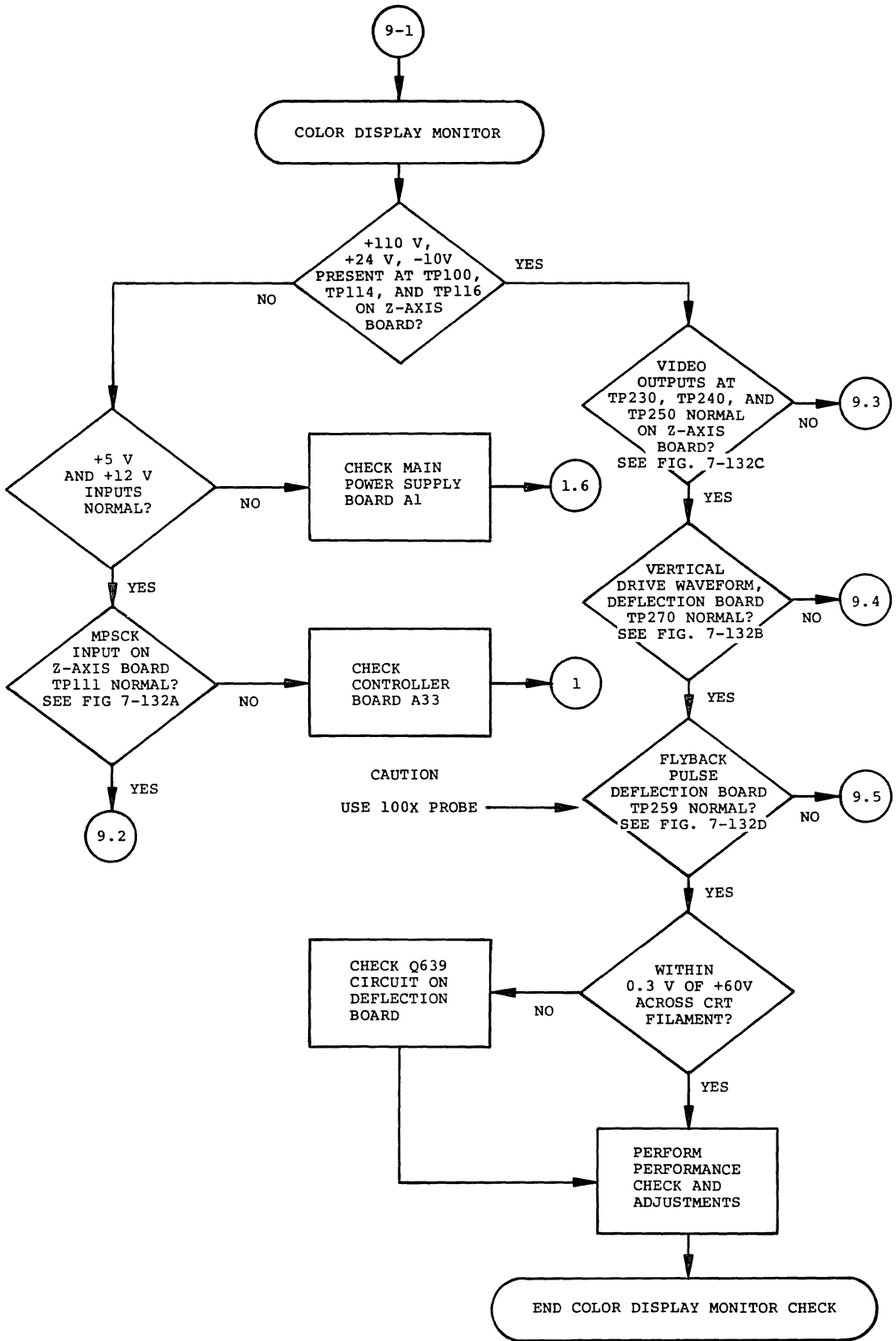


Figure 7-127. Troubleshooting Chart 12—Color Display Monitor failure (sheet 1 of 5).

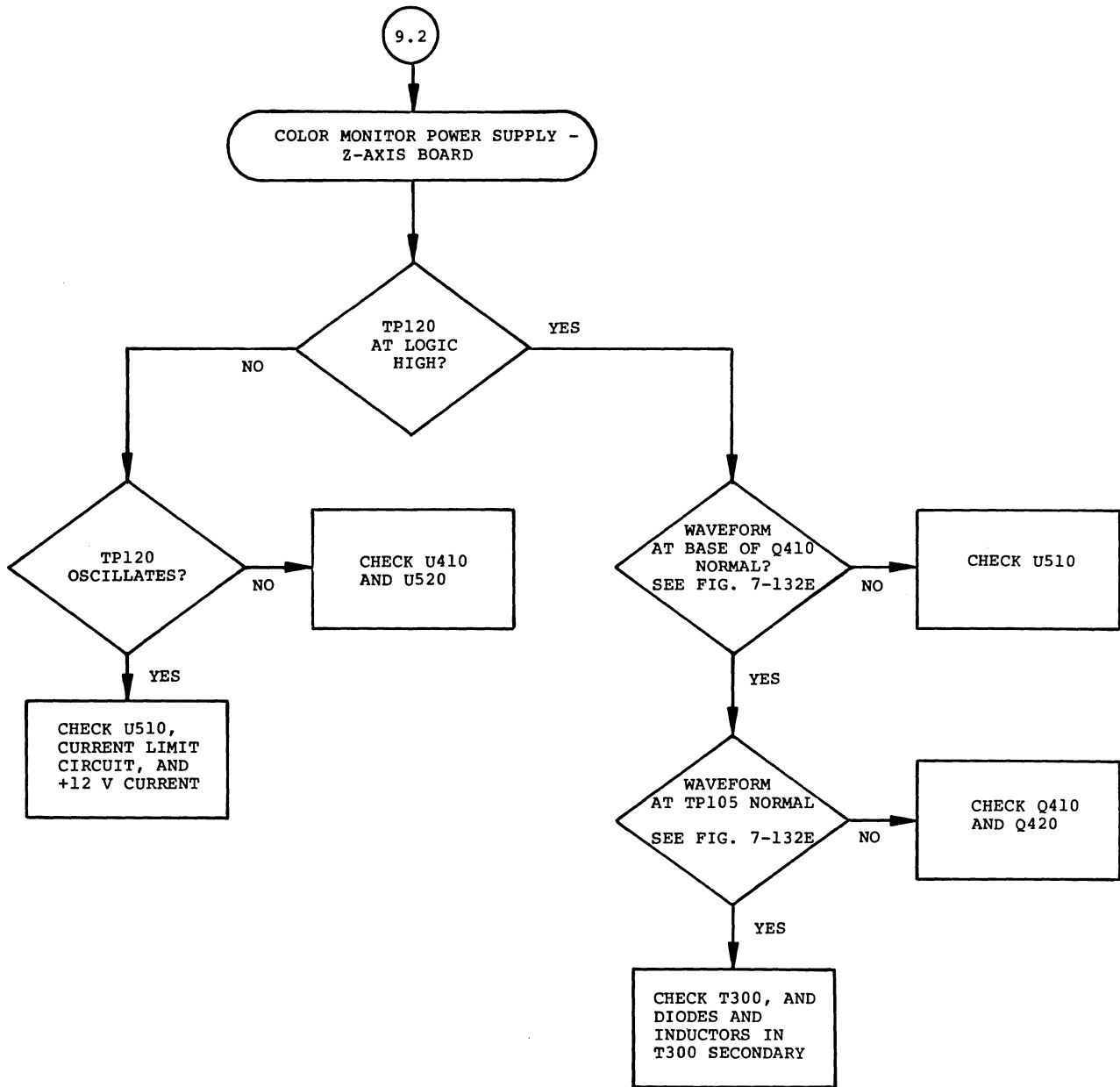


Figure 7-128. Troubleshooting Chart 12 cont (sheet 2 of 5).

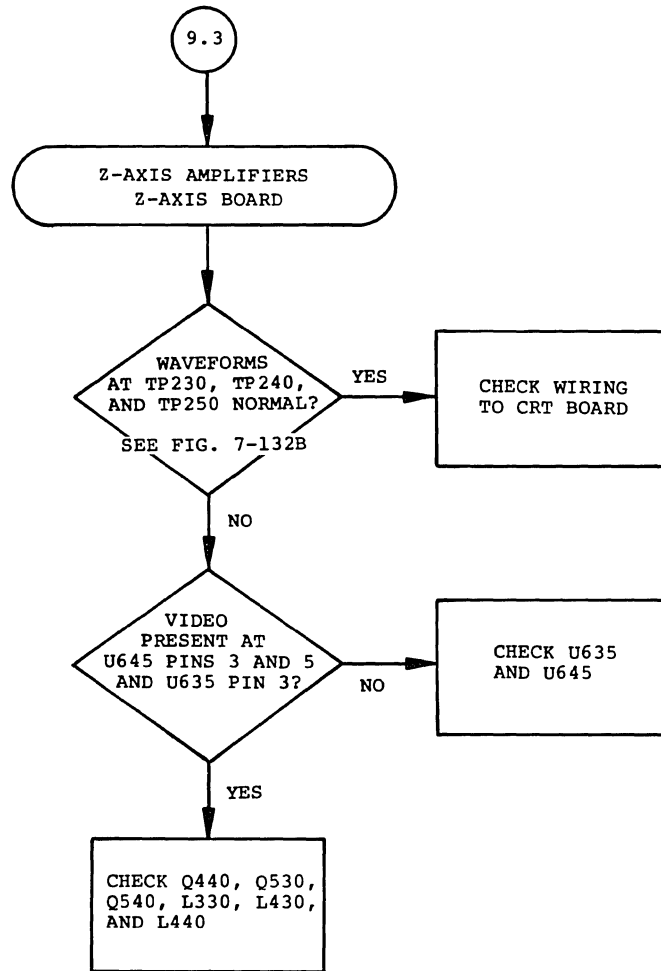


Figure 7-129. Troubleshooting Chart 12 cont (sheet 3 of 5).

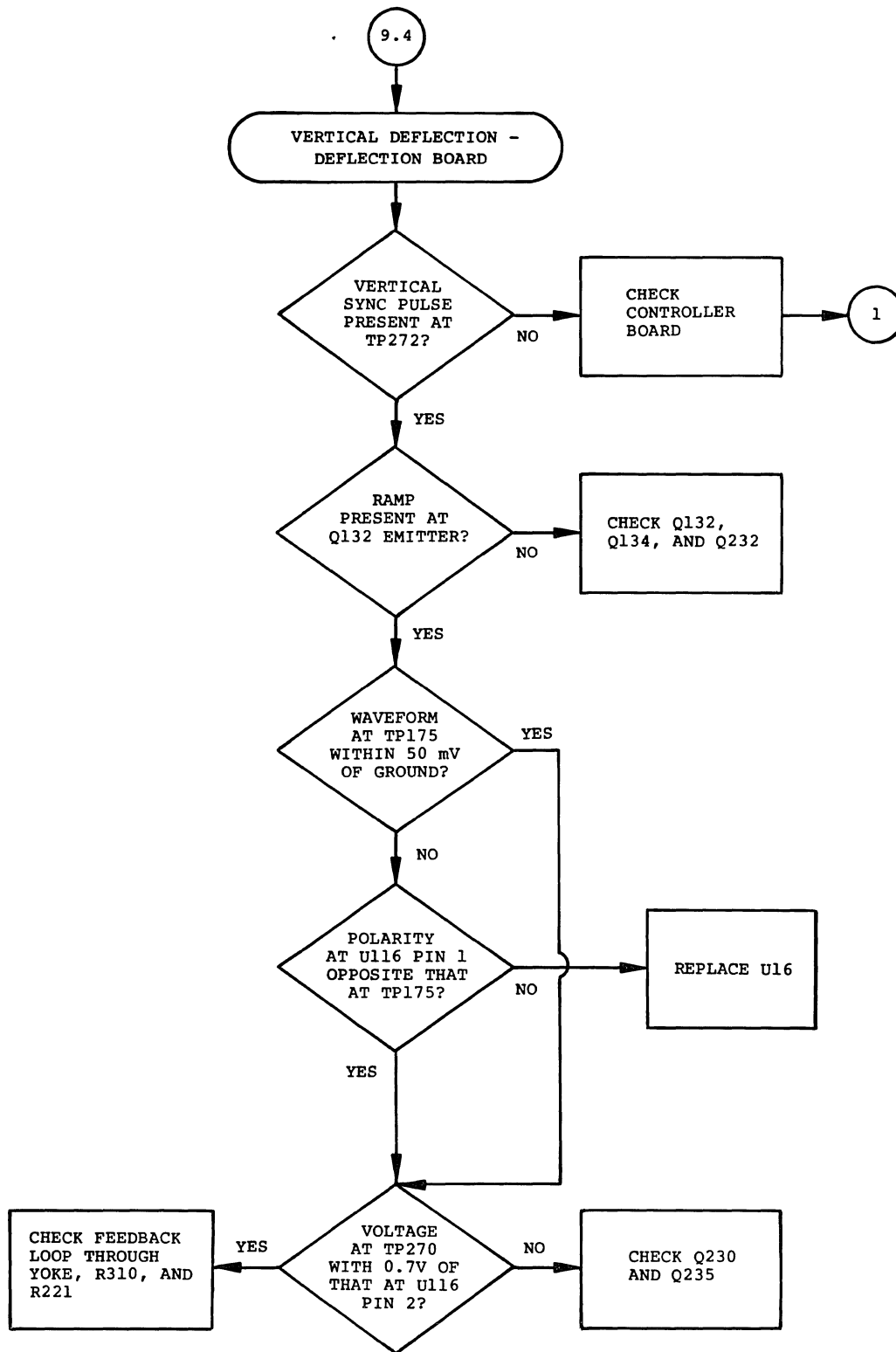


Figure 7-130. Troubleshooting Chart 12 cont (sheet 4 of 5).

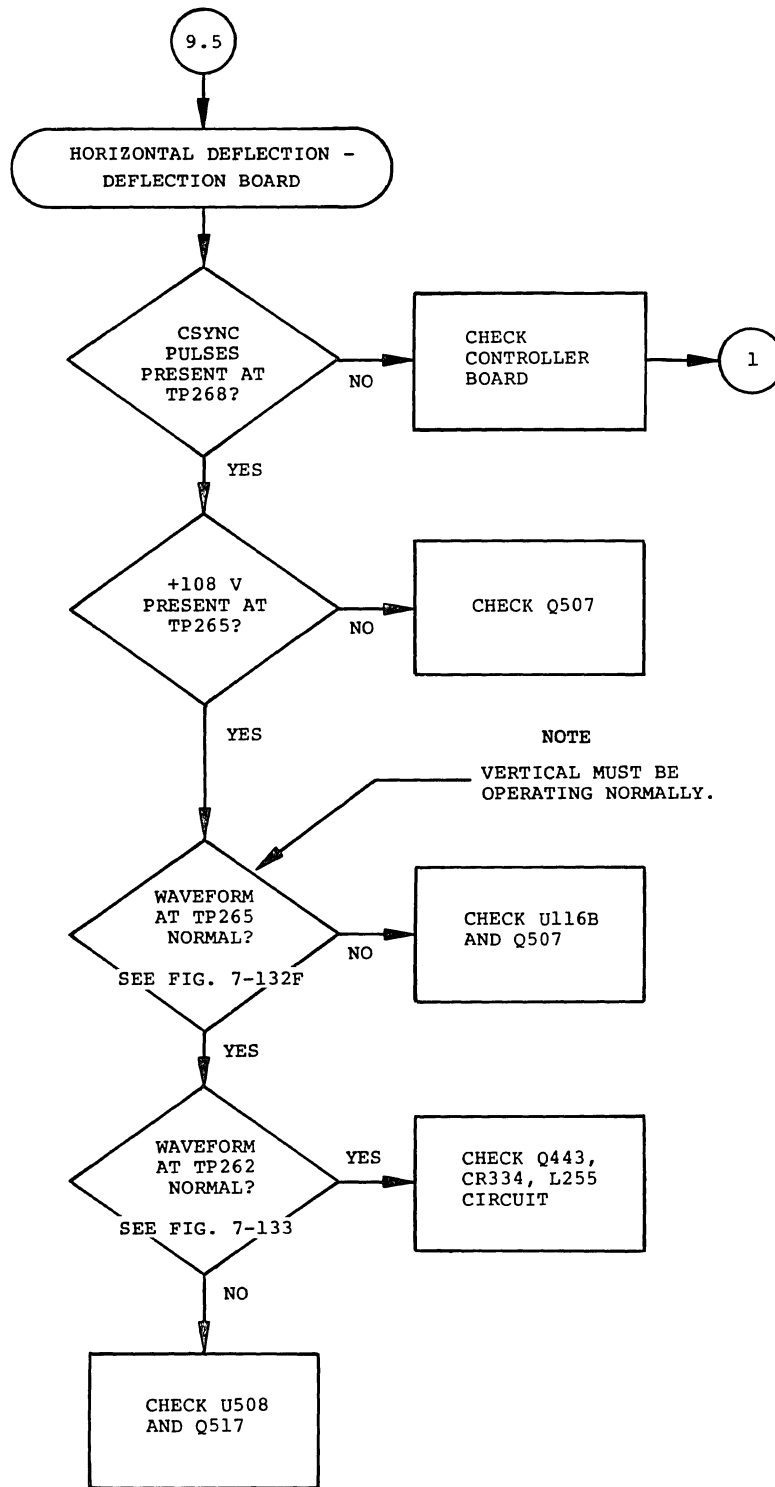
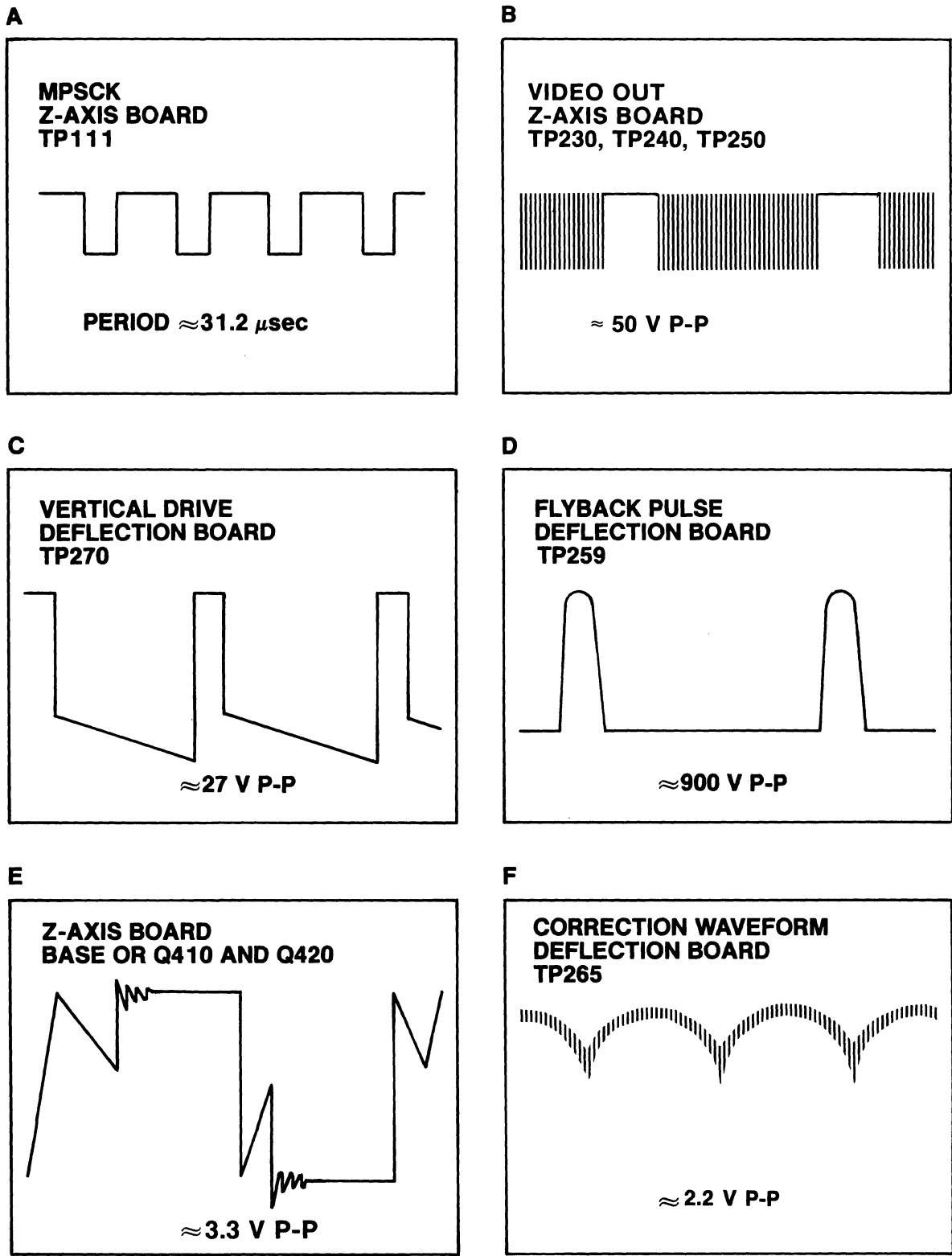


Figure 7-131. Troubleshooting Chart 12 cont (sheet 5 of 5).



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Figure 7-132. Color monitor waveforms for comparison (sheet 1 of 2).

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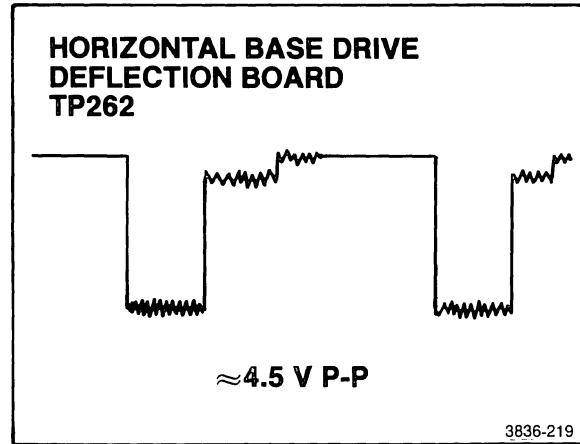


Figure 7-133. Color monitor waveforms for comparison (sheet 2 of 2).



MAINTENANCE: **8** DIAGNOSTIC TEST DESCRIPTIONS

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MAINTENANCE: DIAGNOSTIC TEST DESCRIPTIONS

This section contains detailed descriptions of all self-test diagnostics contained in the DAS. The section starts with an introduction to operating the Diagnostics menu, followed by a short description of each function. The diagnostic tests within each function are then described in detail on a board-by-board basis.

DIAGNOSTIC MENU FIELDS

There are six different user-changeable fields normally used in the Diagnostics menu. All of these fields can apply to any diagnostic test. These fields, and procedures for changing them, are described below. There may also be other changeable fields associated with individual functions. These unique fields are explained by the Diagnostics menu when they appear on the screen.

MODULE

This field is used to specify whether a single module or all of the modules are to be tested. The field may be set to a value of either SINGLE or ALL by using the SELECT key.

If the field is set to ALL, all modules in the system are run through a limited number of diagnostic functions. Not all of the diagnostic functions are run when ALL is selected in order to keep the amount of time required to run the tests reasonable.

If the field is set to SINGLE, another field (SLOT) appears that allows the user to select the specific module to be tested. All available functions for that module can then be run.

SLOT

The SLOT field appears when the MODULE field is set to SINGLE. The SLOT field is used to specify which individual module is to be tested. The individual module is specified by entering the module's bus slot number into the field.

MODE

The MODE field appears when a bus slot number has been entered into the SLOT field. The MODE field is used to specify whether a single function or all of the module functions are to be tested. The MODE field may be set to a value of either SINGLE or ALL by using the SELECT key.

When the cursor is moved to the MODE field, a list of module functions appears on the DAS screen. If the MODE field is set to ALL, all of these module functions will be tested.

If the MODE field is set to SINGLE, a new field (FUNCTION) appears which allows selection of an individual function. This individual function may then be tested.

FUNCTION

The FUNCTION field appears when the MODE field is set to SINGLE. The FUNCTION field is used to specify which one of the displayed list of functions will be tested. A function is specified by entering its corresponding number into the FUNCTION field.

LOOPING

NOTE

When the DAS self-diagnostics are in the looping mode, the signal at TP191 on the Trigger/Time Base assembly (slot 7) is switched off, then on again (toggled) at the end of each execution of any diagnostic test in the DAS. Use this test point to trigger oscilloscopes or logic analysers.

Function tests will be run once or continuously. The field may be set to a value of ON or OFF by using the SELECT key. If the field is set ON, the selected function tests will be run continuously. If it is set to OFF, the selected function tests will be run once, then stopped.

If the LOOPING field is set to ON, the diagnostics react in one of two ways, depending on whether the selected tests are non-memory or memory type. Table 8-1 lists all memory-type tests. Non-memory tests are those which are not listed in Table 8-1.

If the LOOPING field is set to ON during a non-memory test, the test will run until an error is found or until the end of the test, whichever comes first. In either case, the test then loops, and starts over again from the beginning.

If the LOOPING field is set to ON during a memory-type test, the test will run until an error is found or until the end of the test, whichever comes first. If the end of the test is reached before an error is found, the memory-type test behaves the same as a non-memory test. If an error is found, however, the test will repeatedly write to and read from the address where the failure occurred. This write/read loop will continue until the STOP key is pressed.

When the LOOPING field is set to ON, only one test in a function will loop at a time. The looping sequence starts by running the first test in a function, test 0. The SELECT key must be pressed to run the next test. All the tests in a function can be chosen by pressing the SELECT key repeatedly. Pressing SELECT while the last test of a function is looping will select the first test in the function.

Table 8-1
Diagnostic Memory Tests

91A32 Memory Tests	ACQ MEM WRD REC
91A08 Memory Tests	ACQ MEM
91P16 Memory Tests	VECTOR RAM μCODE RAM
91P32 Memory Tests	ACQ MEM

DISPLAY

The DISPLAY field only appears on the screen when the LOOPING field is set to ON and the MODE field is set to SINGLE. The field may be used to turn off the video screen during a looping test. This is useful when tracing circuits with an oscilloscope, since it helps to stabilize the oscilloscope's traces.

The DISPLAY field may be set to ON or OFF by using the SELECT key. If the field is set to ON, the video screen display is present. If the field is set to OFF, the screen is blank.

NOTE

When the DISPLAY field is set to OFF, the test loop being run can only be terminated by pressing the STOP key or by turning off power to the DAS.

When the DISPLAY field has been set to OFF and a test is being run, the following keys have these effects:

- Pressing STOP ends the test and returns the display to normal.
- Pressing SELECT displays the results of the previous test momentarily, then turns the display back off and runs the next test under the selected function.
- Pressing any key on the keyboard (except SHIFT) turns the display on momentarily.

If an error occurs while a diagnostic test is running and the DISPLAY field is set to OFF, the LOCKOUT and REMOTE indicators on the keyboard will be illuminated.

QUICK REFERENCE FUNCTION DESCRIPTIONS

The following list briefly describes the diagnostic functions for the various module types. If functions are run individually, they should be run in the order in which they are listed under the module types. Only the functions for the module in question need be run.

There are a few diagnostic functions that do not have self-readback capability (digital-to-analog converter tests, for example). These tests require the technician to monitor test points while the test is running. Non-readback tests are indicated by an * (asterisk) after the test name.

The tests in each function can be selected individually only when the diagnostics are in a looping mode. For more information, refer to the description of the LOOPING field provided earlier in this section.

CONTROLLER

KEYBD. This function allows the DAS keyboard to be tested for non-functional keys and intermittent connections.

DISPLAYS. This function provides a test for the display monitor controller part of the Controller board. It also has displays that check the CRT for phosphor faults and centering.

TAPE READ. This function has the tape drive read a tape all the way through and look for errors.

TAPE WRITE. This function has the tape drive write data onto a tape, read the tape back, and look for errors in either reading or writing.

TRIGGER/TIME BASE

WR & SEQ. This function checks the trigger-done recognition circuit in the trigger.

A COUNTER. This function verifies the operation of the A counter (occurrence counter) in the trigger circuit.

DELAY. This function exercises the delay counter and the stop-store circuit in the trigger.

91A32 GEN. This function verifies the operation of the 91A32 internal clock provided by the Trigger/Time Base Module.

91A32 SEL. This function exercises the 91A32 internal clock to make sure all possible internal clock rates can be selected.

91A08 SEL. This function exercises the 91A08 internal clock to make sure all possible internal clock rates can be selected.

DAC THRSH*. This function exercises the probe threshold DAC to verify voltage accuracy, and to make sure that all voltages may be selected.

91A32 DATA ACQUISITION

MEM ADDR. This function verifies the operation of the even-memory odd-memory address registers on the 91A32.

ACK MEM. This function checks the RAM used by the 91A32 to store acquired data.

WRD REC. This function exercises the DAC that controls the 91A32.

DAC THRSH*. This function exercises the DAC that controls probe threshold levels.

91A08 DATA ACQUISITION

MEM ADDR. This function verifies the operation of the even-memory odd-memory address registers on the 91A08.

DIFF CNTR. This function tests the difference counter in the 91A08.

DELAY CNTR. This function checks the delay counter in the 91A08 trigger.

WRD REC. This function exercises the registers that control the 91A08 word recognizers.

ACQ MEM. This function verifies the RAM used by the 91A08 to store acquired data and glitches.

DAC THRS*. This function exercises the DAC that controls the probe threshold levels.

91P16 PATTERN GENERATOR

PC. This function tests the 91P16's two program counter registers for bit independence.

VECTOR RAM. This function checks the operation of the vector RAM in the 91P16.

MICRO RAM. This function verifies the operation of the least significant eight bits of the μ Code RAM in the 91P16.

ADVANCE. This function tests the operation of ADVANCE, COUNT, REPEAT, and HOLD instructions at each μ Code RAM address.

GOTO. This function checks each address in the μ Code RAM for the ability to hold a GOTO instruction.

CALL. This function verifies the circuitry used by the CALL instruction and executes a CALL instruction from each location in the μ Code RAM.

RETURN. This function executes a RETURN instruction from each address in the μ Code RAM.

STACK RAM. This function verifies that all addresses in the μ Code RAM can be loaded and read back.

CLOCK. This function tests the clock select circuitry on the 91P16.

91P32 PATTERN GENERATOR EXPANDER

VECTOR RAM. This function verifies the operation of all vector RAMs in the 91P32.

CONTROLLER FUNCTIONAL TESTS

KEYBD (KEYBOARD)

The KEYBD function checks the ability of the mainframe keyboard to communicate with the Controller. It verifies the operation of both the keyboard (schematic 9) and the Controller's keyboard buffer (schematic 13). The hexadecimal codes for each key are shown in Figure 8-1.

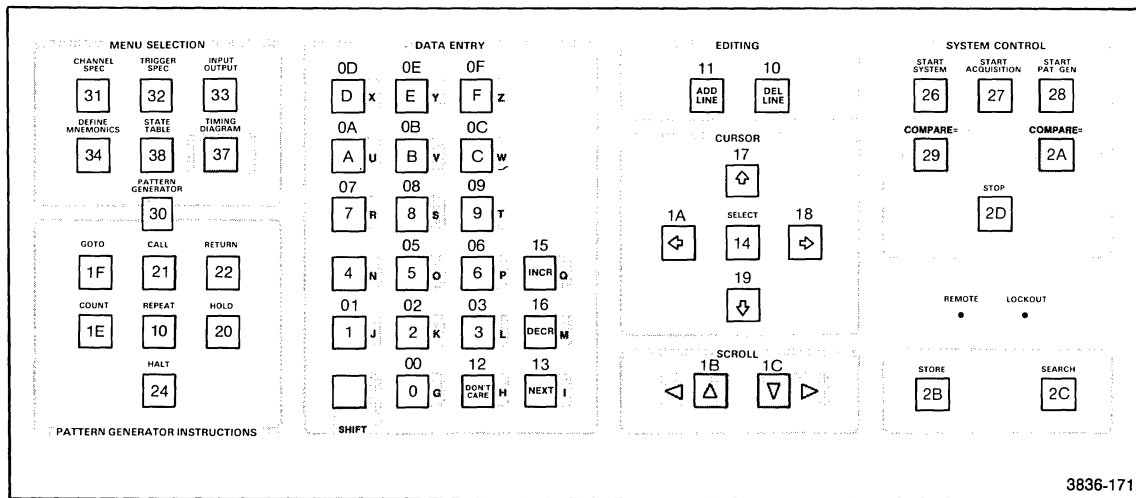


Figure 8-1. The hexadecimal codes of the DAS keyboard.

The following paragraphs describe the two tests of the keyboard function.

Test 0

In this test, the keyboard is read by the scanning decoder. The decoder scans all the keys and whenever it finds one that is depressed, it stops scanning and outputs the code corresponding to that key. At the same time, the KEY DN(H) line becomes active. This situation remains true until the key is released. Then the decoder resumes scanning and the KEY DN(H) becomes non-active.

Test 0 starts by reading the keyboard once, through buffer A6U525. If a depressed key is found, the test fails. The test stops at this point unless looping is selected.

NOTE

This test is run at power-up. If a depressed key is detected at power-up, the number corresponding to that key is shown on the display. A stuck key prevents the DAS from operation, so the keyboard must be repaired before operation can continue.

If the LOOPING field is set to ON, the test will continue to run. The last key value read by the Controller becomes the EXPECTED value. If the key read the previous time is the same as the key read this time, the test passes. The test also passes if the key is released. If the key value read by the Controller is different from the value read previously and the KEY DN(H) line is active, the test fails. While looping, this test identifies an open key (key failed to make contact). If a key different from the key previously depressed makes contact, the display flashes FAIL, then resumes showing PASS.

Test 1

In this test, the keyboard is read by a scanning decoder. The decoder scans all the keys and whenever it finds one that is depressed, it stops scanning and outputs the code corresponding to that key. At the same time, the KEY DN(H) line becomes active. This situation remains true until the key is released. Then the decoder resumes scanning and the KEY DN(H) becomes non-active.

Test 1 is a fast scanning test that reads the keyboard buffer (A6U525) and sees if there are any keys depressed. If the KEY DN(H) line is active, the test fails and the value of the depressed key is shown on the screen next to the PASS/FAIL field. The EXPECTED value is 80, which is a one bit indication of whether the KEY DN(H) line is active. If the test fails, the ACTUAL should show 00, which means the KEY DN(H) line is asserted.

If the LOOPING field is set to ON, test 1 can be used to find intermittent keys. This is done by starting the test and pushing the edges of the suspect key(s) while watching for flickers in the PASS/FAIL field. The Δ , SELECT, and STOP keys cannot be verified in this manner, since they will cause the test to be terminated. The SHIFT key can only be tested by holding down another key while checking the edges of the SHIFT keys.

DISPLAYS

The DISPLAYS function shows three different screen displays. These displays can be used to verify the operation of the Controller's character generator (schematic 12) and the display monitor (schematic 8).

The DISPLAYS function does not produce pass or fail signals. Instead the technician must examine the video screen to make sure the appropriate information is displayed. The three different screen displays are selected using the SELECT key.

The first display of the test shows a border and cross-hairs made of 8s. This display can be used to check the centering and rotation of the display area in relation to the CRT screen. (This field is red on the DAS-9129 color system.)

The second display is for the monochrome DAS (9109) only, which shows a green area anywhere a character may be displayed. This display can be used to detect phosphor defects on the screen.

The third display shows all of the characters available in the controller's character generator (schematic 12). (These characters are shown in all possible colors on the DAS 9129.) This display can be used to verify that all available characters can be created by the character generator. It also can be used on the color DAS (9129) to adjust the color balance. Figure 8-2 shows an example of this display.

The only way to exit the DISPLAYS function, once the START SYSTEM key is pressed, is to press the STOP key or to turn off power to the DAS.



Figure 8-2. All-character diagnostic display.

TAPE READ AND TAPE WRITE

The TAPE READ and TAPE WRITE functions are a part of the Controller diagnostic routine set. If the DAS being tested does not have a tape drive, these tests will not appear. To run these functions a formatted DAS tape must be inserted in the drive. Instructions for formatting a tape are given in the Operating Instructions section.

The TAPE READ function reads the data present on the tape inserted in the drive. The TAPE WRITE function writes data on a block of the tape, then reads back the data written on that block. Both functions verify one block at a time.

CAUTION

The TAPE WRITE function should be run only on a formatted but otherwise blank DAS tape. If a tape with data on it is used, the data will be erased.

Failures in the tape drive functions come from three main sources:

Operator. If a tape is not inserted in the drive, or if the tape is not DAS formatted, an error will occur.

Tape. The tape may cause an error in the TAPE READ test if it is partially erased or otherwise damaged. The tape can also cause errors in the TAPE WRITE mode if the tape is write-protected or is subject to dropout.

The tape drive unit. Hardware or software failures in the tape drive unit will cause failures in these tests.

The TAPE READ and TAPE WRITE functions write the status of the test to the display after each tape block is read or written. The categories of information reported are those shown in Table 8-2.

Table 8-2
Tape Drive Diagnostic Test Readback Fields

PASS COUNT	This is the total number of blocks read or written during the current run of the test.
HARD ERRORS	This is the cumulative number of hard errors that occurred during the current run. Hard errors are writing or reading problems such that regardless of the number of re-tries the tape drive cannot force the expected data into or out of a particular block.
SOFT ERRORS	This is the cumulative number of soft errors that occurred during the current run. Soft errors are writing or reading problems such that, given a sufficient number of re-tries, the expected data can be read from or written into the tape.
CURRENT BLOCK NUMBER	This field contains the number of the block currently being written or read. There are a total of 650 blocks on a DAS formatted tape. These blocks are numbered sequentially in decimal.
ERROR CODE	Each error distinguishable by the tape drive has an associated hexadecimal code. The ERROR CODE field shows the code for the last error to be detected by the tape drive. A code of 0000 means no error has occurred.

Table 8-3 is a list of error codes for the errors that can be detected by the tape drive. These error codes are shown in the ERROR CODE field while the tape functional test is being run.

Table 8-3
Tape Drive Diagnostic Test Error Codes

8001	This error code means the block being written to or read from has generated 32 soft errors in a row. The Controller considers 32 soft errors in a row a hard error.
8008	Two different errors can cause this error code to occur. During a read operation, this error code occurs if bytes from the tape are being passed to the tape controller IC more rapidly than the tape controller can process them. During a write operation, this code occurs if the tape drive detects that the tape cartridge is write protected.
8010	This error code means the tape drive has read a gap in the tape data where a gap was not expected. Gaps are expected between blocks on the tape. Unexpected gaps may be caused by accidental erasure of the tape due to stray magnetic fields.
8020	If this error code occurs, the tape drive has detected that the tape has been removed during tape operation.
8040	<p>This error code occurs when the tape drive detects the end of the tape at an unexpected time.</p> <p>The end of the tape can be detected in two ways. The DC100-type cartridge has holes at either end of the tape. If a hole is detected at an unexpected point, an error occurs. The other way this code is generated relates to block numbering. The number of the block being read is written at the front of each block. If the tape drive reads this block number as negative, the error code is displayed.</p>
8080	This error code means the Servo Motor Controller (A18A2U211) has made or detected an error.
8100	A checksum error, when detected by the tape drive unit, causes this error code to appear. (Each block of information on the tape has a block header that contains information such as the block number, tape type, and checksum.)
8200	This error code indicates that the block number in the block header did not read correctly, and could not be read correctly upon thirteen re-tries.
9000	This error code indicates the tape in the tape drive is not formatted correctly for use with the DAS.

TRIGGER/TIME BASE FUNCTIONAL TESTS

WR & SEQ (WORD RECOGNIZER AND SEQUENCE)

The WR & SEQ function focuses all of its tests on the B-done flip-flop (A10U245B) and the 91A32 triggered flip-flop (A10U145A). These circuits are found on schematic 18 in the Diagrams section. The tests in this function assure that the trigger flip-flops are operational and that the single-step clock is working.

The following paragraphs describe the WR & SEQ function tests. All circuit numbers in these test descriptions are assumed to have an A10 preface unless otherwise specified.

NOTE

The ADDR readout in the WR & SEQ function represents the port that is being read by the diagnostics. The ACTUAL and EXPECTED values can help find a stuck bit or a faulty IC. These tests center around two flip-flops, U245B and U145A, on the Trigger/Time Base board (A10).

Test 0

This test clears the Trigger/Time Base (asserts the CLEAR(L) line). This sets the B-done flip-flop (U245), so the Q(L) pin goes low. This low causes U145A to be reset, which makes its Q pin go low. The 91A32 TRIGRD line is then made low, and this is read back by the Controller board through buffer U177 (schematic 15). If the 91A32 TRIGRD(H) line is low, the test is passed.

Test 1

This test clears the Trigger/Time Base (asserts the CLEAR(L) line), so U245B is set. This asserts and holds the reset pin on U145A. The DIAG 91A32 TRIG(L) line then makes a pulse low, returning high. The 91A32 TRIGRD (H) line is then looked at by the Controller through buffer U177 (schematic 15). The 91A32 TRIGRD(H) line should still be held reset by U245B. If the 91A32 TRIGRD(H) line is high, either the CLEAR(L) signal failed or U245B or U145A is faulty.

Test 2

This test clears the Trigger/Time Base (asserts the CLEAR(L) line). Flip-flop U245B is then reset by the DIAG B DONE(L) line, so flip-flop U145A is no longer held reset. U145A is then set by the DIAG 91A32 TRIG(L) going low and returning high, which should make the Q pin of U145A high. The test is passed if the 91A32 TRIGRD(H) line is read as high through buffer U177 (schematic 15).

Test 3

This test clears the Trigger/Time Base (asserts the CLEAR(L) line), and then resets flip-flop U245B with the DIAG B DONE(L) line. This leaves the Q pin of flip-flop U145A low, but not held reset. The single-step clock is then used to clock the Trigger/Time Base once. The clock should make flip-flop U145A's Q pin go high. This high is read on the 91A32 TRIGRD(H) line through buffer U177 (schematic 15). The test is passed if the readback port bit 5 is high.

A COUNTER

The A COUNTER function checks the operation of the A counter's latches and counters, and checks the gates used to detect the end of the count. The main circuitry being tested can be seen on schematic 18 in the Diagrams section.

The following paragraphs describe the A COUNTER function tests. All circuit numbers in these test descriptions are assumed to have an A10 preface unless otherwise specified.

NOTE

The ADDR readout in the A counter function represents the port that is being read by the diagnostics. The ACTUAL and EXPECTED values can help find a stuck bit or a faulty IC. For example, if the ACTRL15(H) line were stuck low, the screen data on Test 0 would show:

		ADDR	EXPECTED	ACTUAL	
A COUNTER 1	TEST 0	05	08	00	*FAIL*

Test 0

This test loads FF hexadecimal into A counter latch U274 (schematic 18). Pin 12 of this latch is then read back by the ACTRL15(H) line through U177 (schematic 15). The readback data should be high.

Test 1

This test loads 00 hexadecimal into A counter latch U274 (schematic 18). Pin 12 of this latch is then read back by the ACTRL15(H) line through U177 (schematic 15). The readback data should be low.

Test 2

This test loads FF hexadecimal into both A counter latches, U271 and U274 (schematic 18). The CLEAR(L) line is then asserted, so that all the counters in the A counter (U255, U261, U161, and U165) are loaded from the latches. Pins 12 of both U261 and U165 are then checked for a high by the ACT7(H) and the ACT15(H) lines respectively. These two lines are read back through buffer U375 (schematic 15).

Test 3

This test loads 00 hexadecimal into both A counter latches, U271 and U274 (schematic 18). The CLEAR(L) line is then asserted, so that all the counters in the A counter (U255, U261, U161, and U165) are loaded from the latches. Pins 12 of both U261 and U165 are then checked for a low by the ACT7(H) and the ACT15(H) lines, respectively. These two lines are read back through buffer U375 (schematic 15).

Test 4

This test loads latch U274 (schematic 18) with 7F hexadecimal, and then loads latch U271 with FF hexadecimal. To enable the A counter section, the 1OR2 and INV3 lines are made high. The CLEAR(L) line is then asserted, which loads all the counters in the A counter (U255, U261, U161 and U165) from the latches. The counters are then clocked once by the single-step clock. The data in the counters should change to 8000. This is verified by reading the ACT7(H) line (should be low) and the ACT15(H) line (should be high) through buffer U375 (schematic 15).

The signal that clocks the counters comes from JK flip-flop U155B. This flip-flop makes a negative pulse every time CLK B(L) goes low and the AAA(H) line is high. To make the AAA(H) line high, all acquisition modules in the system are programmed to put a high on the EVENT 1(H) line of the Interconnect board. If any acquisition module has a failure in that section of its circuitry, Test 4 will fail.

If you suspect an acquisition module is causing a failure, remove all acquisition modules from the system and re-run the test. There are pull-up resistors on the Interconnect board that make the EVENT 1(H), EVENT 2(H), and EVENT 3(H) lines on the Interconnect high.

Test 5

This test loads both latch U271 and latch U274 (schematic 18) with FF hexadecimal. The CLEAR (L) line is then asserted, which loads the counters in the A counter (U255, U261, U161, and U165) from the latches. The 1OR2 and INV3 lines on the Trigger/Time Base are then asserted. This, after decoding by U451, sets the BBB(H) line always high and the CCC(H) line always low.

An FFFF from the counters makes NAND gate U248 output a low, which asserts the A DONE(L) signal. The A DONE(L) signal disables the clock to the counters so the line stays low. The Trigger/Time Base is clocked by the single-step clock five times. This causes the CLK B(L) line to clock once.

When CLK B(L) clocks flip-flop U155A (schematic 18), the clock of the B-done flip-flop (U245B) receives a rising edge. The rising edge puts a high on the Q(L) pin of U245B. This high disasserts the reset on flip-flop U145A. The single-step clock is clocked one more time. This clocks a high onto the Q pin of U145A, which asserts the 91A32 TRIGRD(H) line. The 91A32(H) TRIGRD line is then read back by the Controller through buffer U177 (schematic 15). If this readback data is high, the test is passed.

DELAY

The DELAY counter function exercises the delay counters, the stop/store flip-flop (A10U543A), and the gates that detect the end of count. The main circuitry being tested can be seen on schematic 18 in the Diagrams section.

The following paragraphs describe the DELAY function tests. All circuit numbers in these test descriptions are assumed to have an A10 preface unless otherwise specified.

NOTE

The ADDR readout in the Delay Counter function represents the port that is being read by the diagnostics. The ACTUAL and EXPECTED values can find a stuck bit or a faulty IC. For example, if the STOP STORE(H) line was stuck high, the screen data on Test 5 would show:

	ADDR	EXPECTED	ACTUAL	
2 DELAY TEST 5	02	00	01	*FAIL*

Test 0

This test loads delay counters U361 and U351 (schematic 18) with 00 hexadecimal. Pin 12 of U361 is then read back by the DC7(H) line through buffer U375 (schematic 15). This output port should read low.

Test 1

This test loads delay counters U365 and U345 (schematic 18) with 00 hexadecimal. Pin 12 of U365 is then read back by the DC15(H) line through buffer U375 (schematic 15). This output port should read low.

Test 2

This test loads delay counters U361 and U351 (schematic 18) with FF hexadecimal. Pin 12 of U361 is then read back by the DC7(H) line through buffer U375 (schematic 15). This output port should read high.

Test 3

This test loads delay counters U365 and U345 (schematic 18) with FF hexadecimal. Pin 12 of U365 is then read back by the DC15(H) line through buffer U375 (schematic 15). This output port should read high.

Test 4

This test starts by loading F (in hexadecimal) into counter U351, F into counter U361, F into counter U345, and 7 into counter U365 (schematic 18). This means the delay counter is set at 7FFF. The delay counters are then clocked once, which should cause them to output 8000. Pin 12 of U361 should be low (read back by the DC7(H) line) and pin 12 of U365 should be high (read back by the DC15(H) line). These two signals are read through buffer U375 (schematic 15).

The delay counters are clocked by the CLK(H) line through NAND gate U341C. U341C is controlled by NAND gate U461B. U461B is forced to output a high by DIAG DELAY EN(H) being low. The high from U461B allows CLK(H) to pass through U341C. CLK(H) is then single-stepped.

Test 5

This test starts by loading all the delay counters (U351, U361, U345, and U365, schematic 18) with F hexadecimal. This causes the 13-input NAND gate, U355, to output a falling edge. The falling edge goes through inverter U341A and becomes a rising edge. Because flip-flop U543A is falling-edge clocked, this does not clock the flip-flop.

Flip-flop U145A is set by DIAG 91A32 TRIG(L), so that 91A32 TRIGRD(H) goes active. DIAG DELAY EN(H) also goes low, so CLK(H) can pass through NAND gate U341C. This combination of signals sets the delay counter immediately before the delay is done.

At this point, the STOP STORE line is checked for a low by the Controller board through buffer U375 (schematic 15). A high indicates the test failed.

Test 6

This test starts by loading all the delay counters (U351, U361, U345, and U365, schematic 18) with F hexadecimal. This causes the 13-input NAND gate, U355, to go low. This low goes through inverter U341A and presents a high to the clock pin of flip-flop U543A.

The DIAG 91A32 TRIG(L) line asserts the 91A32 TRIGRD(H) line by setting flip-flop U145A. This should allow CLK(H) to pass through NAND gate U341C. The CLK(H) line is now single-stepped once.

The single-step clock causes the delay counters to wrap around to 0000 hexadecimal. This causes a rising edge to come from the 13-input NAND gate, U355. The rising edge is inverted by U341A, which clocks flip-flop U543A. When U543A is clocked, the J input is high, so the Q output goes high. This high asserts the STOP STORE(H) line, which is then checked by the Controller through buffer U375 (schematic 15).

This test simulates the action of the complete delay counter in the situation where all triggering conditions have been met and the delay is set for 0.

91A32 GEN (CLOCK GENERATOR)

The 91A32 GEN function uses the A Counter (see the A Counter function description) to verify that the 91A32 INT CLK(L) is running. These tests also check the 40 ns clock rate by comparing the 40 ns clock with the Controller clock rate. Most of the circuitry described in this test is shown on schematic 19 in the Diagrams section.

The following paragraphs describe the 91A32 GEN function tests. All circuit numbers in these test descriptions are assumed to have an A10 preface unless otherwise specified.

NOTE

The ADDR readout in the 91A32 clock generator function represents the port that is being read by the diagnostic test routine. The ACTUAL and EXPECTED values can help find a stuck bit or faulty IC. For example, if the 91A32 TRIGRD(H) line was stuck high, the screen data on Test 0 would show:

	ADDR	EXPECTED	ACTUAL	
2 91A32 GEN TEST 0	01	00	01	*FAIL*

Test 0

This test compares the Trigger/Time Base 40 ns clock rate to the Controller clock rate. E657 hexadecimal is loaded into the A Counter latches (U271 and U274, schematic 18). Then the 91A32 clock rate register U135 (schematic 19) on the Trigger/Time Base is loaded with 03 hexadecimal, which selects the 40 ns clock to be used for the 91A32 INT CK(L) signal. Finally, register U128 (schematic 17) selects the 91A32 INT CK(L) to run the Trigger/Time Base.

DMA's and interrupts on the Controller are disabled at this point so the test can accurately time. The CLEAR(L) line on the Trigger/Time Base is then asserted to load the counters in the A Counters (U255, U261, U161, and U165, schematic 18) with the contents of the A Counter latches. The CLEAR(L) also starts the selected clock through the pipelined internal timing sequencer (registers U543B and U473A on schematic 17).

After the CLEAR(L) is asserted, the Controller allows the Trigger/Time Base to run for a specific number of Controller clock periods. The Controller then examines the 91A32 TRIGRD(H) line to see if triggering has occurred. If the 40 ns clock is running too slowly, the trigger will not have occurred, the 91A32 TRIGRD(H) line will be low, and the test will fail.

Test 1

This test compares the Trigger/Time Base 40 ns clock rate to the Controller clock rate. E5F3 hexadecimal is loaded into the A Counter latches (U271 and U274, schematic 18). Then the 91A32 clock rate register U135 (schematic 19) on the Trigger/Time Base is loaded with 03 hexadecimal, which selects the 40 ns clock to be used for the 91A32 INT CLK(L) signal. Finally, register U128 (schematic 17) selects the 91A32 INT CLK(L) to run the Trigger/Time Base.

DMA's and interrupts on the Controller are disabled at this point so the test can accurately time. The CLEAR(L) line on the Trigger/Time Base is then asserted to load the counters in the A Counter (U255, U261, U161, and U165, schematic 18) with the contents of the A Counter latches. The CLEAR(L) also starts the selected clock through the pipelined internal timing sequencer (registers U543B and U473A on schematic 17).

After CLEAR(L), the Controller allows the Trigger/Time Base to run for a specific number of Controller clock periods. The Controller then examines the 91A32 TRIGRD(H) line to see if triggering has occurred. If the 40 ns clock is running too fast, the trigger will have occurred, the 91A32 TRIGRD(H) line will be high, and the test will fail.

Test 2

(This test assures that the 91A32 INT CLK(L) is running.) FFFF hexadecimal is loaded into the A Counter latches (U271 and U274, schematic 18). Then the 91A32 clock rate register U135 (schematic 19) on the Trigger/Time Base is loaded with 03 hexadecimal, which selects the 40 ns clock to be used for the 91A32 INT CLK(L) signal. Finally, register U128 (schematic 17) selects the 91A32 INT CLK(L) to run the Trigger/Time Base.

The CLEAR(L) line on the Trigger/Time Base is then asserted to load the counter in the A Counter (U255, U261, U161, and U165, schematic 18) with the contents of the A Counter latches. The CLEAR(L) also starts the selected clock through the pipelined internal timing sequencer (registers U543B and U473A on schematic 17).

After CLEAR(L) is asserted, the Controller immediately examines the 91A32 TRIGRD(H) line to see if triggering has occurred. Because the Controller runs slower than the 40 ns clock, the trigger should occur by the time the check is completed. If 91A32 TRIGRD(H) is low, the test is failed.

91A32 SEL (CLOCK SELECTOR)

The 91A32 SEL function verifies that all 91A32 clock rates can be selected. The only difference between the 91A32 SEL function tests is the clock rate tested and the value loaded into the A Counter of the Trigger/Time Base. Therefore, the structure of the tests is described only once. Information specific to each test is listed with the test.

Most of the circuitry described in these tests is shown on schematic 19 in the Diagrams section.

All circuit numbers in these tests are assumed to have an A10 preface unless otherwise specified.

NOTE

The ADDR readout on the 91A32 SEL function represents the port that is being read by the diagnostic routine. The ACTUAL and EXPECTED values can help indicate a stuck bit or faulty IC. An ACTUAL of 00 is expected. An ACTUAL of 01 indicates the A Counter finished before or after it should have (clock too fast or too slow). An ACTUAL of FF indicates the Controller finished counting before the A Counter finished (indicates a very slow clock or no clock).

All Tests

At the start of each test, a value is loaded into the A Counter latches (U271 and U274, schematic 18). The EVENT 1, EVENT 2, and EVENT 3 lines on the Interconnect board are made high by programming all data acquisition modules in the system. Also, the clock rate to be tested is selected through the 91A32 clock rate register U135 (schematic 19).

All DMAs and interrupts are disabled at this point and the CLEAR(L) line on the Trigger/Time Base is asserted. The CLEAR(L) loads the counters in the A Counter (U255, U261, U161, and U165, schematic 18) and starts the selected clock through the pipelined internal timing sequencer (registers U543B and U473A, schematic 17). The Controller now counts (at its own clock rate) until the 91A32 TRIGRD(H) line goes high. The count is then compared with the expected count (some variations in the Controller clock rate are allowed for). If the actual count does not fall within the expected bounds the test is failed. When the test or tests are finished, the DMAs and interrupts are enabled again.

Test 0

This test checks the 40 ns clock rate. The 40 ns clock is selected by loading 03 hexadecimal into register U135. The A Counter is loaded with FC21 hexadecimal.

Test 1

This test checks the 50 ns clock rate. The 50 ns clock is selected by loading 04 hexadecimal into register U135. The A Counter is loaded with FC21 hexadecimal.

Test 2

This test checks the 100 ns clock rate. The 100 ns clock is selected by loading 28 hexadecimal into register U135. The A Counter is loaded with FC21 hexadecimal.

Test 3

This test checks the 1 μ s clock rate. The 1 μ s clock is selected by loading 48 hexadecimal into register U135. The A Counter is loaded with FC21 hexadecimal.

Test 4

This test checks the 2 μ s clock rate. The 2 μ s clock is selected by loading 4C hexadecimal into register U135. The A Counter is loaded with FF9B hexadecimal.

Test 5

This test checks the 5 μ s clock rate. The 5 μ s clock is selected by loading 50 hexadecimal into register U135. The A Counter is loaded with FF9B hexadecimal.

Test 6

This test checks the 10 μ s clock rate. The 10 μ s clock is selected by loading 68 hexadecimal into register U135. The A Counter is loaded with FF9B hexadecimal.

Test 7

This test checks the 100 μ s clock rate. The 100 μ s clock is selected by loading 88 hexadecimal into register U135. The A Counter is loaded with FFFF hexadecimal.

Test 8

This test checks the 1 ms clock rate. The 1 ms clock is selected by loading A8 hexadecimal into register U135. The A Counter is loaded with FFFF hexadecimal.

91A08 SEL (CLOCK SELECTOR)

The 91A08 SEL function tests the 91A08 clock-selector latch. This latch can be seen on schematic 19 in the Diagrams section. All circuit numbers in this test description are assumed to have an A10 preface unless otherwise specified.

NOTE

The ADDR readout in the 91A08 SEL function represents the port that is being read by the diagnostic test routine. The ACTUAL and EXPECTED values can help find a stuck bit or faulty IC. For example, if the TB07(H) line were stuck high, the screen data on Test 1 would show:

	ADDR	EXPECTED	ACTUAL	
5 91A08 SEL TEST 1	05	00	01	*FAIL*

Test 0

This test loads latch U141 (schematic 19) with 80 hexadecimal. The TB07(H) line is then checked for being high by the Controller through register U177 (schematic 15).

Test 1

This test loads latch U141 (schematic 19) with 00 hexadecimal. The TB07 line is then checked for being low by the Controller through register U177 (schematic 15).

DAC THRSH (DAC THRESHOLD)

The digital-to-analog converter threshold function tests the DAC that specifies threshold levels on the External Control Acquisition Probe. Most of the circuitry being tested can be seen on schematic 17 in the Diagrams section. All circuit numbers in this test description are assumed to have an A10 preface unless otherwise specified.

This function has no readback capability, so the output of the DAC must be monitored by connecting a digital multimeter between test points TP105 (ground) and TP208 (THRESHOLD) on the Trigger/Time Base. The indication at the test point should be 0.00 V, ± 0.005 V; +1.60 V, ± 0.021 V; -1.5875 V, ± 0.021 V; and a ramp waveform. The voltage between the two test points is chosen using the SELECT key in the special DAC THRESHOLD SET field. This field only appears on the Diagnostic menu when this test has been individually selected and START SYSTEM has been pressed.

The DAC threshold test writes data corresponding to the voltage to be output. This data is latched into register U131 (schematic 17). This register then writes to the DAC U121. A value of 00 hexadecimal causes a -1.5875 V output; 80 hexadecimal causes a 0.00 V output; and FF hexadecimal causes a +1.60 V output. Ramping is done by incrementing 00 up to FF with a delay to settle the DAC.

NOTE

The steady voltages in the DAC THRSH function can be used to determine the accuracy and correct operation of the DAC circuitry. The ramp can be use to determine whether all selectable voltages are available.

91A32 FUNCTIONAL TESTS

MEM ADDR (MEMORY ADDRESS REGISTER)

The MEM ADDR function exercises the even- and odd-memory address registers (MARs) on the 91A32. These tests check most of the circuitry that addresses the acquisition RAMs. The majority of the tested circuitry is shown on schematic 24 in the Diagrams section. All circuit numbers in this test description are assumed to have an A12 preface unless otherwise specified.

NOTE

The ADDR value shown in the memory address register function represents the address of the port read by the diagnostics. Using the EXPECTED and ACTUAL values, stuck lines and faulty ICs can be detected. For example, if pin 9 of register U655B were stuck low, the screen data on Test 0 would show:

	ADDR	EXPECTED	ACTUAL	
MEM ADDR TEST 0	02	20	00	*FAIL*

Test 0

This test loads 00 hexadecimal into registers U158 and U161 (schematic 24). This is done by placing 00 on D0—D7, asserting the EMAR LD(L) line, and then toggling the MAR CLK(H) line. If all these actions are completed successfully, the EVEN WORD(H) line makes a transition high. This transition then loads 00 into the registers. The Controller board verifies the test by examining the EVEN WORD(H) line after the load. If the line is high, the test is passed.

Test 1

This test asserts the OMAR LD(L) line, which loads the contents of registers U158 and U161 (the even MAR) into registers U261 and U255C,D (the odd MAR). The even MARs is loaded with 00 hexadecimal before the test starts (see Test 0). In order to load the odd MAR, EVEN WORD(H) must go low. EVEN WORD(H) is then read by the Controller board through buffer U241 (schematic 20). If EVEN WORD(H) is low, the test is passed. Tests 0 and 1, if passed, indicate that the circuitry that loads the memory address registers is working properly.

Test 2

This test loads 80 hexadecimal into registers U158 and U161, the even MAR (schematic 24). This is done by placing 80 on D0—D7 asserting EMAR(L), then toggling MAR CLK(L). This loads the registers, which then output 80.

Next, the OMAR LD(L) line is asserted, which loads registers U261 and U255C,D (the odd MAR) with the output from the even MAR. The MAR RDBK(L) line is then asserted. This enables buffer U251, which passes the output of the odd MAR onto the data bus to be read by the Controller.

This sequence of steps is repeated, next loading the MARs with 40, then 20, down through 01 in a walking bit sequence. After each load the odd MAR is checked for the proper data content. If all the read back data is as expected, the test is passed.

If this test is passed, the MAR latches and the readback circuitry are working properly.

Test 3

This test toggles the INIT(L) line on the 91A32. This should cause register U153A (the all valid register on schematic 24) to be reset. The ALL VALID(H) line is then checked for being low through buffer U241 (schematic 20). If this line is low, the test is passed.

Test 4

This test loads FE hexadecimal into registers U158 and U161, the even MAR (schematic 24). This is done by placing FE on D0—D7, asserting the EMAR LD(L) line, and then toggling the MAR CLK(L) line. This loads the even MAR, which then outputs FE.

This output is loaded into the odd MAR (U261 and U255C,D) by toggling the OMAR LD(L) line. The EMAR LD(L) line is also made inactive.

The even MAR is then clocked twice to make it count to 00. This is done in the following steps: the MAR CLK(L) is toggled which makes the even MAR count up one (to FF). The OMAR LD(L) line is toggled to load the odd MAR with FF. The MAR CLK(L) is toggled again, which makes the even MAR count to 00. Finally the OMAR LD(L) line is toggled to load the 00 into the odd MAR.

When the odd MAR is loaded with 00, the most significant bit of the MAR makes a falling edge. This edge clocks register U153A (the all valid register), which then makes the ALL VALID(H) line go high. The ALL VALID(H) line is read by the Controller through buffer U241 (schematic 20). If the ALL VALID(H) line is high, the test is passed.

If this test is passed, the MARs are probably counting and register U153A is probably operating.

Test 5

This test loads the even MAR (U158 and U161 on schematic 24) with 00 hexadecimal. This is done by placing 00 on D0—D7, asserting the EMAR LD(L) line, and then toggling the MAR CLK(L) line. This loads the even MAR, which then outputs 00.

This output is loaded into the odd MAR (U261 and U255C,D) by toggling the OMAR LD(L) line. The EMAR LD(L) line is also made inactive.

The MARs are then advanced to FF by alternately toggling the MAR CLK(L) and the OMAR LD(L) lines. Each line gets toggled 255 times. When this toggling of lines is finished, the output of the odd MAR should read FF. This FF is then read by the Controller through buffer U251. If FF is read back, the test is passed.

ACQ MEM (ACQUISITION MEMORY)

The ACQ MEM function tests the RAMs that are used by the 91A32 to store acquired data. The main circuitry being tested is shown on schematic 23 in the Diagrams section. Refer to the schematics and to Figure 8-3 while reading this description. All circuit numbers in this test description are assumed to have an A12 preface unless otherwise specified.

The Acquisition Memory in the 91A32 acquisition module consists of two sides, even and odd. Data from the probes is loaded into the memories through data input registers. There is one set of registers for each side of memory. The sets of registers are alternately loaded, so each memory side receives alternating sets of data from the probes.

When the memory is being tested by the diagnostics, the probes are bypassed by writing data through the test bus TBD0—TBD7 (schematics 21 and 22). This data is the inverse of the data that the Controller board writes on the data bus to be written into the RAM; the Controller always writes inverted data to TBD0—TBD7. Whenever the test bus is not in use all its lines are programmed high.

Any input signals from the probes are also disabled during the memory tests by asserting the TEST BUS EN(L) line. This line pulls all input lines from the probes high through transistors Q115 and Q223 on schematic 21, and through Q418 and Q520 on schematic 22.

NOTE

In tests 0 through 3, the ADDR value in the acquisition memory function represents the port that is read by the diagnostics. In test 4, both the port being read and the memory location are shown on the screen under ADDR, port first, then the RAM address. Using the EXPECTED and ACTUAL values faults in the circuitry can be detected. For example, if data bit 6 in byte 3 of the even side memory were stuck low, then Test 4 would read:

			ADDR	EXPECTED	ACTUAL	
1	ACQ MEM	TEST 4	07 00	CA	8A	*FAIL*

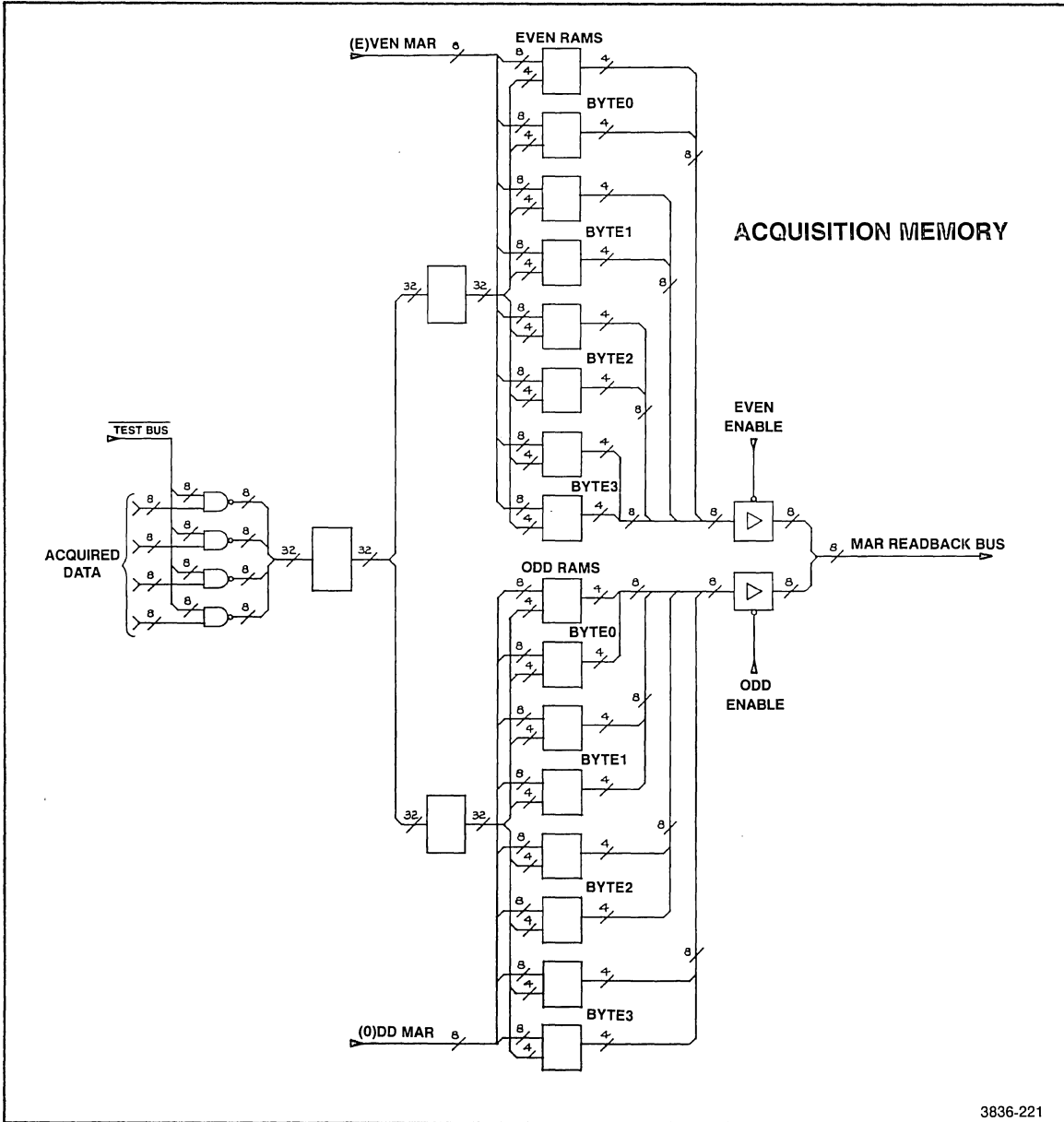


Figure 8-3. 91A32 Acquisition Memory block diagram.

Tests 0—3

All four of these tests are very similar in structure, so they will only be described in detail once. The differences between each of these tests are pointed out individually by test. These four tests verify the readback and write enable circuitry.

To initialize the board, the SINGLE STEP(H) clock is selected by writing 0 octal to clock selector U638 (schematic 24). The SINGLE STEP(H) clock will be used to load the data from the test bus (TBD0—TBD7) into the login register and the acquisition memory.

The even and odd memory address registers (MAR) are loaded with FF hexadecimal (the MARs will increment to 00 by the time the memories are loaded). The Controller board then writes 55 onto TBD0—TBD7. This presents AA AA AA AA to the login registers (U221, U121, U321, U421, U521, and U621, on schematic 23). The SINGLE STEP(H) clock is now clocked once. This clock:

1. Logs the value AA AA AA AA into the login registers;
and,
2. Makes the even MAR increment to 00.

AA AA AA AA hexadecimal is now present at the inputs to the registers in both the even and the odd acquisition memories. The Controller writes AA to the test bus, which puts 55 on the TBD0—TBD7 lines. The SINGLE STEP(H) is toggled again. This time the clock:

1. Logs AA AA AA AA into the even side memory registers;
2. Causes the even write enable generator (on schematic 24) to load the even side memory with AA AA AA AA at address 00 (where the even MAR points);
3. Logs 55 55 55 55 into the login registers; and
4. Loads the odd MAR with 00.

There is one more single-step pulse that loads the odd side memory with 55 55 55 55.

The procedure begins again by re-loading the even and odd MARs with FF, as outlined previously. The data on the test bus is left the same. The next steps will write 55 into eight bits of the even memory at address 00 while leaving the other twenty-four bits at AA.

The chip select signals on the even side RAMs come from the CS0-CS3(L) bus. The chip selects are turned off (high) for three bytes of the even RAM (U165, U168, U171, U175, U178, U181, U185, and U188, schematic 23). One byte (two RAMs) remains enabled. The SINGLE STEP(H) line is toggled once to load the login register with 55 55 55 55.

The Controller now writes 55 to the test bus, so AA AA AA AA is presented to the login registers. The SINGLE STEP(H) clock is toggled again. This time the clock:

1. Logs 55 55 55 55 into the even side memory registers;
2. Causes the even write enable generator (on schematic 24) to load the RAMs that are enabled in the even side memory;
3. Logs 55 55 55 55 into the login registers; and,
4. Loads the odd MAR with 00.

There is one more single step pulse which loads AA into the enabled odd side RAM.

The test is now complete, except for reading back the data held in the memories at address 00. The even side is read back through buffer U351 and the odd side is read back through buffer U361 (schematic 23). The data read by the Controller from the even side should be all 55's in the three bytes not being tested, and AA in the byte under test. The Controller should read AA's from three bytes of the odd memory and 55 from the byte under test.

Table 8-4 shows the expected memory contents for each test.

Table 8-4
Expected Results from ACQ MEM Tests 0 - 3

Test	Even Side				Odd Side			
	Byte 3	Byte 2	Byte 1	Byte 0	Byte 3	Byte 2	Byte 1	Byte 0
0	AA	55	55	55	55	AA	AA	AA
1	55	AA	55	55	AA	55	AA	AA
2	55	55	AA	55	AA	AA	55	AA
3	55	55	55	AA	AA	AA	AA	55

Test 0

This test verifies U185 and U188 on the even side, and U285 and U288 on the odd side.

Test 1

This test verifies U178 and U181 on the even side, and U278 and U281 on the odd side.

Test 2

This test verifies U171 and U175 on the even side, and U271 and U275 on the odd side.

Test 3

This test verifies U165 and U168 on the even side and U265 and U268 on the odd side.

Test 4

This test checks each address of the acquisition memory RAMs for bit independence. Since the previous four tests verified the operation of the write enable and readback circuitry for each byte, this description will leave out the details of the memory loading and readback procedures.

The entire memory is filled with CA, A1, or 1C. If all three of these values can be stored and read back from one location, all lines at that location are capable of both high and low values. The hexadecimal values are loaded in the following sequence:

First the whole memory is filled with the progression of CA, 1C, A1, starting with CA on the even side and A1 on the odd side.

On the second pass the memory is filled again with the same sequence, but this time starting with A1 on the even side and 1C on the odd side.

On the third and final pass, the sequence starts with 1C on the even side and CA on the odd side.

Refer to Tables 8-5a—c, which show how the memory is loaded during each of the three passes in Test 4.

Table 8-5a
Values Loaded by ACQ MEM Test 4, First Pass

Even Side					Odd Side			
Addr	Byte 0	Byte 1	Byte 2	Byte 3	Byte 0	Byte 1	Byte 2	Byte 3
00	CA	CA	CA	CA	A1	A1	A1	A1
01	1C	1C	1C	1C	CA	CA	CA	CA
02	A1	A1	A1	A1	1C	1C	1C	1C
--	--	--	--	--	--	--	--	--
FF	CA	CA	CA	CA	A1	A1	A1	A1

Table 8-5b
Values Loaded by ACQ MEM Test 4, Second Pass

Even Side					Odd Side			
Addr	Byte 0	Byte 1	Byte 2	Byte 3	Byte 0	Byte 1	Byte 2	Byte 3
00	A1	A1	A1	A1	1C	1C	1C	1C
01	CA	CA	CA	CA	A1	A1	A1	A1
02	1C	1C	1C	1C	CA	CA	CA	CA
--	--	--	--	--	--	--	--	--
FF	A1	A1	A1	A1	1C	1C	1C	1C

Table 8-5c
Values Loaded by ACQ MEM Test 4, Third Pass

Even Side					Odd Side			
Addr	Byte 0	Byte 1	Byte 2	Byte 3	Byte 0	Byte 1	Byte 2	Byte 3
00	1C	1C	1C	1C	CA	CA	CA	CA
01	A1	A1	A1	A1	1C	1C	1C	1C
02	CA	CA	CA	CA	A1	A1	A1	A1
--	--	--	--	--	--	--	--	--
FF	1C	1C	1C	1C	CA	CA	CA	CA

Whenever Test 4 is run in a Power Up situation, only location 00 in the RAMs is checked. Otherwise, all 256 locations in the memory are rechecked.

NOTE

If an error is detected in Test 4, the test shows the error results on the screen and does no further testing of the memory, unless the diagnostics are in the looping mode. If an error is detected, the results of the test are displayed as follows:

	ADDR	EXPECTED	ACTUAL
1 ACQ MEM TEST 4	PO LO	XX	XX

PO stands for the I/O port the data is read from and LO is the address of the location that failed the test. The EXPECTED and ACTUAL values should indicate which bit(s) in the byte failed. The PO value can be used to determine which byte in the acquisition memory failed. Each memory byte is read back at a different I/O port, which can be decoded as shown in Table 8-6.

Table 8-6
91A32 Acquisition Memory Readback Ports

I/O Port	Readback Byte
04	Even Side Byte 0 (U165, U168)
05	Even Side Byte 1 (U171, U175)
06	Even Side Byte 2 (U178, U181)
07	Even Side Byte 3 (U185, U188)
08	Odd Side Byte 0 (U265, U268)
09	Odd Side Byte 1 (U271, U275)
0A	Odd Side Byte 2 (U278, U281)
0B	Odd Side Byte 3 (U285, U288)

WRD REC (WORD RECOGNIZER)

The WRD REC function verifies the operation of the word recognition RAMs on the 91A32. Most of the circuitry tested is shown on schematic 25. All circuit numbers in this test description are assumed to have an A12 preface unless otherwise specified. Refer to the schematics and to Figure 8-4 while reading this description.

NOTE

If a failure is detected to test 0 or test 1, two characters will be displayed to the right of the address column. The first character will be an A indicating an even memory failure, or a B indicating an odd memory failure. The second character will be from 0 to 3 which indicate RAM sets as follows:

Character	RAM Set
0	U465 and U468
1	U471 and U475
2	U478 and U481
3	U485 and U488

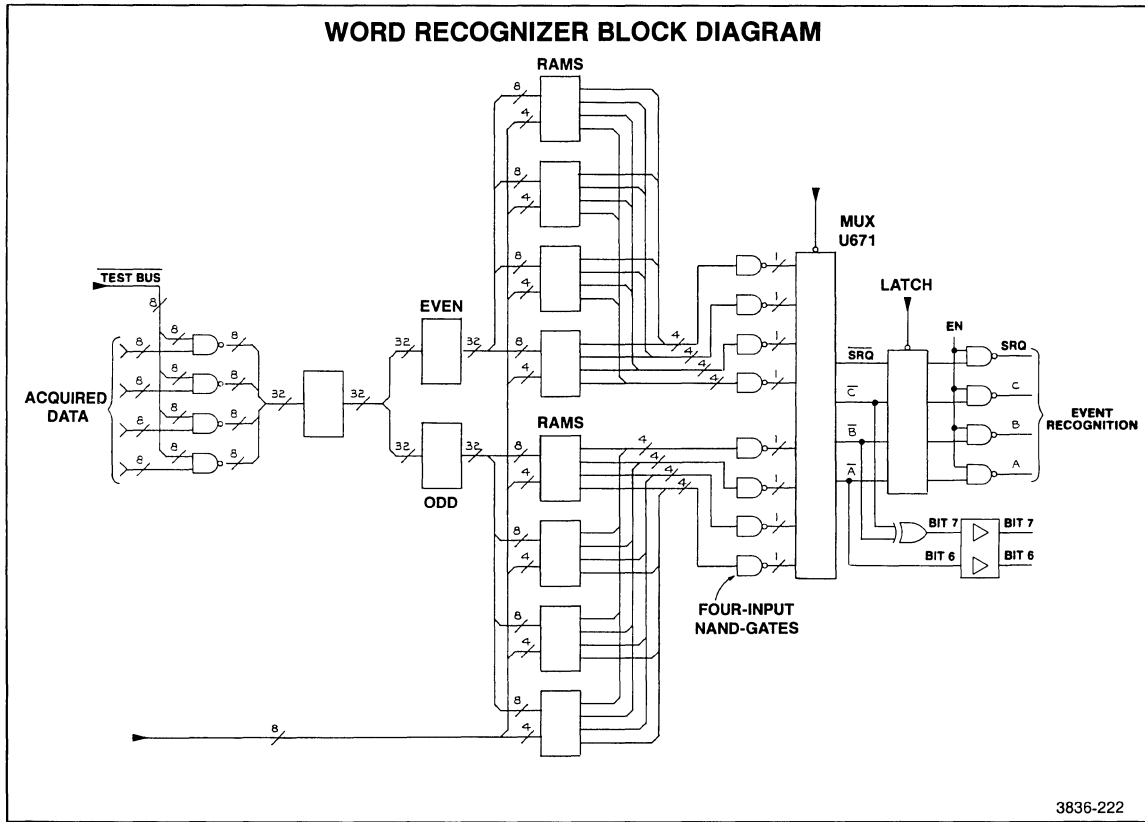


Figure 8-4. 91A32 Word Recognizer block diagram.

Word Recognizer Circuit Overview

The 32-bit-wide data from the circuit under test is placed on the address pins of the word recognizer RAM. Thus, the acquired word becomes the address to a location in the RAMs. The systems response to the acquired word depends on which bits have been set at the RAM location addressed by the acquired word.

For instance, if each word recognizer RAM contained 0001 binary at location 00 hexadecimal, then EVENT 1(H) would would go high when the module acquired 00 00 00 00 hexadecimal.

Detailed View Of The Word Recognizer

Before the 91A32 module is used to acquire data, the word recognition RAM must be programmed by the Controller board. The SINGLE STEP clock is selected to drive the 91A32 module. Next the Controller writes FF hexadecimal to the test bus, so TBD0—TBD7 holds 00. The clock is single-stepped twice, so the data on TBD0—TBD7 passes through the login register and the even acquisition memory registers.

The RAMs on the even side of the word recognizer (U465, U471, U478, and U485, on schematic 25) are now all addressed at location 00. The Controller board then loads the even word recognizer RAM at address 00 by writing data on D0—D7 and selecting the WD REC WE0(L)-WD REC WE4(L) lines to clock in the data. The data continues to be similarly addressed, loaded, and clocked until both sides of the word recognizer RAM are completely programmed.

During data acquisition, the word recognizer RAMs are addressed by the same data that is being clocked into the acquisition RAM. For a word to be recognized, all four of the RAMs on one of the sides must output highs on the corresponding bits (e.g. pin 10 of all four RAMs go high). These four lines are NANDed by a four-input NAND gate, and then passed through a demultiplexer (U671). Finally, the word recognition signals are passed through a register to go through NAND gates and become EVENT 1(H), EVENT 2(H), EVENT 3(H), and SRD0(H).

EVENT 2(H) and EVENT 3(H) are exclusive-ORed for the diagnostic test readback and EVENT 1(H) is read back directly.

NOTE

The SRD0 line is not tested or read back by these tests. This line is not currently used by the system.

Test 0

This test verifies the data lines of the 91A32 word recognition RAMs. The individual RAM ICs are verified in sets of two; an even side RAM and a corresponding odd side RAM. The test is run four times. Each time it is run, it verifies a different set of two RAMs.

The Controller board loads 0001 into address 00 of the least significant word recognizer RAMs (U645 and U648). All other RAMs are loaded with 1111 at address 00. The Controller then increments the address to 01 and loads 0010 into the least significant RAMs and, again, loads the others with 1111. The Controller increments the address again and continues to load incrementing data into the least significant RAM and 1111 into the other RAMs through address 06 hexadecimal. The data loaded into the RAMs is shown in Table 8-7.

**Table 8-7
Word Recognizer Test 0 Data**

Address (Hex)	Data (Binary)		Readback 3 XOR 2	Data 1	Display (Hex)
	RAM set under test	Other 3 RAM sets			
00	0001	1111	0	0	00
01	0010	1111	1	1	C0
02	0011	1111	1	0	80
03	0100	1111	1	1	C0
04	0101	1111	1	0	80
05	0110	1111	0	1	40
06	0111	1111	1	0	00

The Controller board then sends the same addresses to the word recognizer RAM and expects to read back the values shown under the readback data column in Table 8-7.

After the least significant RAM pair have been verified, the Controller board tests the next to least significant RAM pairs (U471 and U475) in the same way, while loading all the other RAMs with 1111. Then the next to most significant RAMs (U478 and U481) are verified the same way. Finally, the most significant RAM pair is checked (U485 and U488). This ends test 0.

NOTE

In test 0, both the even and odd sides of the word recognition RAM are checked during the same run of the test. When the data is read back at one address the even side is enabled (read back) first, followed by the odd side. In some failure modes an error is inherent to both the even and odd sides. If this occurs, the screen will always indicate that the even side failed, since the even side is read by the Controller board first.

Also, if one of the lines in a RAM cannot be programmed high, a failure may be assigned to the incorrect RAM. This is due to the RAM data passing through the 4-input NAND gates.

Test 1

This test verifies the system's ability to access all the memory locations in the word recognizer RAM. It also verifies the RAM's ability to store data.

The Controller board addresses 00, 01, 02 hexadecimal on all RAMs and loads these addresses with 0000, 0010, 0101 binary respectively. At address 03 hexadecimal, the Controller again writes 0000 binary and repeats the sequence until it has loaded address FF hexadecimal with 0010. See Table 8-8a.

The Controller then addresses all the locations in the RAM and monitors the RAM outputs through the WD1(H) and WD2 XOR 3(H) lines.

If the RAM passes this first procedure, the routine is run two more times, (or until an error is found). On the second run, the sequence begins by loading address 00 hexadecimal with 0010 binary (instead of 0000 binary). See Table 8-8b for the second data sequence.

On the third run, the sequence begins by loading address 00 hexadecimal with 0101 binary. See Table 8-8c for the third and last data sequence. Thus, all three bit patterns are loaded into each RAM location.

Table 8-8a
Word Recognizer Test 1 (First Run) Data

Address (Hex)	Data Loaded (Binary) (All RAMs)	Readback 3 XOR 2	Data 1	Display (Hex)
00	0000	0	0	40
01	0010	1	0	C0
02	0101	1	1	80
03	0000 (begin repeat)	0	0	40
04	0010	1	0	C0
--	--	-	-	--
FF	0010	1	0	C0

Table 8-8b
Word Recognizer Test 1 (Second Run) Data

Address (Hex)	Data Loaded (Binary) (All RAMs)	Readback Data		Display (Hex)
		3 XOR 2	1	
00	0010	1	0	C0
01	0101	1	1	80
02	0000	0	0	40
03	0010 (begin repeat)	1	0	C0
04	0101	1	1	80
--	--	-	-	--
FF	0101	1	1	80

Table 8-8c
Word Recognizer Test 1 (Third Run) Data

Address (Hex)	Data Loaded (Binary) (All RAMs)	Readback Data		Display (Hex)
		3 XOR 2	1	
00	0101	1	1	80
01	0000	0	0	40
02	0010	1	0	C0
03	0101 (begin repeat)	1	1	80
04	0000	0	0	40
--	--	-	-	--
FF	0000	0	0	40

DAC THRSH (DAC THRESHOLD)

The digital-to-analog converter threshold function tests the DAC that specifies threshold levels on the data acquisition probes. Most of the circuitry being tested can be seen on schematic 20 in the Diagrams section. All circuit numbers in this test description are assumed to have an A12 preface unless otherwise specified.

This function has no readback capability, so the output of the DAC must be monitored by connecting a digital multimeter between test point TP147 (ground) and the outputs of op amps U122, U133, U140, and U142 on the 91A32 (hot). The indications should be 0.00 V, ± 0.005 V; +1.60 V, ± 0.021 V; -1.5875 V, ± 0.021 V; and a ramp waveform. The voltage between the two points is chosen by using the SELECT key in the special DAC THRESHOLD SET field. This field only appears when this test has been individually selected and START SYSTEM has been pressed.

The DAC threshold test writes data corresponding to the voltage to be output. This data is latched into register U661 (schematic 20). This register then writes to the DAC, U152. 00 hexadecimal causes a -1.5875 V output. 80 hexadecimal causes a 0.00 V output; and FF hexadecimal causes a +1.60 V output. Ramping is done by incrementing 00 up to FF with a delay to settle the DAC.

NOTE

The steady voltages in the DAC threshold function can be used to determine the accuracy and correct operation of the DAC circuitry. The ramp can be used to determine whether all selectable voltages are available.

91A08 FUNCTIONAL TESTS

MEM ADDR (MEMORY ADDRESS REGISTER)

The MEM ADDR function exercises the even- and odd-memory address registers (MARs) on the 91A08. The majority of the tested circuitry is shown on schematic 29. All circuit numbers in this test description are assumed to have an A13 preface unless otherwise specified.

NOTE

The ADDR value shown in the memory address register function represents the port being read by the Controller. The ACTUAL and EXPECTED values can indicate circuitry faults to the troubleshooter. For example, if the MAR Overflow register has its Q(L) output stuck low, test 0 would read:

	ADDR	EXPECTED	ACTUAL	
0 MEM ADDR TEST 0	02	10	00	*FAIL*

In all of the MEM ADDR tests but test 0, the MARs must be loaded with data. The MAR loading sequence is given below (refer to schematic 29).

1. The MAR LD(L) line controls the MAR loading sequence. Before the MARs are loaded, the MAR LD(L) line is high. This maintains the outputs of counter U591B (in the memory read and load circuitry) at a high state.
2. The data to be loaded into the MARs is put on the ECLD0—ECLD7 bus by the Controller board.
3. The MAR LD(L) line now goes low, so the output of NOR gate U178C goes low. This allows the oscillator built around NAND gate U181B to start running. The MAR LD(L) line going low also allows the even MAR, counters U255 and U258, to be loaded with data when clocked.
4. The clock coming from NAND gate U181B causes counter U591B to increment from 0000 through 1000 binary. When 1000 is reached, the oscillator is stopped by NOR gate U178C.
5. The up count from U591B toggles the set and reset lines of register U528B. The Q(H) and Q(L) lines from register U528 clock the even and odd MARs respectively.

6. When the even MAR (U255 and U258) is clocked, the data on the ECLD0—ECLD7 bus is logged through to the Q outputs of the even MAR. When the Odd MAR (U265 and U465E,F) is clocked, the output from the even MAR gets logged into the odd MAR.
7. The above sequence is always followed whenever the MARs are loaded with data from the ECLD0—ECLD7 bus.

Test 0

This test starts by toggling the CLEAR TRIG-ECL line. This sets the MAR. Overflow flip-flop (U655B, schematic 29). The output of this flip-flop, MAR OVERFLOW(H), is then read by the Controller through buffer U681 (schematic 26). If this signal is low, the test is passed.

Test 1

This test checks for bit independence of the MARs by walking a high through all bit positions.

The test starts by toggling the CLEAR TRIG ECL(H) line, so the previous test is cleared from the circuitry. 80 hexadecimal is then loaded into the MARs as outlined at the beginning of this MEM ADDR function description.

The Controller now reads the output of the odd MAR onto the OA0—OA7 bus through buffer U685 (schematic 26). If the Controller reads the same data that was loaded into the MARs, the test continues.

The Controller follows the same procedure, loading 40 into the MARs and then reading it back. Then it loads 20 and reads it back, continuing in a walking one sequence until all bits of the MARs have been checked for independence. If all readback data matches the expected data, the test is passed.

Test 2

This test verifies that the MARs can count by loading them with FF hexadecimal, clocking them once, and seeing if they roll over to 00.

The test starts by toggling the CLEAR TRIG-ECL(H) line so the previous test does not affect the results of this test. Then the even and odd MARs (U255 and U258, and U265 and U465E,F, schematic 29) are loaded with FF hexadecimal. The MAR loading sequence is shown at the beginning of this MEM ADDR function description.

After the MARs are loaded with FF, MEM ACC EN(H) is pushed low which makes TTL MEM ACC EN(L) active. These signals stop holding counter U578 cleared and enable decoder U581.

The MEM RD(L) line is now toggled eight times. This causes counter U578 to count from 0 through 8, which is decoded by U581. As decoder U581 scans up, outputs Y0(L) and Y4(L) activate inverting input OR gates U185A and B. Y0(L) going low resets flip-flop U528 B, which causes a pulse on the EVEN CLK(H) line that makes the even MAR (U255 and U2558) increment to 00.

When Y4(L) toggles low, flip-flop U528B gets set. This logs the data output from the even MAR into the odd MAR (U265 and U465E,F). The odd MAR should now output 00 instead of FF. The OA0—OA7 bus is read by the Controller through buffer U685 (schematic 26) and compared with 00. If the Controller reads the expected data, the test is passed.

Test 3

This test verifies the operation of the MAR overflow register (U655B). The test assumes that Test 2, above, was run just before attempting Test 3. Test 2 performs some of the actions outlined below.

In Test 2 the MARs (U255, U258, U256, and U465E,F, schematic 29) in the 91A08 are loaded with FF hexadecimal. The MEM RD(L) line is then toggled eight times, which should cause both MARs to output 00. For more information on this process, refer to Test 2, above. When the odd MAR rolls over from FF to 00, the OA7 line of the OA0—OA7 bus should exhibit a falling edge. This falling edge is converted to a rising edge by inverter U558B. The rising edge clocks flip-flop U655B, so the Q(L) output goes from low to high. The MAR OVERFLOW(H) line is then read by the Controller through buffer U681 (schematic 26). If the Controller reads a high on this line, the test is passed.

DIF CNTR (DIFFERENCE COUNTER)

The DIF CNTR function verifies that the difference counter in the 91A08 can count and that the lowest eight bits of the counter are independent. The majority of the tested circuitry is shown on schematic 30. All circuit numbers in this test description are assumed to have an A13 preface unless otherwise specified.

NOTE

This function runs only on a 91A08 installed in bus slot 6 of the DAS mainframe. For 91A08 modules installed in other bus slots, this function will not appear on the diagnostics menu.

The ADDR value in the difference counter function represents the readback port used by the diagnostics. The ACTUAL and EXPECTED values should indicate possible trouble spots to the troubleshooter.

Test 0

This test starts by setting up the Trigger/Time Base. The 91A32 internal clock on the Trigger/Time Base is set to single step. The 91A32 TRIG 0(H) line (pin A18 on the High Speed Bus, schematic 3) from the Trigger/Time Base is programmed high at the same time. Setting the Trigger/Time Base this way enables the difference counter in the 91A08.

The difference counter (U588, U591A, U595B, and U595A, schematic 30) is now enabled, by 91A32 TRIGGER 0(L) being low. This makes the output of OR gate U431B low, which is converted from ECL to TTL and used to enable counter U588. The 91A32 INTL CLK SEL(L) signal is then made true (low), which selects the 91A32 internal clock to drive the difference counter.

The 91A32 internal clock is then single stepped 85 times. This should cause the difference counter to increment to 0055 hexadecimal. The Controller reads the counter through buffers U688 and U691. If the Controller reads 0055 hexadecimal, the test continues.

The Controller now single steps another 85 times, which should cause the difference counter to increment to 00AA. The Controller again reads the counter through buffers U688 and U691. If the Controller reads 00AA hexadecimal, the test is passed.

DEL CNTR (DELAY COUNTER)

The DEL CNTR function verifies that the 91A08 module's delay counter can be loaded properly and that it can count. The majority of the circuitry tested is shown on schematic 31. All circuit numbers in this test description are assumed to have an A13 preface unless otherwise specified.

NOTE

The ADDR value shown in the DEL CNTR function represents the port that the diagnostics read back. The ACTUAL and EXPECTED values should help indicate specific circuit faults. For example, if counter U155 had its outputs stuck low, test 1 would show:

			ADDR	EXPECTED	ACTUAL	
1	DEL CNTR	TEST 1	02	C0	80	*FAIL*

All of the delay counter tests require data to be loaded into the delay counter. The procedure for loading the delay counter is outlined below.

1. The delay counter has sixteen bits. For the purposes of loading, the counter is divided into the upper eight-bit section and the lower eight-bit section.
2. The Controller loads the lower eight-bit section by putting the count value into register U168 (schematic 26). The data in this register is put on the TTLD0—TTLD7 bus and the ECLD0—ECLD8 bus. The lowest four bits of the ECLD0—ECLD7 bus are used to load the lowest quarter of the counter (U428, schematic 31). The highest four bits of the TTLD0—TTLD7 bus load the top of the lowest half of the counter (U155, schematic 31).
3. The data on these busses is loaded into the lowest eight bits of the counter by toggling the EN LD DELAY 0(H) line (loads ECL data) then toggling the DELAY 0(L) line (loads TTL data).
4. The data to be loaded into the top half of the counter is now placed in buffer U168 (schematic 26) by the Controller.
5. The DELAY 1(L) line, which loads the upper half of the counter, is toggled. The delay counter is now fully loaded.

Test 0

This test checks whether the delay counter can be loaded with zeros. The counter (U145, U151, U155, and U428, schematic 31) is loaded with 0000 hexadecimal as outlined previously. The DELAY 0 BIT 4(H) and DELAY 1 BIT 0(H) lines are then read by the Controller through buffer U681 (schematic 26). If the Controller reads bits 6 and 7 from this buffer as low the test is passed.

Test 1

This test checks whether the delay counter can be loaded with ones. The counter (U145, U151, U155, and U428, schematic 31) is loaded with FFFF hexadecimal as outlined above. The DELAY 0 BIT 4(H) and DELAY 1 BIT 0(H) lines are then read by the Controller through buffer U681 (schematic 26). If the Controller reads bits 6 and 7 from the buffer as high the test is passed.

Test 2

This test verifies that the delay counter can increment. The counter (U145, U151, U155, and U428, schematic 31) is loaded with 00FF hexadecimal as outlined above.

The Trigger/Time Base now selects the single-step clock to drive the 91A08 INTL CLK lines. The clock selector on the 91A08 (U605, schematic 30) is set to pass the 91A08 INTL CLK signal. When the 91A08 is powered up, it is already set to count (a low at CE(L) on U428 in the lower 1/4 delay counter, schematic 31).

The 91A08 INTERNAL CLOCK is toggled once by the single step clock. This causes the delay counter to increment to 0100 hexadecimal. The DELAY 0 BIT 4(H) and DELAY 1 BIT 0(H) lines are then read by the Controller through buffer U681 (schematic 26). If the Controller reads bit 6 from this buffer as low and bit 7 as high, the test is passed.

WORD REC (WORD RECOGNIZER)

The WORD REC function tests verify the operation of the registers that control the word recognizers. The word recognizers themselves are not tested. The majority of the circuitry tested is shown on schematic 27. All circuit numbers in this test description are assumed to have an A13 preface unless otherwise specified.

NOTE

The ADDR value shown in the WORD REC function represents the port that is read back by the diagnostics. The ACTUAL and EXPECTED values should help indicate faulty circuitry. For example, if register U125 has its outputs stuck high, then test 0 will show:

	ADDR	EXPECTED	ACTUAL
2 WORD REC TEST 0	01	00	80 *FAIL*

Test 0

This test starts by loading 00 hexadecimal into registers U121, U125, and U128 (schematic 27). The Controller then reads back the WD REC DATA WD2(H) and WD REC CONT WC3(H) lines through buffer U678 (schematic 26). If these two lines are read as low by the Controller, the test is passed.

Test 1

This test starts by loading 00 hexadecimal into registers U121, U125, and U128 (schematic 27). The Controller then reads back the GLITCH CNTR GC1(H) line through buffer U681 (schematic 26). If this line is read as low by the Controller, the test is passed.

Test 2

This test starts by loading FF hexadecimal into registers U121, U125, and U128 (schematic 27). The Controller then reads back the WD REC DATA WD2(H) and WD REC CONT WC3(H) lines through buffer U678 (schematic 26). If these two lines are read as high by the Controller, the test is passed.

Test 3

This test starts by loading FF hexadecimal into registers U121, U125, and U128 (schematic 27). The Controller then reads back the GLITCH CNTR GC1(H) line through buffer U681 (schematic 26). If this line is read as high by the Controller, the test is passed.

ACQ MEM (ACQUISITION MEMORY)

The Acquisition Memory functional test verifies the RAMs that are used by the 91A08 to store acquired data. The main circuitry being tested by this function is shown on schematic 28. All circuit numbers in this test description are assumed to have an A13 preface unless otherwise specified. Refer to the schematics and to the 91A08 Acquisition Memory block diagram, Figure 8-5, while reading this description.

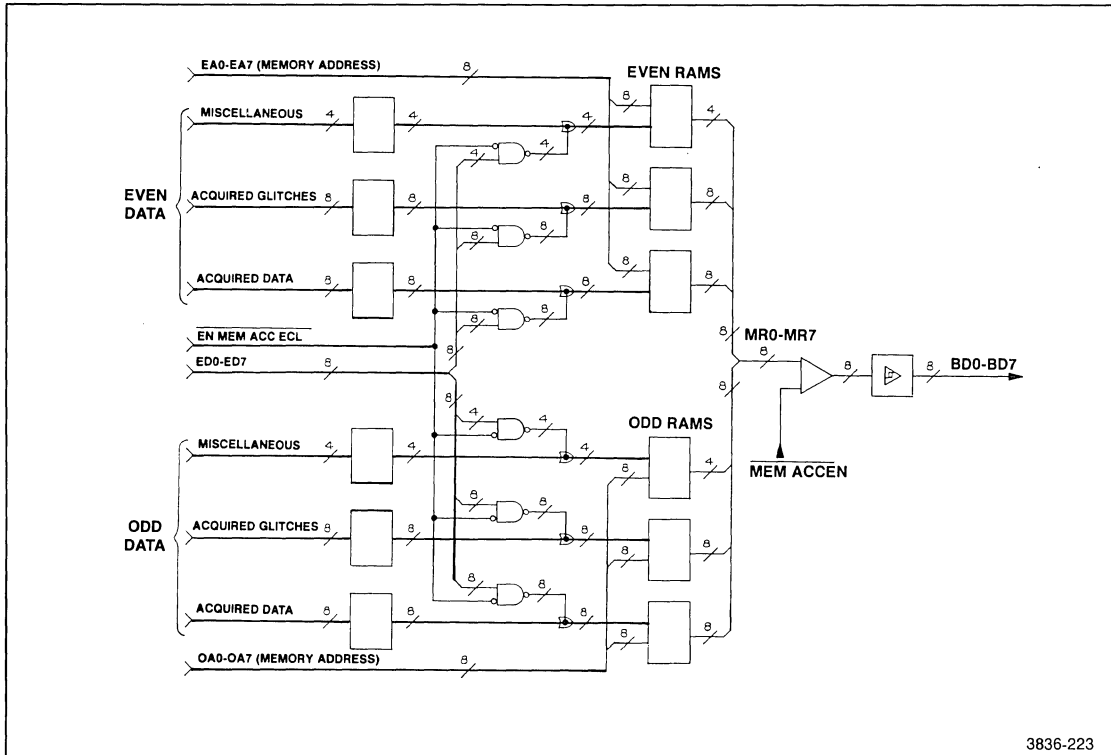


Figure 8-5. 91A08 Acquisition Memory block diagram.

NOTE

The ADDR value shown in the ACQ MEM function represents the address in the Acquisition Memory of the first detected error. The EXPECTED and ACTUAL values should indicate possible circuit faults to the troubleshooter. The EVEN and ODD labels show which side of memory had the detected failure. For example, if data bit 0 were shorted to data bit 1 on the even side, test 0 would show:

	ADDR	EXPECTED	ACTUAL	
3 ACQ MEM TEST 0	00 EVEN	AAA55	AAA57	*FAIL*
		<div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-bottom: 1px solid black; width: 10px; height: 10px; margin-right: 5px;"></div> Data </div> <div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-bottom: 1px solid black; width: 10px; height: 10px; margin-right: 5px;"></div> Glitch </div> <div style="display: flex; align-items: center;"> <div style="border-left: 1px solid black; border-bottom: 1px solid black; width: 10px; height: 10px; margin-right: 5px;"></div> Misc. </div>		

All four of the acquisition memory tests require information to be loaded into and read back from the RAMs. The memory loading procedure is outlined below.

1. The acquisition memory is organized into several subdivisions. A complete breakdown of the Acquisition Memory organization is shown below in Table 8-9.

Table 8-9
91A08 Acquisition Memory Organization

Data Type Stored	Even	Odd
Data (8 bits)	U268 and U271	U468 and U471
Glitches (8 Bits)	U278 and U281	U478 and U481
Misc (4 bits)	U285	U485

2. When writing into the Acquisition Memory, the Controller starts by setting the Even Memory Address Register (Even MAR) (U255 and U258, schematic 29) to the memory address to be written into.
3. The Controller is now set to load the even data storage RAMs (U268 and U271, schematic 28). The data to be loaded into the RAMs is put on the ECLD0—ECLD7 bus by the Controller.
4. The MEM ACC EN(H) and the ENABLE LOAD(H) lines (schematic 29) are then asserted high and held by the Controller. The data on the ECLD0—ECLD7 bus is now presented to the inputs of all the Acquisition Memory through various AND/NAND gates (schematic 28). When the MEM ACC EN(H) line is asserted, the even MAR is incremented (to the address that will be loaded) because decoder U581 and flip-flop U528 (the even-odd clock generator, schematic 29) toggle the EVEN CLK(H) line. Asserting the MEM ACC EN(H) line also sets the bank select bus, BS0—BS6, to enable the Even Data Storage RAMs. Finally, when the EVEN CLK(H) line toggles, an EVEN WE(L) signal is generated to load the RAMs. So, asserting the MEM ACC EN(H) line writes the data on the ECLD0—ECLD7 bus into the selected bank in the Acquisition Memory.
5. Still on schematic 29, the Controller now puts the data to be loaded into the next memory bank on the ECLD0—ECLD7 bus and toggles the MEM LD(L) line. The MEM LD(L) increments the BS0—BS6 bus and, because the ENABLE LOAD(H) line is high, causes both the EVEN WE(L) and the ODD WE(L) signals to be generated. This loads data into the RAM specified by the BS0—BS6 bus.
6. Toggling the MEM LD(L) line continues to load data into the acquisition memory in the following sequence:
 - Write 1 Even Data Storage (8 bits)
 - Write 2 Even Glitch Storage (8 bits)
 - Write 3 Even Misc. Storage (4 bits)
 - Write 4 No RAM
 - Write 5 Odd Data Storage (8 bits)
 - Write 6 Odd Glitch Storage (8 bits)
 - Write 7 Odd Misc. Storage (4 bits)
 - Write 8 No RAM
 - Write 9 Starts repeat of above sequence at address plus one

When all the odd-side data has been loaded, the even MAR is automatically incremented by the hardware.

7. The memory loading procedure is ended by dis-asserting the MEM ACC EN(H) line.

The memory read back procedures are similar to the data loading procedures. The read back sequence is outlined below.

1. The acquisition RAM is organized the same for read back as for loading (see 1, above, in the RAM loading procedures).
2. The MAR is set to the address to be loaded minus one (see 2, in RAM loading procedures).
3. Now the MEM ACC EN(H) line is asserted and held. This action increments the MAR and causes the bank select bus, BS0—BS6, to enable the even data storage RAM. In this way the data stored at the address specified by the MAR is put on the memory read bus, MR0—MR7.

NOTE

During the entire memory read back procedure the INH WR EN(H) line is asserted to prevent acquired data from being over-written.

4. The Controller can now read the data from the acquisition memory through buffer U685 (schematic 26).
5. To read the next eight bits of data, the Controller toggles the MEM RD(L) line. This causes the bank select bus to advance by one every time MEM RD(L) has a falling edge. The BANK SELECT BUS advances in the following sequence:
 - Read 1 Even Data Storage (8 bits)
 - Read 2 Even Glitch Storage (8 bits)
 - Read 3 Even Misc. Storage (4 bits)
 - Read 4 No RAM (0 bits)
 - Read 5 Odd Data Storage (8 bits)
 - Read 6 Odd Glitch Storage (8 bits)
 - Read 7 Odd Misc. Storage (4 bits)
 - Read 8 No RAM (0 bits)
 - Read 9 Repeat above at address plus one

When all odd data at one address has been read, the even MAR is automatically incremented by the hardware.

6. The memory readback procedure is ended by disasserting the MEM RD(L) and MEM ACC EN(H) lines.

Test 0

The Controller loads the even acquisition memory with AAA55 hexadecimal at address 00 with the procedure outlined above. Then 555AA is loaded into the odd acquisition memory at address 00. The Controller then reads back all the data stored at address 00 and compares it with the values loaded. If the values match, the test is passed.

Test 1

The Controller loads the even acquisition memory with A55AA hexadecimal at address 00 with the procedure outlined above. Then 5AA55 is loaded into the odd acquisition memory at address 00. The Controller then reads back all the data stored at address 00 and compares it with the values loaded. If the values match, the test is passed.

Test 2

The Controller loads the even acquisition memory with 5AAAA hexadecimal at address 00 with the procedure outlined above. Then A5555 is loaded into the odd acquisition memory at address 00. The Controller then reads back all the data stored at address 00 and compares it with the values loaded. If the values match, the test is passed.

Test 3

This test checks each address of the acquisition RAM for bit independence. For memory loading and readback procedures, refer to the read and write outlines, above.

The entire memory is filled with CA, A1, or 1C hexadecimal. If all three of these values can be loaded into and read back from one location in memory, all lines at that location are capable of both high and low states. The hexadecimal values are loaded in the following sequence:

Say CA is the value loaded at address 00. CA would be loaded into all of the eight-bit sets of data at address 00, both the even and odd sides. The four-bit sets of data (the miscellaneous data) is treated as though it is the lowest four bits of an eight-bit set.

The memory location is now incremented to 01 and A1 is loaded into all of the eight-bit sets of data at address 01, both the even and odd sides. Next, 1C is loaded into all RAM at address 02, and the cycle repeats. CA is loaded into address 03, A1 is loaded into address 04, etc., until all 256 RAM locations have been written to. The data stored in the acquisition memory at all addresses is then read back and compared with the data previously loaded in.

The whole process repeats two more times, each time starting the sequence at a different value—A1 then 1C. When all three load and read cycles are finished, each of the three test values will have been loaded into each byte at each memory location. See Tables 8–10 for an example of the values loaded into the acquisition memory.

Table 8-10a
Values Loaded by ACQ MEM Test 3, First Load

Even Side				Odd Side		
Addr	Data	Glitch	Misc.	Data	Glitch	Misc.
00	CA	CA	A	CA	CA	A
01	A1	A1	1	A1	A1	1
02	1C	1C	C	1C	1C	C
--	--	--	-	--	--	-
FF	A1	A1	1	A1	A1	1

Table 8-10b
Values Loaded by ACQ MEM Test 3, Second Load

Even Side				Odd Side		
Addr	Data	Glitch	Misc.	Data	Glitch	Misc.
00	A1	A1	1	A1	A1	1
01	1C	1C	C	1C	1C	C
02	CA	CA	A	CA	CA	A
--	--	--	-	--	--	-
FF	1C	1C	C	1C	1C	C

Table 8-10c
Values Loaded by ACQ MEM Test 3, Third Load

Even Side				Odd Side		
Addr	Data	Glitch	Misc.	Data	Glitch	Misc.
00	1C	1C	C	1C	1C	C
01	CA	CA	A	CA	CA	A
02	A1	A1	1	A1	A1	1
--	--	--	-	--	--	-
FF	CA	CA	A	CA	CA	C

Test 3 is not run in the power-up sequence. If an error is detected during the test, the error results are shown on the screen and the test stops, unless the diagnostics are in the looping mode. In the looping mode, if an error is found, the test will continuously read the address where the error is found until the test is stopped. This action is latched and will continue even if the error disappears.

DAC THRSH (DAC THRESHOLD)

The digital to analog converter threshold (DAC) function tests the DAC that specifies threshold levels on the data acquisition probe. Most of the circuitry being tested can be seen on schematic 26 in the Diagrams section. All circuit numbers in this test description are assumed to have an A13 preface unless otherwise specified.

This function has no readback capability, so the output of the DAC must be monitored by connecting a digital multimeter between test point TP106 (ground) and test point TP201 or TP204 on the 91A08 (positive). The indications should be 0.00 V, ± 0.005 V; +1.60 V, ± 0.021 V; -1.5875 V, ± 0.021 V; and a ramp. The voltage between the two points is chosen using the SELECT key in the special DAC THRESHOLD SET field. This field only appears when this test has been individually selected and START SYSTEM has been pressed.

The DAC threshold test writes data corresponding to the voltage to be put out. This data is latched into the DAC U118 (schematic 20). 00 hexadecimal causes a -1.5875 V output. 80 hexadecimal causes a 0.00 V output; and FF hexadecimal causes a +1.60 V output; ramping is done by incrementing 00 up to FF with a delay to settle the DAC.

NOTE

The steady voltages in the DAC threshold function can be used to determine the accuracy and correct operation of the DAC circuitry. The ramp can be used to determine whether all selectable voltages are available.

91P16 FUNCTIONAL TESTS

PC (PROGRAM COUNTER)

The Program Counter function tests two program counter registers in the 91P16 for bit independence. One register is used to address the μ Code memory and the other is used to address the vector memory. Most of the circuitry being tested can be seen on schematics 33 and 34 in the Diagrams section. All circuit numbers in this test description are assumed to have an A14 preface unless otherwise specified.

NOTE

Compare the ACTUAL and EXPECTED values in the program counter function to find a possible stuck bit or hung clock input. A hung clock line would look like:

ADDR EXPECTED ACTUAL						
0	PC	TEST 0	04	01	00	*FAIL*

The ADDR shown is the readback port the Controller checks to see if the test is passed. A hung bit will be reflected in the ACTUAL value that is read back on the screen. For example, if bit 5 were stuck high, the screen would read:

ADDR EXPECTED ACTUAL						
0	PC	TEST 0	04	01	21	*FAIL*

Test 0

This test starts by loading the D0—D7 bus on the 91P16 with 80 hexadecimal. The data on this bus is then logged into registers U541 and U445 by toggling the μ C PC LD(L) line (schematic 33). This puts an 80 on the EPC0—EPC7 bus. The contents of the EPC0—EPC7 bus are then loaded into registers U531 and U535 (schematic 34) by toggling the VCTR PC LD(L) line. The data out of these registers goes onto the PC0—PC7 bus. The PC0—PC7 bus is then read back by the Controller through comparators U321 and U325 (schematic 36).

The data read back by the Controller is compared with the expected data. If the data is good, the input bit is shifted to the right (40 hexadecimal). The test is run again using 40, then 20, each time shifting right until 01 is reached. Then the test is stopped.

If the test is in looping mode and a failure is found, the Controller stops the shift right, and continually loads the registers with the data that caused the failure.

VECTOR RAM

The Vector RAM function verifies the ability of the vector RAMs to hold a 0 and 1 in each location. The data and address lines of the Vector RAM are also checked. There are two tests in the Vector RAM function. The two tests are basically identical, so they will be described in detail only once. The differences between the tests are described under the individual tests. Most of the circuitry being tested can be seen on schematic 36 in the Diagrams section. All circuit numbers in this test description are assumed to have an A14 preface unless otherwise specified.

NOTE

The ADDR data shown in the vector memory function is the address in the memory being tested, not the readback port. If the VECTOR 0(L) line were hung, the screen would look like:

	ADDR	EXPECTED	ACTUAL	
1 VECTOR RAM TEST 0	00	0080	00XX	*FAIL*

where the XX under ACTUAL indicates random data.

Hung data and address lines can be found by observing the ADDR, EXPECTED, and ACTUAL values on the screen. For example, if address bit 2 were stuck high, the screen would read:

	ADDR	EXPECTED	ACTUAL	
1 VECTOR RAM TEST 0	04	0000	00FF	*FAIL*

Test 0—1

These tests start by setting the PC0—PC7 bus to 00 hexadecimal. This is done as discussed in the previously described Program Counter function. The D0—D7 bus on the 91P16 is then loaded with 80. The data on the D0—D7 bus is loaded into the vector memory being tested at address 00 by toggling either the VCTR 0(L) or the VCTR 1(L) lines, depending on the test performed.

The data just loaded into the vector memory should now be output by the memory. The output latches (U315, U415, U515, and U615, schematic 36) are now loaded with the output of the vector memory by holding the OUT CNTR LD(L) line low and clocking the OUT CNTR CLK(H) line.

The data logged out of the output latches is read back by the Controller through the readback circuitry (U310, U410, U510, U610, schematic 36, and U371, schematic 32). If the data read back matches the data sent, the test continues.

The data loaded into the vector memory is shifted right to 40 hexadecimal, and the above procedure is repeated. The data is shifted right again, to 20, then again, repeating the test each time until the test for 01 has been run. This part of the test is now complete and the second part is started.

If no errors occurred in the above procedure, the test continues by writing 00 hexadecimal data into each address, 00 through FF, in the vector memory being tested. When this is complete, the data at address 00 is read back by the Controller through the output latch and the readback circuitry. If the data read back is 00, an FF is loaded into the vector memory at address 00. The address then increments to 01 hexadecimal and repeats, increments again, and continues until an error is found or address FF is loaded.

After address FF has FF written into it, the vector memory being tested is addressed at 00. The data at address 00 is read back. If the data is FF, the address is incremented and the data at 01 hexadecimal is read back. This continues until address FF has been read back and found to contain FF. The test then is passed.

Test 0

This test verifies the operation of vector memory byte 0 (U421, and U425, schematic 36). The VCTR 0(L) line loads this memory.

Test 1

This test verifies the operation of vector memory byte 1 (U521, and U525, schematic 36). The VECTOR 1(L) line loads this memory.

MICRO RAM

The μ Code RAM function verifies the independence of the data and address lines of the least significant eight bits of the μ Code memory. The other five bits of the memory are tested later by the Advance, Goto, Call, and Return functions. The majority of the circuitry tested can be seen on schematic page 33. All circuit numbers in this test description are assumed to have an A14 preface unless otherwise specified.

NOTE

The ADDR data shown in the μ Code RAM function is the address in the memory being tested, not the readback port. If the μ C0(L) line is stuck high, the test will fail at the first address, showing data similar to:

	ADDR	EXPECTED	ACTUAL	
2 MICRO RAM TEST 0	00	0080	00XX	*FAIL*

where the XX under ACTUAL stands for random data.

Stuck address or data lines can be found by observing the ADDR, EXPECTED and ACTUAL values on the screen. For example, if data bit 2 were stuck high the screen would read:

	ADDR	EXPECTED	ACTUAL	
2 MICRO RAM TEST 0	00	0080	0084	*FAIL*

Test 0

PART A. This test starts by setting the D0—D7 bus to 00 hexadecimal. The μ C PC LD(L) line is then toggled to load registers U541 and U445 (schematic 33). This sets the address of the μ Code memory (U427, U431, U435, and U441) to 00.

The byte 0 of the μ Code memory is now loaded with 80 by putting 80 on the D0—D7 bus and toggling the μ C0(L) line. 80 should now be the output from byte 0 of the μ Code memory. Byte 1 of the μ Code memory is now loaded with 08 hexadecimal by putting 08 on the D0—D7 bus and toggling the μ C1(L) line. The address of the μ Code memory is left at 00.

The IR CLK(H) line is now toggled so the data from the μ Code memory is loaded into the instruction register. The important lines at this point are C0,C1(H) and the GOTO FIELD(H). C0,C1(H) is set to 01 binary because of the data loaded into byte 1 of the μ Code memory. This is decoded by the instruction multiplexer (U337, U335, U331, and U327, on schematic 34) so the GOTO FIELD(H) is put on the EPC0—EPC7 bus.

The GOTO FIELD(H) is set to 80, which was the value loaded into byte 0 of the μ Code memory. So at this point, the value loaded originally in to byte 0 of the μ Code memory has passed through the RAM, the instruction register, and the instruction multiplexer to get to the EPC0—EPC7 bus. The VCTR PC LD(L) line is now toggled so the EPC0—EPC7 bus is put onto the PC0—PC7 bus through the program counter buffer (U531 and U535, schematic 34).

The PC0—PC7 bus is then read by the Controller through the readback circuitry (schematic 36). If the PC0—PC7 bus matches the value originally put into byte 0 of the μ Code memory, the test continues.

After the first run, the Controller loads 40 into byte 0 of the μ Code memory and performs the same test. The test is repeated again, shifting the high bit right (20, 10, ..., 01) until all eight lines have been tested. If these test subsections are passed, the test continues on to the next section.

PART B. For the second part of this test, 00 is written into all addresses (00 through FF) of byte 0 of the μ Code memory. This is done in the same way the μ Code memory was loaded in the first part of the test. 01 is loaded into all addresses (00 through FF) of byte 1 of the μ Code memory.

The data in byte 0 is then read back by the Controller in the same way the data is read in the first part of the test (through the instruction register, the instruction mux, and the program counter buffer on schematic 34). The data at address 00 hexadecimal is read and compared with 00. If the data matches, that address has FF written into it and the address is incremented. The test continues until all addresses in byte zero have been read back and over-written with FF.

Finally, the data in byte 0, address 00 is read by the Controller and compared with FF. If the data matches, the address is incremented and another comparison is made, until all addresses have been read again and found to contain FF. If the test gets to this point, the test is passed.

ADVANCE

The advance (blank), COUNT, REPEAT, and HOLD instructions all use basically the same circuitry in the 91P16. Therefore, all these instructions are tested under the Advance function. There is a separate test for the operation of each instruction. All circuit numbers in this test description are assumed to have an A14 preface unless otherwise specified.

NOTE

In test 0 only the ADDR value shown in the advance function is the address in the RAM that failed, not the readback port. All of the other tests give the ADDR value as the readback port used by the Controller to read test data.

Test 0

This test verifies the operation of the advance instruction. The test starts by loading 00 binary into bits D3 and D4 of byte 1 of the μ Code memory (U427 and U431, schematic 33). This data is loaded into all addresses in the memory (00 through FF). This sets an advance instruction at every location in the μ Code memory.

00 hexadecimal is now put on the EPC0—EPC7 bus. This is done by putting 00 on the D0—D7 bus and toggling the UC PC LD(L) line. This loads registers U541 and U445 (schematic 33) with 00. This 00 controls the EPC0—EPC7 bus. The value on the EPC0—EPC7 bus is input to the advance generator (U545, U551, U645, and U651, schematic 34). The advance generator adds one to the value on the EPC0—EPC7 bus and puts it through registers U367 and U471.

The 91P16 module's clock selector (U617, schematic 35) is now set to pass the SINGLE STEP (L) line, which then clocks the module. The 91P16 is clocked once. This clocks the output of the advance generator into the instruction multiplexer input. The 00 binary on the C0,C1(H) bus is decoded by the instruction multiplexer (U337, U335, U331, and U327, schematic 34) to pass the PC + 1 value on to the EPC0—EPC7 bus.

The clock single steps again. This puts the value on the EPC0—EPC7 bus onto the PC0—PC7 bus by clocking registers U531 and U535 (schematic 34). The PC0—PC7 bus is then read by the Controller through the RVB0—RVB7 bus (schematic 36).

When each clock pulse occurs, the value on the EPC0—EPC7 bus is used to address new data from the μ Code memory. If the advance generator and the instruction multiplexer are working properly, each time the 91P16 is clocked during this test, the EPC0—EPC7 bus will increment by one. The value readback by the Controller should be the value on the EPC0—EPC7 bus minus 1 (due to registers U531 and U535).

The single step clock toggles 257 times. After each clock, the Controller reads the value of the PC0—PC7 bus. If the value on the PC0—PC7 bus does not increment properly, the test fails.

Test 1

This test verifies the count circuitry. The test starts by writing a COUNT instruction (0010 hexadecimal) to the μ Code memory (U427, U431, U435, and U441, schematic 33) at address 00. This consists of setting the address of the μ Code memory to 00 through registers U445 and U541. Byte 0 of the memory is then loaded with 10 hexadecimal and byte 1 is loaded with 00. This μ Code data executes a COUNT instruction of the duration specified at address 0 of the clock control RAM (U145 and U151, schematic 35).

Address 00 of the vector memory (U421 and U425, schematic 33) now has 00 loaded into byte 0. This is the value that the instruction will count up from.

The clock control RAM (U151 and U145, schematic 35) now has 55 hexadecimal written to address 000. 55 is the complement of the number of times the COUNT instruction will increment (170 decimal increments). The 91P16 module's clock selector (U617, schematic 35) is now set to pass the SINGLE STEP(L) line, which then clocks the module. The clock is toggled 170 times. The clock signals should cause the 91P16 module to execute the programmed instructions. It should start by outputting 00, then counting up at each clock. When the clocking is done, the Controller reads the output latches through the readback circuitry (schematic 36). If the Controller reads an output of AA from byte 0 of the output latches, the test is passed.

Test 2

This test verifies the repeat circuitry. The test starts by writing a REPEAT instruction (0020 hexadecimal) to the μ Code memory (U427, U431, U435, and U441, schematic 33) at address 00. This consists of setting the address of the μ Code memory to 00 through registers U541 and U445. Byte 0 of the memory is then loaded with 20 hexadecimal and byte 1 is loaded with 00. This μ Code data executes a REPEAT instruction of the duration specified at address 0 of the clock control RAM.

Address 00 of the vector memory (U421, U425, U521, and U525, schematic 33) now has AA loaded into byte 0. This is the value to be repeated by the REPEAT instruction.

The clock control RAM (U151 and U145, schematic 35) now has 55 hexadecimal written to address 0. 55 is the complement of the number of clock cycles the REPEAT instruction will last (170 decimal clock cycles).

The 91P16 module's clock selector (U617, schematic 35) is now set to pass the SINGLE STEP(L) line, which then clocks the module. The clock is toggled 170 times. The clock signals should cause the 91P16 to execute the programmed instructions. It should start by outputting AA, then repeating this value at each clock. When the clocking is done, the Controller reads the output of the output latches through the readback circuitry (schematic 36). If the Controller reads an output of AA from byte 0 of the output latches, the test is passed.

Test 3

This test verifies the hold circuitry. The test starts by writing a HOLD instruction (0040 hexadecimal) to the μ Code memory (U427, U431, U435, and U441, schematic 33) at address 00. This consists of setting the address of the μ Code memory to 00 through registers U541 and U445. Byte 0 of the memory is then loaded with 40 hexadecimal and byte 1 is loaded with 00. This μ Code data executes a HOLD instruction of the duration specified at address 0 of the clock control RAM.

Address 00 of the vector memory (U421, U425, U521, and U525, schematic 33) now has AA loaded into byte 0. This is the value to be held by the HOLD instruction.

The clock control RAM (U151 and U145, schematic 35) now has 55 hexadecimal written to address 0. 55 is the complement of the number of clock cycles the HOLD instruction will last (170 decimal clock cycles).

The single step clock is now selected to run the Pattern Generator. The clock is toggled 170 times. While clocking, the 91P16 should be executing the programmed instructions. It should start by outputting AA, then holding this value for 170 clocks. When the clocking is done, the Controller reads the output of the output latches through the readback circuitry (schematic 36). If the Controller reads an output of AA from byte 0 of the output latches, the test is passed.

GOTO

The GOTO function verifies that each location of the μ Code memory can hold a GOTO instruction. Most of the circuitry tested can be seen on schematic 33. All circuit numbers in this test description are assumed to have an A14 preface unless otherwise specified.

NOTE

The value shown in the ADDR field in the GOTO function is the address in the RAM that failed, not the readback port used by the Controller.

Test 0

This test starts by loading a GOTO instruction into all addresses (00 through FF) of the μ Code memory (U427, U431, U435, and U441, schematic 33). This is done by writing 08 into byte 1 in all addresses. Then byte 0 of the μ Code memory is filled with an incrementing hexadecimal pattern so that address 00 contains 0001, address 01 contains 0002, etc.

Registers U541 and U445 (schematic 33) are now loaded with 00, so the 91P16 starts its program from address 00 in the μ Code memory. The 91P16 module's clock selector (U617, schematic 35) is now set to pass the SINGLE STEP(L) line, which then clocks the module.

The 91P16 is now clocked once the Controller reads the value on the PC0—PC7 bus through the readback circuitry (schematic 36). After the first clock it should read 00. If the value read is the expected one, the single step clock is toggled again. This sequence of clock-then-read continues until all addresses in the μ Code memory have been tested. Each time the clock line is toggled, the value read by the Controller on the PC0—PC7 bus should increment by one. If this pattern follows through from addresses 00 through FF, the test is passed.

CALL

The Call function verifies the circuitry used by a CALL instruction, and tests every location in the μ Code memory for its ability to hold a CALL instruction. Most of the circuitry tested can be seen on schematics 33 and 34. All circuit numbers in this test description are assumed to have an A14 preface unless otherwise specified.

NOTE

The ADDR field shown in the call function contains the address in the RAM where the failure occurred, not the readback port used by the controller.

Test 0

This test starts by loading byte 1 of the μ Code memory (U427, U431, U435, and U441, schematic 33) with CALL instructions (10 hexadecimal) at all addresses. Then byte 0 of the μ Code is loaded with an incrementing pattern with address 00 holding 01, address 01 holding 02, address 02 holding 03, etc.

Registers U541 and U445 are now loaded with 00, so the 91P16 starts its program from μ Code address 00. The 91P16 module's clock selector (U617, schematic 35) is now set to pass the SINGLE STEP(L) line, which then clocks the module.

The 91P16 is clocked once. This should log the value on the EPC0—EPC7 bus (00 hexadecimal) onto the PC0—PC7 bus, which can be read by the Controller. That clock pulse also activates the CALL instruction that was stored in μ Code memory at address 00. That instruction CALLED address 01, so the EPC0—EPC7 bus should change to address 01.

The Controller now reads the data on the PC0—PC7 bus. It should contain 00 at this point, and increment each time the 91P16 gets clocked. If the Controller does read 00, the 91P16 gets clocked again. After each clock the Controller reads the PC0—PC7 bus again and expects to find the value it read just previously, incremented by one.

This continues until the Controller has clocked the 91P16 256 times. The value read now should be FF. If so, the test is passed.

RETURN

The Return function verifies that the return circuitry works and that each location in μ Code memory is capable of holding a RETURN instruction. Most of the circuitry tested can be seen on schematics 33 and 34. All circuit numbers in this test description are assumed to have an A14 preface unless otherwise specified.

NOTE

The ADDR value shown in the return function indicates the address in the RAM that failed, should a failure occur. If a WE(L) line to memory fails, the test will fail at address 01 (byte 0 of the μ Code RAM).

Test 0

The test starts by loading a CALL instruction into μ Code memory (U427, U431, U435, and U441, schematic 33) address 00. This is done by loading 10 hexadecimal into byte 1 of the memory, and 01 into byte 0. The rest of the μ Code memory is filled with RETURN instructions. This means filling byte 1 at addresses 01 through FF with 18 hexadecimal.

Registers U541 and U445 (schematic 33) are now loaded with 00 so the 91P16 starts its program from location 00 in the μ Code memory. The 91P16 module's clock selector (U167, schematic 35) is now set to pass the SINGLE STEP(L) line, which then clocks the module twice. The first clock should load 00 into the PC0—PC7 bus and cause the μ Code memory to CALL address 01. The second clocking should make the μ Code memory RETURN to address 00, and load 01 into the PC0—PC7 bus. The Controller now reads the PC0—PC7 bus through the readback circuitry (schematic 36). If it reads 01, the test continues by loading address 00 of byte 0 of the μ Code memory with 02. This will cause the CALL instruction to CALL address 02. The 91P16 is again clocked twice, and the PC0—PC7 bus is read back. If the Controller reads 02 it loads address 00 of byte 0 of the μ Code memory with 03 and clocks the 91P16 twice.

This sequence continues until all addresses in the μ Code memory except 00 (i.e., addresses 01 through FF) have been CALLED and RETURNed from. If this is completed without incident, the test is passed.

STACK RAM

The Stack RAM function verifies that all locations in the call stack (U251 and U351, schematic 34) can be loaded and read back. The call stack consists of a memory address counter and two 4x16 bit RAMs. Most of the circuitry tested can be seen on schematics 33 and 34. All circuit numbers in this test description are assumed to have an A14 preface unless otherwise specified.

NOTE

The ADDR value shown in the Stack RAM function represents the stack address that was in use when the failure was detected. If no error occurs, then the ADDR field should read 04, which is the last address read in the call stack.

Test 0

This test starts by loading the following instructions into locations 0 through 31 in the μ Code memory (U427, U431, U435, and U441, schematic 33):

Sequence #	Instruction	μCode Data
0	CALL 2	1003
1	RETURN	18XX
2	CALL 4	1004
3	RETURN	18XX
4	CALL 6	1007
5	RETURN	18XX
6—27	(Repeat the pattern)	
28	CALL 30	101F
29	RETURN	18XX
30	ADVANCE	0008
31	RETURN	18XX

Registers U541 and U445, schematic 33, are then loaded with 00 hexadecimal. This finalizes the setup of the 91P16. The 91P16 is now ready to run the loaded instructions starting at sequence 0.

The 91P16 module's clock selector (U617, schematic 35) is now set to pass the SINGLE STEP(L) line, which then clocks the module. The 91P16 is then single stepped 16 times. This should load the call stack (U251 and U351, schematic 43) with data equal to 2 through 30 (decimal) incremented by 2 (2, 4, 6,..., 28, 30), so all 16 addresses in the call stack are used.

The single step clock is toggled once more. This causes the advance instruction at sequence 30 to be executed. The 91P16 is now ready to execute the RETURN instruction at sequence 31. The PC0—PC7 bus on the 91P16 is now read by the Controller. The Controller expects to read 1F hexadecimal.

If The Controller finds the expected data, the 91P16 is clocked again. This causes the RETURN at sequence 31 to be executed. The Pattern Generator program should now RETURN to sequence 29. The Controller reads the PC0—PC7 bus again, expecting to find 1D hexadecimal (29 decimal). If the Controller reads the expected value, the Pattern Generator is clocked again, so the RETURN at sequence 29 is executed. This pattern continues until all RETURN instructions in the Pattern Generator program have been executed (from sequence 31 through 3).

The test is passed if all of the RETURN instructions are executed correctly. Since there are sixteen RETURN instructions, all addresses in the call stack are loaded and read by this test.

CLOCK

The Clock function tests the clock select circuitry of the 91P16. Most of the circuitry tested can be seen on schematic 35. All circuit numbers in this test description are assumed to have an A14 preface unless otherwise specified.

NOTE

The ADDR value shown in the clock function is always 00, because that is the only address used in the μCode memory. The EXPECTED and ACTUAL values should indicate trends to the troubleshooter, should the test FAIL.

Test 0

The 91P16 module's clock selector (schematic 35) is programmed to select the 91A08 INTL CLK(L) signal. The 91A08 internal clock on the Trigger/Time Base is then programmed to single step.

Reception of the 91A08 internal clock selector is verified by programming the 91P16 to a COUNT instruction, and seeing if the 91A08 internal clock causes the pattern generator output to count up to the proper quantity. The μ Code memory (U427, U431, U435, and 441, schematic 33) has a COUNT instruction loaded into address 00 (10 hexadecimal is loaded into the low order byte, 00 hexadecimal is loaded into the high order byte). Byte 0 of the vector memory (U421 and U425, schematic 36) now has 00 written into address 00. This is the value that the COUNT instruction increments from.

The clock control RAM (U145 and U151, schematic 35) has 55 hexadecimal loaded into address 0. 55 hexadecimal is the complement of the number of times the 91P16 will increment (AA hexadecimal is the actual number of counts).

The test is now ready to run. The Controller single steps the 91A08 internal clock on the Trigger/Time Base 170 times (AA hexadecimal). When the single stepping is finished, the 91P16 should output AA from its B Connector in the rear of the DAS. When the Controller is done single stepping, it reads the RVB0—RVB7 bus (schematic 36) to see if output vector byte 0 is AA. If the Controller reads AA from this output, then the test is passed.

Test 1

The 91P16 module's clock selector (U617, schematic 35) is programmed to select the 91A32 INTL CLK(L) signal. The 91A32 internal clock on the Trigger/Time Base is then programmed to single-step.

Reception of the 91A32 internal clock is verified by programming the 91P16 to a COUNT instruction, and seeing if the 91A32 internal clock causes the pattern generator output to count to the proper quantity. The μ Code memory (U427, U431, U435, and U441, schematic 33) has a COUNT instruction loaded into address 00 (10 hexadecimal is loaded into the low order byte, 00 is loaded into the high order byte). The byte 0 of the vector memory (U421, and U425, schematic 36) now has 00 written into address 00. This is the value that the COUNT instruction counts up from.

The clock control RAM (U145 and U151, schematic 35) has 55 hexadecimal loaded into address 00. 55 hexadecimal is the complement of the number of times the 91P16 will increment (AA hexadecimal is the actual number of counts).

The test is now ready to run. The Controller single-steps the 91A32 internal clock on the Trigger/Time Base 170 times (AA hexadecimal). When the single-stepping is finished, the 91P16 should output AA from its B Connector in the rear of the DAS. When the Controller is done single-stepping, it reads the RVB0—RVB7 bus (schematic 36) to see if output vector byte 0 is AA. The Controller reads AA from this output, the test is passed.

91P32 FUNCTIONAL TESTS

VECTOR RAM

The Vector RAM function verifies the ability of the vector RAMs to hold a 0 and 1 in each location. Data and address line independence of the vector RAMs is also checked. Most of the circuitry being tested can be seen on schematics 38 and 39 in the Diagrams section. All circuit numbers in this test description are assumed to have an A17 preface unless otherwise specified.

NOTE

The ADDR data shown in the vector memory function is the address in the memory being tested, not the readback port. If the VECTOR 2(L) line were hung, the screen would look like:

```

                                ADDR EXPECTED ACTUAL
VECTOR RAM TEST 0  00  00000080 000000XX  *FAIL*
    
```

where the XX under ACTUAL stands for random data.

Hung data and address lines can be found by observing the ADDR, EXPECTED, and ACTUAL values on the screen. For example, if address bit 2 were stuck high, the screen would read:

```

                                ADDR EXPECTED ACTUAL
0 VECTOR RAM TEST 0  04  00000000 000000FF  *FAIL*
    
```

There are four tests in the Vector RAM function. These tests are basically identical, so they will be described in detail only once. The differences between the tests are described under the individual tests.

Test 0—3

These tests start by setting the PC bus (PC0—PC7) of the 91P16 (A14) to 00 hexadecimal. The PC bus on the 91P16 addresses the vector RAM on the 91P32 module. The D0—D7 bus on the 91P32 module is then loaded with 01. The data on the D0—D7 bus is loaded into the vector RAM being tested at address 00 by toggling the VCTR 2(L), VCTR 3(L) VCTR 4(L) or the VCTR 5(L) line. (For specific schematic references please refer to the individual test, below.)

The data just loaded into the vector RAM should now be output by the memory. The output latches (U115, U315, U318, U415, U515, and U615, schematics 38 and 39) are now loaded with the output of the vector RAM. The data logged out of the output latches is read back by the Controller through the readback circuitry (many comparators and U635, on schematics 38 and 39). If the data read back matches the data sent, the test continues.

The data loaded into the vector RAM at address 00 hexadecimal is shifted left to 02 hexadecimal, and the above procedure is repeated. The data is shifted left again, to 04, then again, repeating the test each time until the test for 80 has been run. This part of the test is now complete and the second part is started.

If no errors occurred in the above procedure, the test continues by writing 00 hexadecimal data into each address, 00 through FF hex, in the vector RAM being tested. When this is complete, the data at address 00 is read back by the Controller through the output latch and the readback circuitry. If the readback data is 00 hexadecimal, an FF is loaded into the vector memory being tested at address 00 hexadecimal. The address then increments to 01 and repeats, increments again, and continues until an error is found or address FF is written into.

After address FF has FF written into it, the Vector Memory being tested is addressed at 00. The data at address 00 is readback. If the data is FF, the address is incremented and readback. This continues until address FF has been read back and found to contain FF. The test then is passed.

Test 0

This test verifies the operation of vector memory byte 2 (U125, and U131, schematic 38). The VCTR 2(L) line loads this memory.

Test 1

This test verifies the operation of Vector Memory byte 3 (U325, and U331, schematic 38). The VCTR 3(L) line loads this memory.

Test 2

This test verifies the operation of Vector Memory byte 4 (U425, and U431, schematic 39). The VCTR 4(L) line loads this memory.

Test 3

This test verifies the operation of Vector Memory byte 5 (U525, and U531, schematic 39). The VCTR 5(L) line loads this memory.

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GENERAL INFORMATION

SELF-DIAGNOSTICS IN LOOPING MODE

Whenever the DAS self-diagnostics are in looping mode, TP191 on the Trigger/Time Base (slot 7) toggles at the end of each execution of any diagnostic test. Use this test point to trigger oscilloscopes or logic analyzers.

TROUBLESHOOTING THE CONTROLLER BOARD KERNEL

The suggested method for exercising the kernel of the DAS Controller board is forcing the microprocessor to execute NOP instructions. The NOP command for a Z80 is 00 hexadecimal.

The easiest method for forcing the NOP instruction is to remove A6U555 (the data bus buffer) from the Controller board. Replace the buffer with a 1 k Ω single-in-line resistor pack, installing pin 1 of the resistor pack in pin 10 of the socket that held the buffer.

A 1 k Ω resistor pack is included in the DAS 9100 Series Service Maintenance kit. The resistor pack is stored in one of the spare sockets in the lower right corner of the main extender board.

DAS CHARACTER SET

The DAS uses a modified version of the standard ASCII character set (see Table 9-1). This set is only used to generate characters for the display monitor. If the DAS online debugging tool (ODT) is used to load characters for display into the DAS system RAM, then DAS character set codes should be loaded. There is no correspondence between DAS keyboard codes and the DAS character set.

Table 9-1
DAS Character Set

Hexadecimal ASCII Character Set Waveform	Hexadecimal ASCII Character Set Waveform	Hexadecimal ASCII Character Set Waveform	Hexadecimal ASCII Character Set Waveform
20 ! m -	30 0 0 .	40 @ @ _	50 P P L
21 " # 	31 1 1 .	41 A A J	51 Q Q I
22 # # 	32 2 2 	42 B B J	52 R R U
23 \$ J	33 3 3 	43 C C J	53 S S ■
24 % L ■	34 4 4 .	44 D D .	54 T T I
25 & & ■	35 5 5 ■	45 E E ■	55 U U ■
26 ' ' ■	36 6 6 ■	46 F F .	56 V V I
27 ((■	37 7 7 ■	47 G G ■	57 W W ■
28)) ■	38 8 8 ■	48 H H L	58 X X L
29 * * ■	39 9 9 ■	49 I I -	59 Y Y T
2A + + ■	3A : : ■	4A J J ■	5A Z Z ■
2B , , ■	3B ; ; ■	4B K K ■	5B [[■
2C - - ■	3C < < ■	4C L L -	5C \ \ I
2E . . ■	3D = = ■	4D M M ■	5D]] I
2F / / ■	3E > > ■	4E N N -	5E ^ ^ I
	3F ? ? ■	4F O O ■	5F - - ■

MEMORY MAP

Table 9-2 gives the locations of various elements of the DAS memory system. This table may be used in combination with the DAS online debugging tool (ODT) for troubleshooting DAS firmware and kernel problems.

Table 9-2
DAS Memory Map

FFFF	Patch ROM
E000	
C000	32K RAM
A000	
8000	
6000	
4000	Runtime ROM
2000	
0000	Interp ROM

LOADING THE 91A08 ACQUISITION MEMORY

This is the sequence used by the DAS firmware to load the 91A08 acquisition memory. This information may be useful when troubleshooting acquisition memory problems.

1. Load the first address to be written to into the MAR (memory address register) (address 3 hex).
2. Load the qualifier and memory control register (address C hex) with C0 hex.
3. Load the qualifier and memory control register (address C hex) with E0 hex.
4. Load the qualifier and memory control register (address C hex) with 60 hex.
5. Write the desired data to the memory load line (address 4 hex). Data will be loaded in the following sequence:
 - Even side data
 - Even side glitches
 - Even side miscellaneous data
 - Data ignored
 - Odd side data
 - Odd side glitches
 - Odd side miscellaneous data
 - Data ignored
 - Even side data at previous address + 1

After the memory has been loaded, write 00 to the qualifier and memory control register (address C hex).

READING THE 91A08 ACQUISITION MEMORY

This is the sequence used by the DAS firmware to read the 91A08 acquisition memory. This information may be useful when troubleshooting acquisition memory problems.

1. Load the qualifier and memory control register (address C hex) with 80 hex.
2. Load the first address to be read back into the MAR (address 3 hex).
3. Load the qualifier and memory control register (address C hex) with C0 hex.
4. Read the desired data from the memory read line (address 4 hex). Data will be read in the following sequence:
 - Even side data
 - Even side glitches
 - Even side miscellaneous data
 - Data ignored
 - Odd side data
 - Odd side glitches
 - Odd side miscellaneous data
 - Data ignored
 - Even side data at previous address + 1
5. After the memory has been read, write 00 to the qualifier and memory control register (address C hex).

MAIN EXTENDER BOARD

Use the main extender (in the DAS 9100 Series Service Maintenance Kit) when troubleshooting any DAS instrument module. The extender board elevates the module to be tested out of the mainframe so test points and components are accessible.

SIGNAL TEST POINTS AND JUMPERS

Each instrument module has an A side and a B side. The B side of a module holds all of the components on the board, while the A side is the solder side. The main extender board also has an A side and a B side. Each side is labeled at the top and bottom of the board. The extender pulls A-side signals through to the B side, so all signals on the board are accessible in the same area. Each signal is passed through a two-pin terminal connector and a test point, then A-side signals are routed back to the A side of the board. Signals can be prevented from leaving or entering the module being tested by removing the appropriate terminal connector. The signal lines are numbered beneath the row of A-side terminal connectors.

Figure 9-1 shows the rows of A-side and B-side terminal connectors and test points. Note the four ground connections.

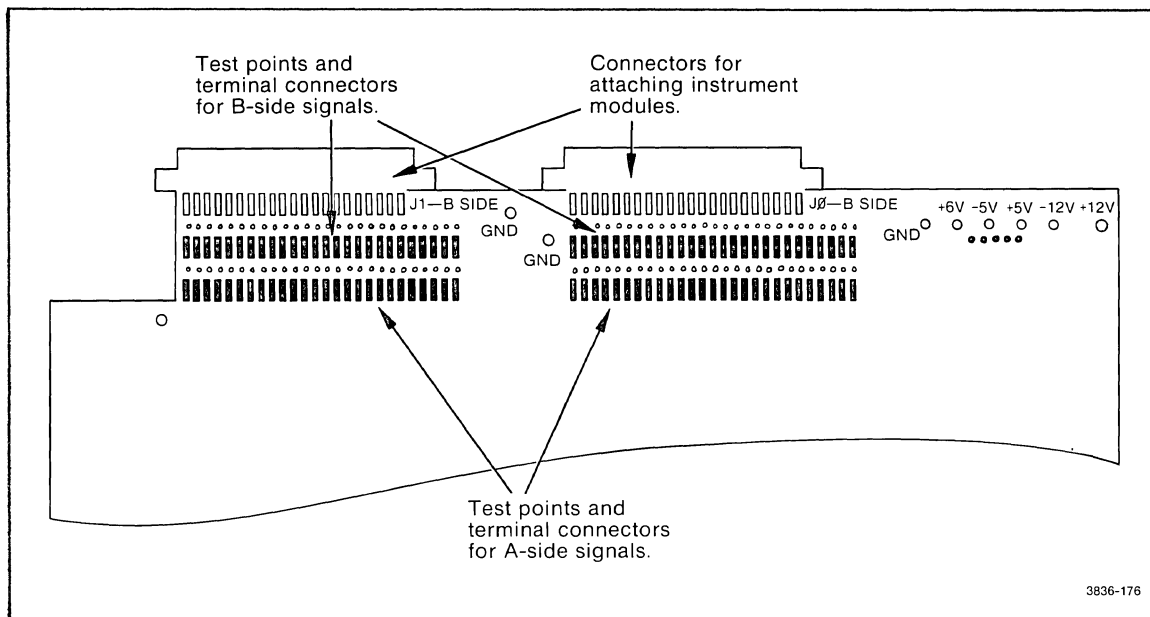


Figure 9-1. Main extender A-side and B-side terminal connectors and test points.

POWER INDICATOR LIGHTS

Five red LEDs in the upper right corner of the main extender board indicate the presence of +6 V, -5 V, +5 V, -12 V, and +12 V (left to right).

HIGH-SPEED BUS BUFFERS

High-speed instrument modules can operate while connected to the main extender board. Buffers located on the lower left side of the extender help isolate the extender “stub” from the high speed bus. The termination of signals is changed, but not the signals themselves.

When troubleshooting modules in mainframe bus slots 1 through 6, activate the buffers by placing the ten terminal connectors (located on the lower left side of the extender board) over the upper two pins. When troubleshooting the Controller or Trigger/Time Base modules (slots 0 and 7) place the terminal connectors on the lower two pins.

MAIN POWER SUPPLY EXTENDER BOARD

WARNING

Hazardous voltages are exposed during troubleshooting procedures using the main power supply extender board. Use extreme caution.

Use the main power supply extender (in the DAS 9100 Series Service Maintenance Kit) when troubleshooting the DAS Main Power Supply. The extender board elevates the board out of the mainframe so test points and components are accessible. Figure 9-2 illustrates the proper connection of the extender and supply.

NOTE

For detailed instructions for removing the Main Power Supply, refer to the disassembly procedures in the Maintenance: General Information section of this manual.

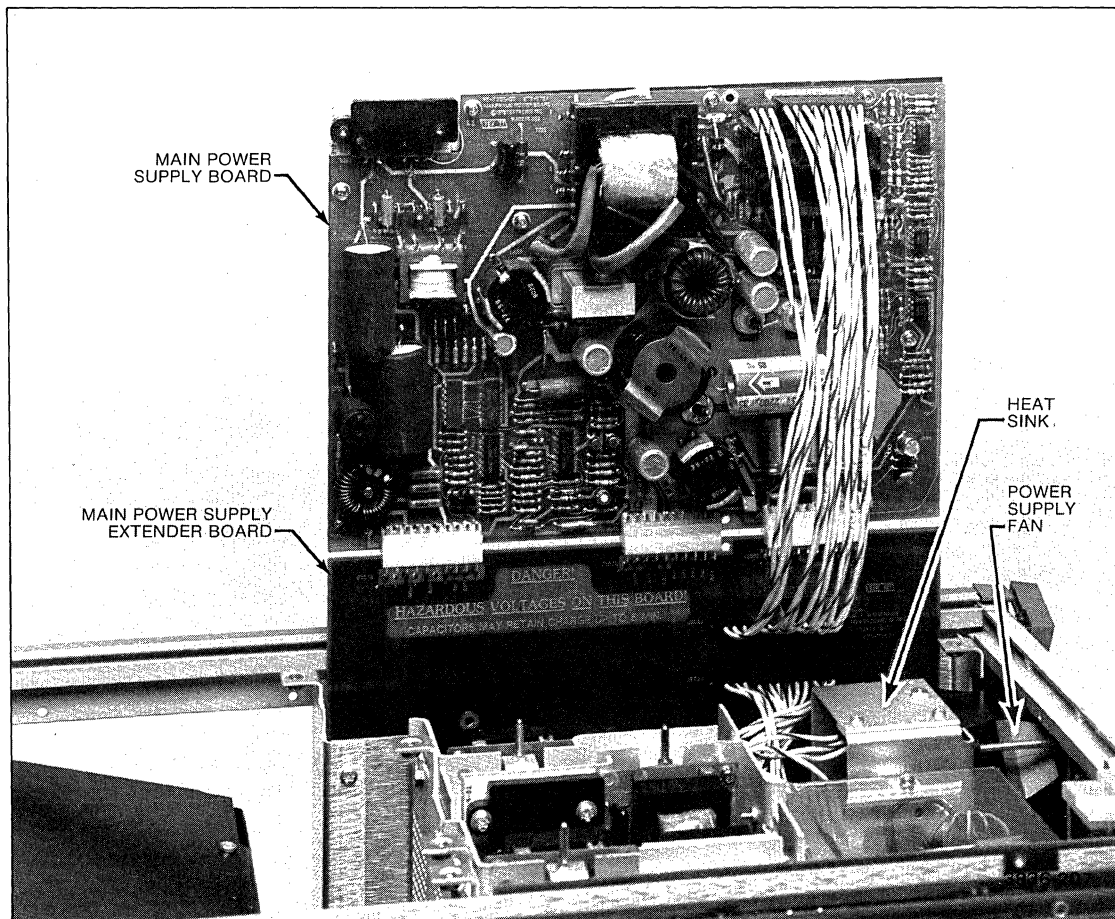


Figure 9-2. Connecting the Main Power Supply to the extender board.

The Main Power Supply is held in place in the mainframe by three screws located underneath the left side panel of the mainframe. This side panel (on the same side as the display monitor) must be removed from the mainframe to access these three screws.

The series pass sections of the Main Power Supply have transistors mounted on a heat sink near the rear fan. These transistors are attached to the supply by cables. Remove the two connectors that attach these cables to the board. It should now be possible to remove the supply entirely from the mainframe.

Insert the extender board in the mainframe in the same position the Main Power Supply occupied.



Make sure the connectors at the bottom of the extender mate properly with the pins protruding from the mainframe. If the extender is connected to either side of the proper position (i.e., one or more pins are not connected), the Main Power Supply may be damaged when the instrument is powered-up.

The series pass transistors must now be connected to the extender board. There are two rows of pins on the upper right side of the extender board. Use the lower set of pins to connect the series pass transistors to the extender in the same way they were connected to the Main Power Supply.

Attach the Main Power Supply to the top of the extender. Verify that the connectors and pins mate properly. Using the cables found in the DAS 9100 Series Service Maintenance Kit, connect the pins on the Main Power Supply that were attached to the series pass transistors to the pins on the extender immediately above the transistor connectors.



Do not twist the cables used to connect the Main Power Supply to the extender. Twisting the cables may destroy the transistors or other components of the power supply.

The extender and supply combination should now look identical to Figure 9-2. The DAS may now be powered-up for troubleshooting.

ERROR CODES AND INDICATORS

ERROR AND PROMPTER MESSAGES

Table 9-3 lists the error and prompter messages that may appear on the monitor screen. The messages are listed in alphabetical order.

Table 9-3
Error and Prompter Messages

256 VALUES EXCEEDED	The total number of allowable mnemonic values is 256.
ACQUISITION AND PATTERN GENERATOR STARTED	This message is displayed when data acquisition and pattern generation are started simultaneously via the START SYSTEM key.
ACQUISITION STARTED	This message is displayed whenever data acquisition is started.
ADD LINE WOULD ELIMINATE SEQ 255	If SEQ 255 of the Define Mnemonics table has an assigned value, an ADD LINE cannot be executed until a DEL (delete) LINE occurs.
ASSIGN AT LEAST ONE CLK1	When using the 91A32's EXT SPLIT clocks, at least one CLK1 must be assigned. This clock serves as the master clock.
CANNOT EXIT WITH DUPLICATE CHANNELS	All duplicate channel assignments must be eliminated before you can exit the Channel Specifications menu.
COMMUNICATION ERROR, PRESS STOP TO EXIT	The carrier detect (CD) signal has been lost in the master/slave RS-232 transmission.
COMPARE UNTIL = STARTED	This message is displayed when the COMPARE = key is pressed.
COMPARE UNTIL ≠ STARTED	This message is displayed when the COMPARE ≠ key is pressed.
CONFIGURATION ERROR	When you restore a tape file that uses data acquisition modules, the modules must be in the same bus slots used when the file was saved. This message is displayed if modules have been removed or repositioned.
DECREASE COMPARE LIMITS	This message is displayed when the value of the STOP SEQ field is greater than the largest acquisition memory SEQ number.
DELAY PLUS WIDTH CANNOT EXCEED 40.920 μS	When programming strobos in the Pattern Generator menu, the total of the values in the DELAY and WIDTH fields cannot exceed 40.920 μs.
DIRECTORY FULL	The DC100 tape cartridge directory is full and no more files may be saved on that tape. A maximum of 48 files can be stored on a tape.

**Table 9-3 (cont)
Error and Prompter Messages**

DUPLICATE LABEL AT SEQ XX	The same label value cannot be assigned to more than one sequence line in the Pattern Generator menu.
DUPLICATE VALUE	If a value is assigned to more than one sequence line in the Define Mnemonics table, only the first entered value will be used during disassembly.
ENTER A LARGER VALUE	
ENTER A SMALLER VALUE	
ENTER A VALUE BETWEEN 1 AND 32767	These prompter messages appear when you try to enter an invalid numeric value into a field.
ENTER IN BINARY	
ENTER IN HEX	
ENTER IN OCTAL	
ENTER VALUE FIRST	A value must be entered before a mnemonic can be assigned.
FAST MODULE DELAY CANNOT BE > 500	When you are using the ARMS mode in the Trigger Specification menu, the 91A08 trigger must be positioned within acquisition memory.
FILE ALREADY EXISTS	The IO Menu will not save a file if a file of the same name already exists on the tape.
FILE NOT FOUND	This message appears if you attempt to access a file not stored on the inserted tape cartridge.
FIRMWARE ERROR (XX)	This message indicates a system failure. Refer the instrument to qualified service personnel.
FIRMWARE ERROR (XX) AT (XX)	When you are restoring a tape file, the firmware version in the DAS mainframe must match the firmware version present when the file was made.
GROUP CANNOT HAVE A TABLE	To be defined with mnemonics, a channel group must be assigned at least one and no more than 32 channels.
INCREASE COMPARE LIMITS	The value of the STOP SEQ field must be greater than the value of the START SEQ field.
INVALID CHANNEL NUMBER	In the Channel Specification menu, a valid channel number is indicated by the values 0—7. Any other character is invalid.

Table 9-3 (cont)
Error and Prompter Messages

INVALID CLOCK COMBINATION—START NOT PERFORMED	The 91A32 and 91A08 modules and the pattern generator modules share two internal clocks. This message is displayed when more than two internal clock rates are specified.
INVALID POD COMBINATION	Only pods from the same types of data acquisition modules can be combined in the same channel group. 91A32 pods cannot be combined with 91A08 pods.
INVALID POD ID	The POD ID (bus slot number, pod connector letter) entered does not match the actual mainframe configuration.
IO BOARD NOT PRESENT	The RS-232 sub-menu of the Input Output menu was entered but the I/O interface (Option 02) is not installed in the mainframe.
LINK ESTABLISHED	The RS-232 master/slave link between two DAS mainframes has been established (i.e., a message has been sent from the master to the slave and back again).
LOADING STROBES	It can take up to 30 seconds to load the strobes programmed in the Pattern Generator menu. This message is displayed during the process.
NO TAPE IN DRIVE	The tape drive sub-menu of the Input Output menu was entered but there is no DC100 tape cartridge in the tape drive.
NOT A DAS TAPE	The inserted tape is not formatted for use with the DAS. The tape must be bulk-erased and then formatted.
NOT ENOUGH BLOCKS TO STORE FILE	Not enough contiguous empty blocks remain on the DC100 tape cartridge for the file to be stored on the tape.
PARTIAL RESTORE IN PROGRESS	If you are restoring an ALL-type file and the data acquisition modules do not match the tape configuration, the tape file only restores the mnemonic and pattern generator setups.
PATTERN GENERATOR STARTED	This message is displayed whenever the pattern generator is started.
PATTERN GENERATOR STOPPED	This message is displayed when the pattern generator is stopped by any other means than a HALT instruction.
PICK UP THE PHONE	When two DAS mainframes are linked as master/slave in an RS-232 transmission, you may press SHIFT/INPUT OUTPUT to send this message to the other DAS mainframe.

Table 9-3 (cont)
Error and Prompter Messages

TAPE DRIVE FAILURE	The tape drive has failed to power up correctly. No tape operation will be possible. Power the DAS down then back up again. If the failure still occurs, contact qualified service personnel.
TAPE DRIVE NOT PRESENT	You enter the tape drive sub-menu of the Input Output menu and no tape drive (Option 01) is installed.
TAPE ERROR (XXX)	The number following the message indicates which tape drive error(s) have occurred. A combination of errors would cause the following numbers to be ANDed then displayed in hexadecimal.
010	Gap Detect—A gap in the data on the tape was detected in an unusual place. Gaps are normally found at the end of a data record.
020	The tape cartridge was removed during a tape operation.
040	Hole Detect—A hole was detected on the tape when the drive was not expecting one. Holes normally occur at the beginning and end of tapes and denote to the driver that the end of useable tape has been reached.
080	Servo Motor Control Error.
100	Checksum Error—This error indicates that the record header has the wrong checksum.
200	Record Number Check Error—This error indicates that the record number did not read correctly and was not readable for 33 attempts.
TAPE OPERATION HAS MODIFIED THE MODULE CONFIGURATION	A file has been restored from tape that uses less modules than those installed in the mainframe. The extra modules cannot be accessed until another file is restored which uses them or the DAS is powered down then up again.
TAPE OPERATION IN PROGRESS	The selected tape operation is being executed.
TAPE UNFORMATTED, PLEASE FORMAT IT	The inserted tape is not formatted and must be formatted for use with the DAS.
TAPE WRITE PROTECTED	The tape's RECORD switch has been set for write protect. The tape can be read but no files can be saved or deleted.

**Table 9-3 (cont)
Error and Prompter Messages**

TOO MANY DUPLICATE CHANNELS	Some duplicate channels are allowed while setting up the Channel Specification menu. This message is displayed when more than 120 channels have been assigned.
TOO MANY LABELS	The maximum number of label values allowed in the Pattern Generator menu is 32.
TOO MANY MODULES—104 ACQ, 80 PG CHANNELS MAX	The maximum number of acquisition channels is 104, and the maximum of pattern generator channels is 80. Power down the DAS. No operations are allowed until this condition is remedied.
TRIGGER MODES DON'T MATCH	This message is displayed when you try to perform a COMPARE = or COMPARE ≠ against a reference memory that was acquired using a different trigger mode.
TRIGGER NOT IN MEMORY	The trigger word is not in acquisition memory because a long delay was used or the STOP key was pressed.
TRYING TO LINK	This message is displayed while the RS-232 master/slave handshake is being established.
UNDEFINED LABEL	This message is displayed in the Pattern Generator menu when you try to exit the menu while an undefined CALL or GOTO label exists.
USE 0, 1 OR DON'T CARE	These prompting messages list the valid entries for certain fields.
PLEASE USE THE DATA ENTRY KEYS	
PLEASE USE INCR OR DECR	These messages appear when you use the wrong key when trying to select a field value. The messages list the valid keys.
PLEASE USE THE SELECT KEY	
POD (XX) CONNECTED	A probe was connected to the specified pod connector on the back panel.
POD (XX) DISCONNECTED	A probe was disconnected from the specified pod connector on the back panel.
PODS DISPLAYED HAVE NO ACQUIRED DATA	The channel traces displayed on the Timing Diagram menu were not used to acquire data. You must enter the appropriate channels (those that acquired data during the last acquisition) into the POD and CH fields.

Table 9-3 (cont)
Error and Prompter Messages

(XXX) RESTARTS	<p>This message is displayed on the right side of the display while a comparison is running. After the comparison condition is met or the STOP key is pressed, the message moves to the left side of the display. The value preceding the message indicates how many times new data has been acquired.</p> <p>If the comparison condition is not met and the system is not stopped, the RESTARTS counter will count to 65,535. At that point, restarts will continue but the number will not increase.</p>
RESTORE IN PROGRESS— (XXXX)	<p>This message has several variations depending on whether all DAS menu setups or an individual setup is being restored from the GPIB.</p>
RAM ERROR	<p>The lower 16K of RAM did not pass the RAM test at power-up. The DAS is inoperable. Contact qualified service personnel.</p>
REFERENCE MEMORY EMPTY	<p>Comparison functions are inoperable if no data is stored in reference memory.</p>
REMOVE FIRST INSTRUCTION OF INTERRUPT ROUTINE	<p>In the Pattern Generator menu, the first line of the CALLED interrupt routine cannot have an instruction.</p>
ROM ADDRESS ERROR	<p>At system power-up, the Trigger, Channel, or Start ROMs cannot be addressed or are missing. The DAS is inoperable. Contact qualified service personnel.</p>
ROM CHECKSUM ERROR	<p>This power-up error message indicates a faulty module. Refer the module to qualified service personnel. If the module is not critical, limited operations may continue.</p>
SAVE IN PROGRESS— (XXXXX)	<p>This message has several variations depending on whether all DAS menu setups or an individual setup is being saved on tape.</p>
SEARCHING	<p>The DAS is searching for a specific data word in the State Table or Timing Diagram menu.</p>
SLOW ACQUISITION	<p>The external clock being used for the acquisition is slower than 500 ms. Qualifiers may also cause this to happen.</p>
SOFT ERRORS: (XXX)	<p>The tape drive keeps track of the number of retries to perform the current tape operation. Soft errors indicate that the tape cartridge may be dirty, the tape is worn, or the tape head needs to be cleaned. The requested operation has been performed without any loss of data.</p>

**Table 9-3 (cont)
Error and Prompter Messages**

STOPPED	Data acquisition and/or pattern generator operation has been stopped via the STOP key.
USE ADD/DEL ONLY IN POD FIELD	The ADD LINE and DEL LINE keys may only be used in the POD field of the Channel Specification menu.
USE DON'T CARE	This message is displayed when the only valid entry for a field is don't care.
USE SELECT, INCR, OR DECR	Use the SELECT, INCR, or DECR keys in the clock fields of the Trigger and Pattern Generator menus.
WAITING FOR 91AXX TRIGGER	The system is currently waiting for a trigger event from the 91A32 and 91A08 module.
WAITING FOR STOP STORE	The trigger has been recognized and a delay is being exercised before acquisition is stopped.
WORD NOT FOUND	A search for a specific word was unsuccessful. This message is seen in the State Table and Timing Diagram menus.

POWER-UP ERROR LIGHT CODES

Whenever a DAS mainframe is reset or powered-up, the Controller board runs a self test. This test verifies the kernel of the Controller, the system RAM circuitry, and the ROMs in the mainframe.

Because all of the above listed components are required for operation of the DAS display monitor, the status of the tests is indicated with the LOCKOUT and REMOTE lights on the DAS keyboard housing. If any of the tests fail or cannot be executed, the light corresponding to that test comes on and stays on. The video display of the DAS will not appear if any of these conditions occur. The conditions and their corresponding light sequences are shown in Table 9-4.

Table 9-4
Power-Up Error Light Codes

Light Status		Meaning
LOCKOUT	REMOTE	
ON	OFF	The DAS Controller is running a test on the system RAM that resides on the Controller board.
OFF	ON	The DAS Controller is running a checksum on the Runtime ROM on the Controller board.
ON	ON	The Controller board is executing a checksum on all ROMs in the DAS mainframe. At the same time, the I/O driver routines are initialized by the DAS.
OFF	OFF	The DAS is finished with the power-up sequence.

ROM CHECKSUM CODES

If the DAS detects a checksum error upon power-up, an error code is displayed at the top of the screen reading ROM CHECKSUM ERROR. The message also contains a numeric code that corresponds to a socket location on a DAS board. The code is interpreted as shown in Table 9-5.

Table 9-5
ROM Checksum Error Codes

Code	Location	Part Location Number
0,0	Controller	A6U597
^a ,0	91P16	A14U481
7,1	Trigger/Time Base	A10U391
7,2	Trigger/Time Base	A10U291
7,3	Trigger/Time Base	A10U385
7,4	Trigger/Time Base	A10U395
7,5	Trigger/Time Base	A10U281
7,6	Trigger/Time Base	A10U283
7,7	Trigger/Time Base	A10U287
7,8	Trigger/Time Base	A10U181
7,9	Trigger/Time Base	A10U183
7,A	Trigger/Time Base	A10U295
8,0	I/O Interface	A19A1U455
8,D	I/O Interface	A19A1U451
8,E	I/O Interface	A19A1U445
8,F	I/O Interface	A19A1U441

^aThis number indicates which slot number the 91P16 Pattern Generator module resides in. (May be slots 1—6.)

TEST POINT, JUMPER, AND ADJUSTMENT LOCATIONS

The illustrations and paragraphs on the following pages are intended to be a fast reference for adjusting and troubleshooting circuit boards in the DAS. Each illustration shows points of interest on the board in question. The callouts below the illustration and on the adjacent pages give the reason for pointing out each location, what the point is for, or what voltages or signals should be present at the point. The DAS9129 is similar to the DAS9109 shown in the figures.

For further information on adjusting, troubleshooting, or verifying a DAS circuit board or module, refer to the appropriate section of this manual.

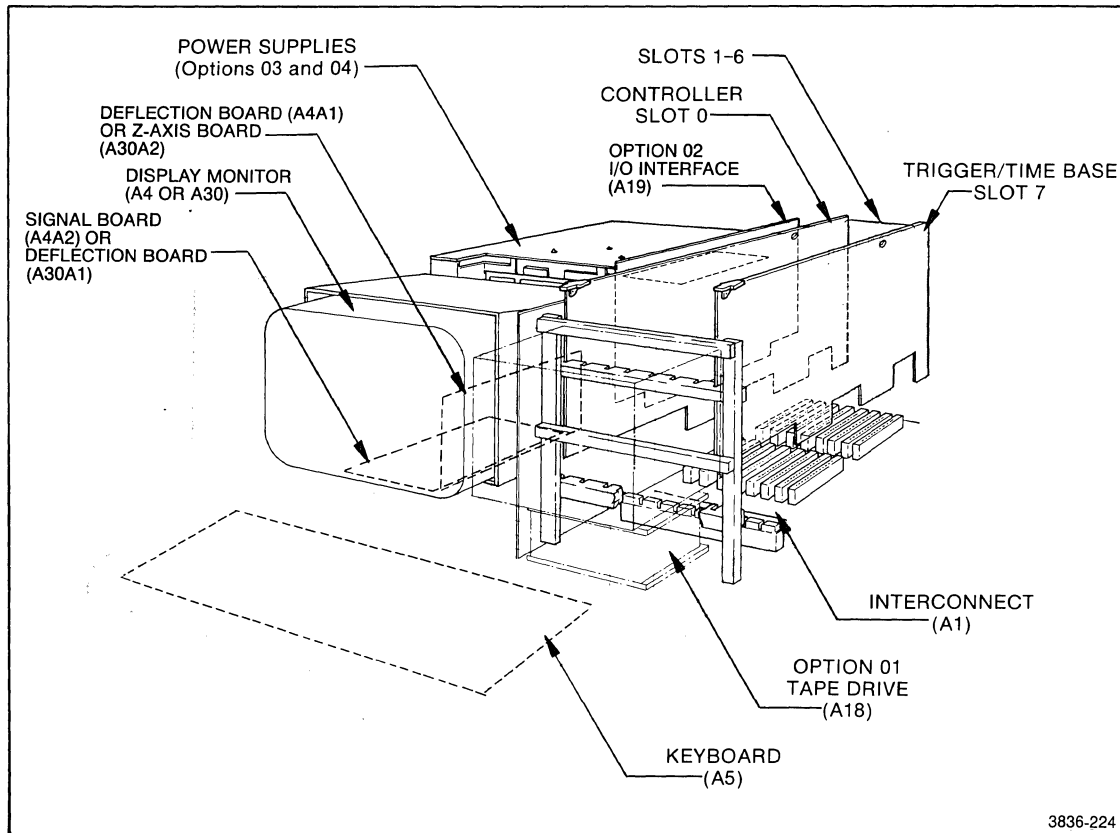
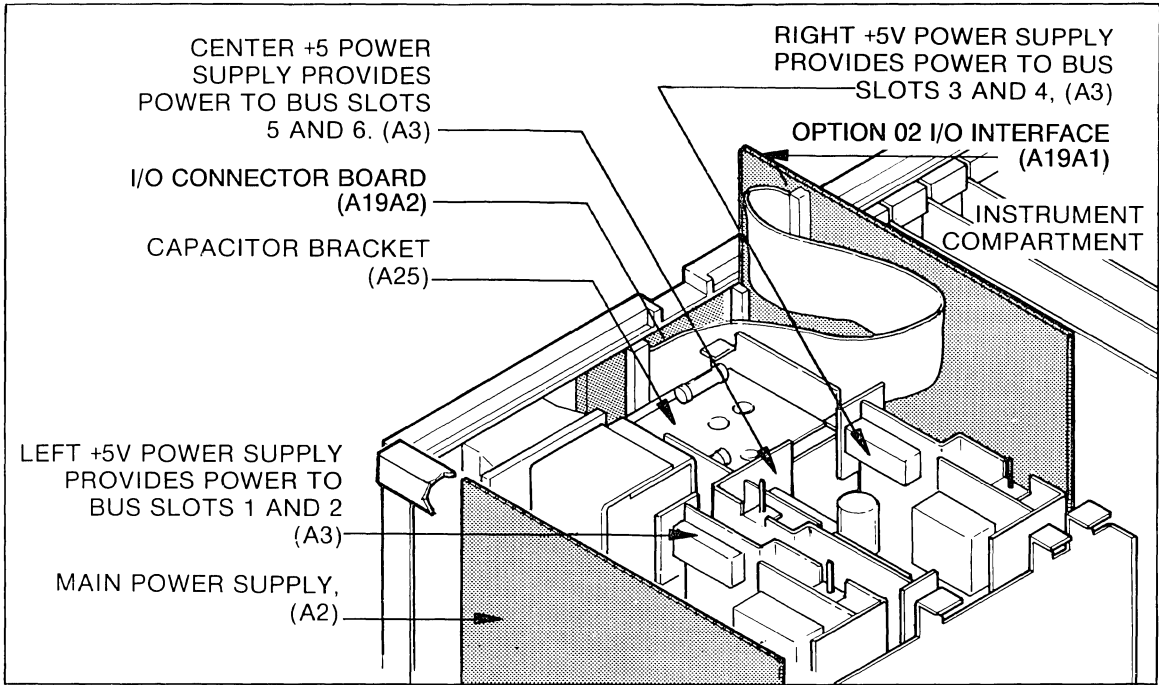


Figure 9-3. DAS circuit board locations.



3836-225

Figure 9-4. Power supply and I/O Interface circuit board locations.

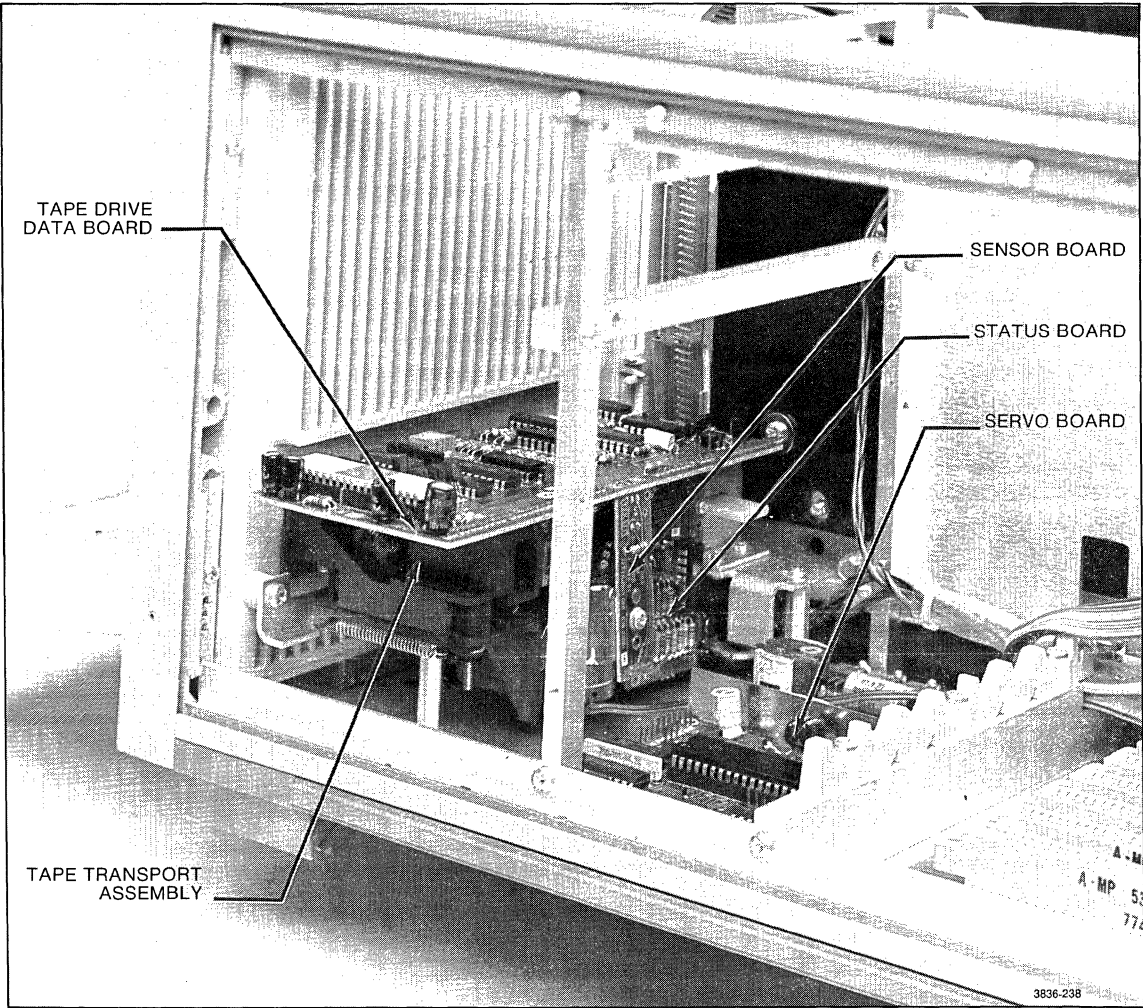
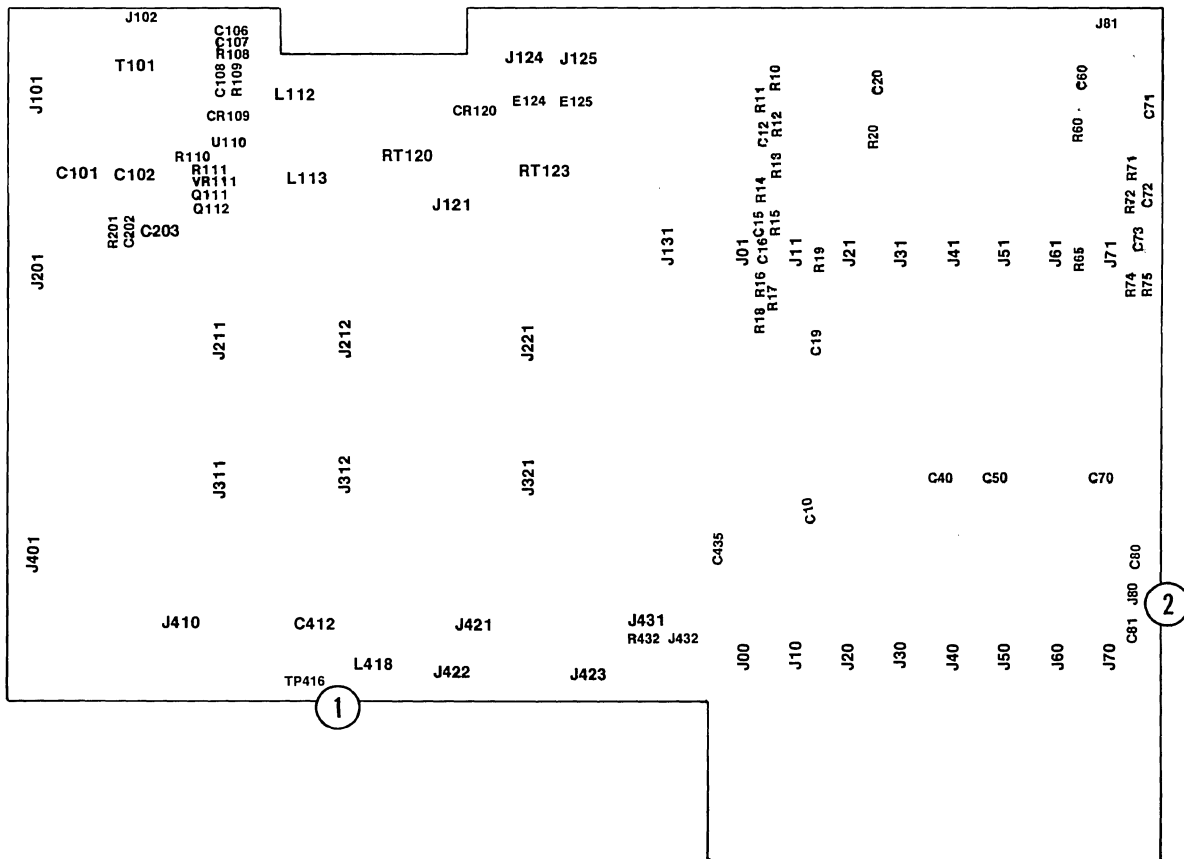


Figure 9-5. Tape drive circuit board locations.

DAS9109 (MONOCHROME) INTERCONNECT BOARD (A1)



3836-181

Figure 9-6. DAS9109 Interconnect board (A1) test point locations.

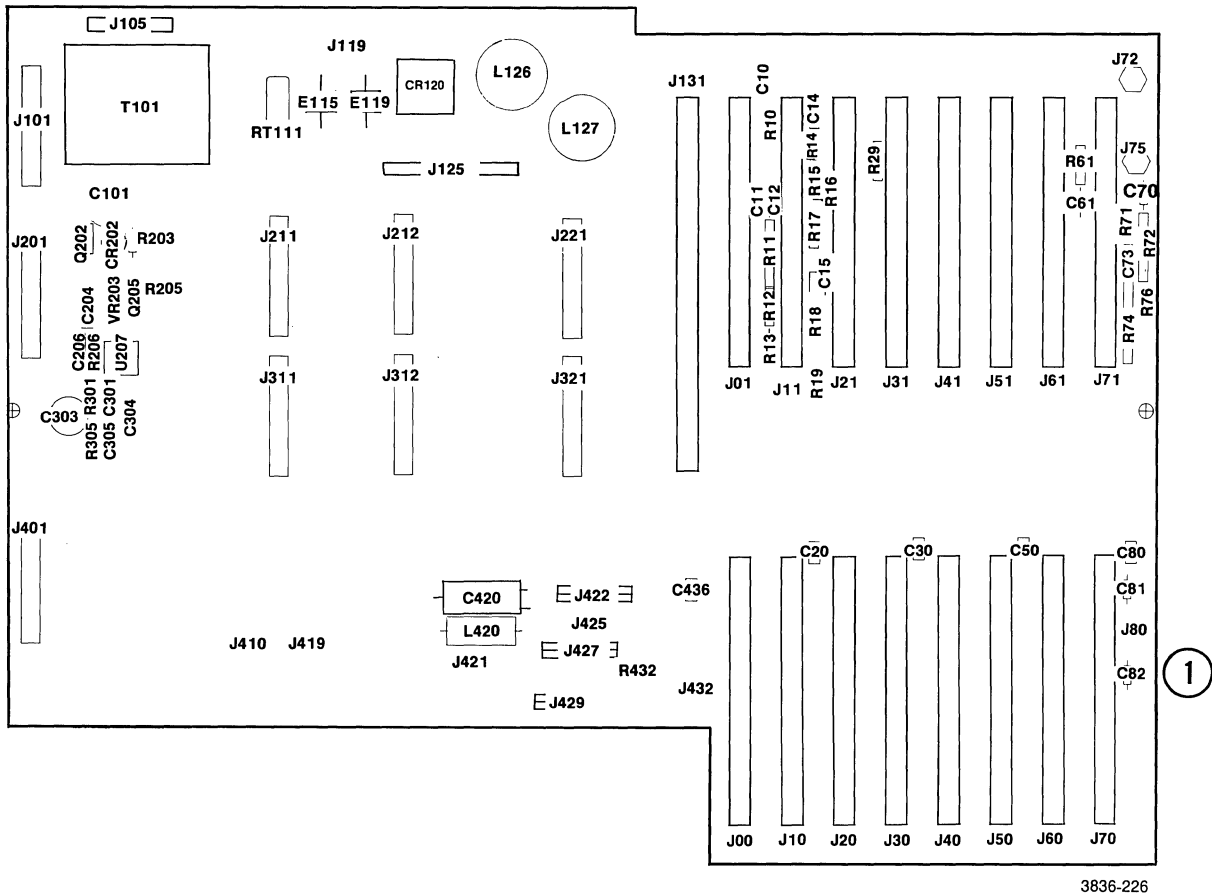
1. **TP416.** This test point can be used to verify the accuracy of the +3 V supply on the Interconnect board. If this supply goes out of regulation, the ECL busses on the Interconnect board may exhibit ringing and glitches.
2. **J80.** This jack has two pins. Pin 1 is the RESET(L) pin. Shorting this pin to ground will cause the DAS to perform its power-up sequence again, including the RAM and ROM checks and the power-up diagnostics.

NOTE

Causing a RESET will destroy any current configuration data stored in the DAS. The DAS will be in its normal power-up configuration after a RESET.

Pin 2 of J80 is the NMI(L) pin. Shorting this pin to ground will cause the DAS to enter the ODT (online debugging tool) routine. For more information about ODT, refer to the paragraphs on ODT later in this section.

DAS9129 (COLOR) INTERCONNECT BOARD (A31)



3836-226

Figure 9-7. DAS9129 Interconnect board (A31) test point locations.

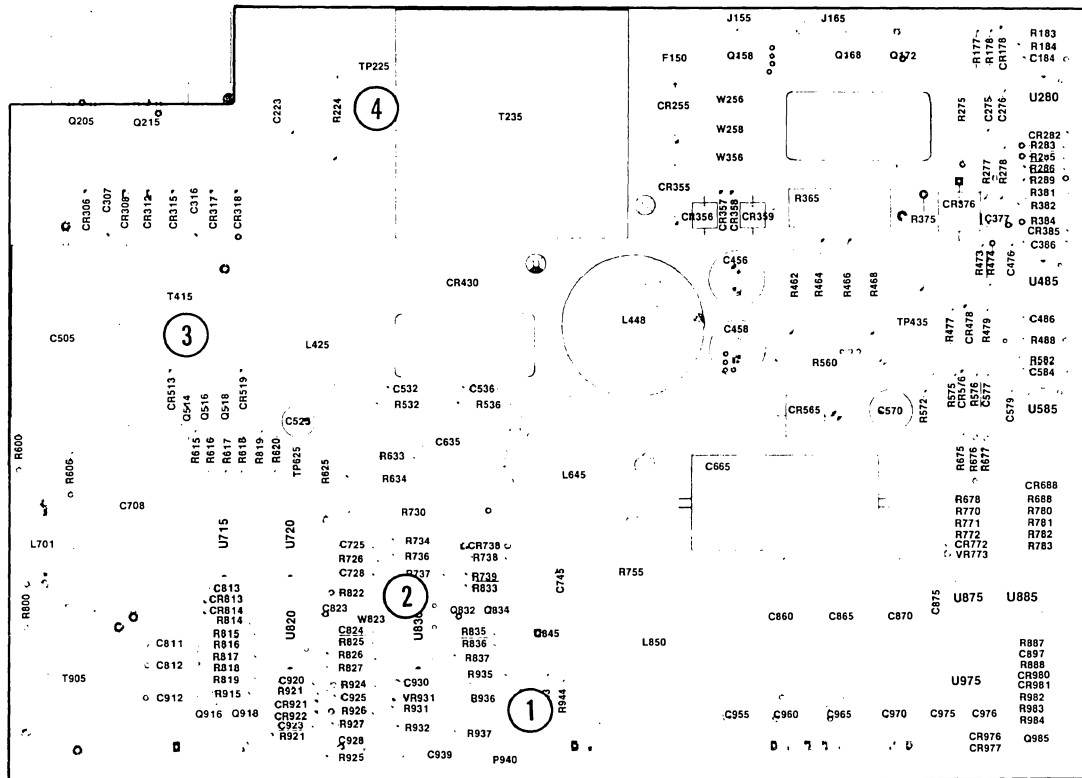
J80. This jack has two pins. Pin 1 is the RESET(L) pin. Shorting this pin to ground will cause the DAS to perform its power-up sequence again, including the RAM and ROM checks and the power-up diagnostics.

NOTE

Causing a RESET will destroy any current configuration data stored in the DAS. The DAS will be in its normal power-up configuration after a RESET.

Pin 2 of J80 is the NMI(L) pin. Shorting this pin to ground will cause the DAS to enter the ODT (online debugging tool) routine. For more information about ODT, refer to the paragraphs on ODT later in this section.

MAIN POWER SUPPLY BOARD (A2)

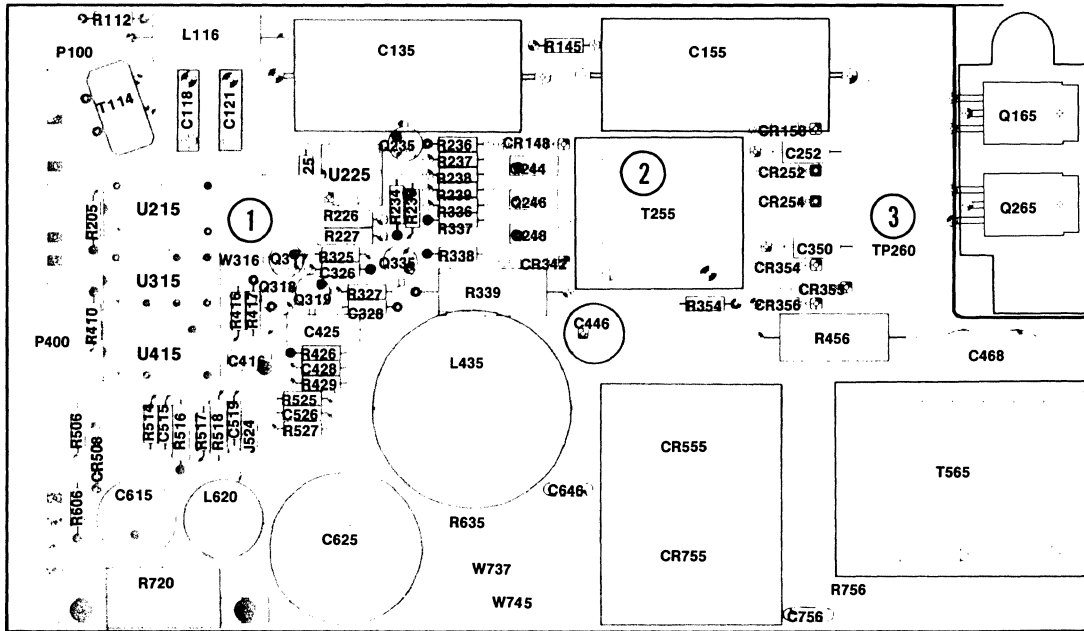


3836-227

Figure 9-8. DAS Main Power Supply board (A2) test point and adjustment locations.

1. **R936.** This trimmer potentiometer is used to bring the +12 V supply of the Main Power Supply within specification.
2. **W823.** These two pins can be shorted together to disable the +12 V sense circuitry. Shorting these pins together causes the supply to switch at the same rate as the power supply clock. Short these pins together, when testing the supply after repair, to avoid catastrophic failures in the ± 160 V sections of the supply.
3. **Pins 1, 2, and 3 of T415.** Under normal operation, pins 1 and 3 of this transformer should show a push/pull waveform for the high-voltage drivers. Pin 2 of T415 should show the turn-off pulses for the high-voltage drivers.
4. **TP225.** Under normal operation, this test point should show a symmetric switching waveform centered around ground.

+5 V POWER SUPPLY MODULE (A3)



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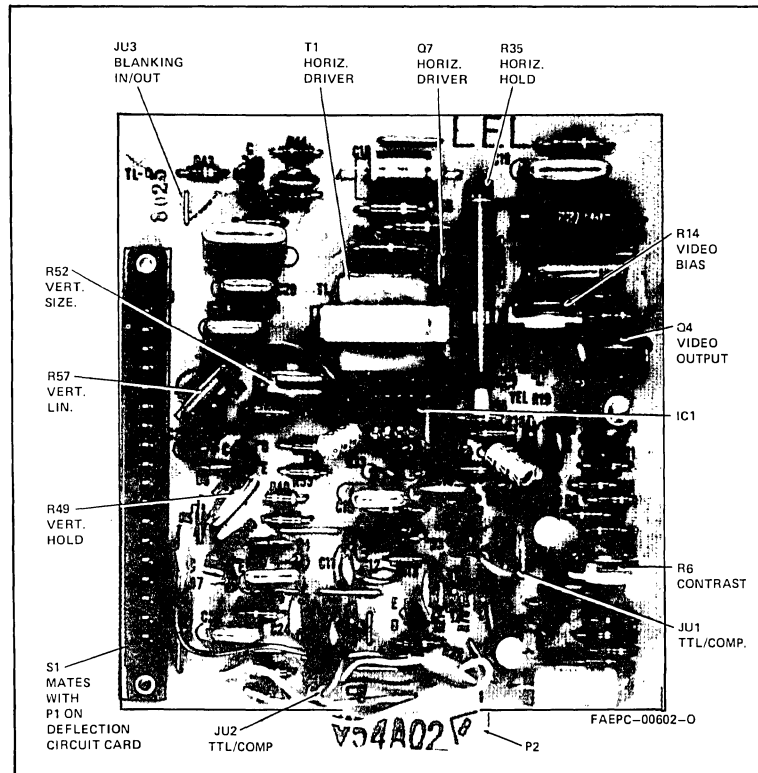
Figure 9-9. +5 V Power Supply board (A3) test point locations.

1. **W316.** These two pins can be shorted together to disable the +5 V sense circuitry. Shorting these pins together causes the supply to switch at the same rate as the power supply clock. Short these pins together, when testing the supply after repair, to avoid catastrophic failures in the ± 160 V sections of the supply.
2. **Pins 1, 2, and 3 of T255.** Under normal operation, pins 1 and 3 of this transformer should show a push/pull waveform for the high-voltage drivers. Pin 2 of T255 should show the turn-off pulses for the high-voltage drivers.
3. **TP260.** Under normal operation, this test point should show a symmetric switching waveform centered around ground.

MOTOROLA DISPLAY MONITOR (A4)

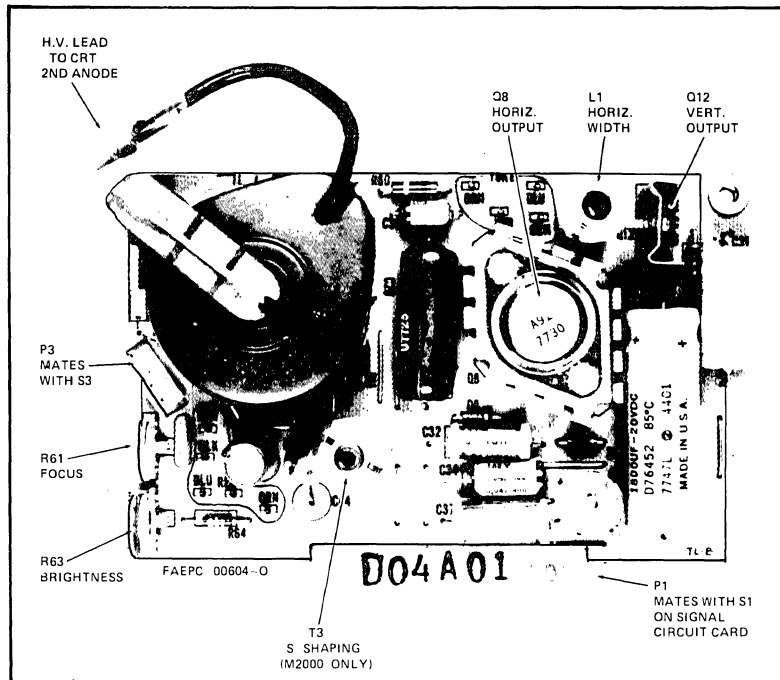
NOTE

The following material regarding the Motorola Display Monitor was taken from the "M1000 and M2000 Series Service Manual" 1979 Motorola, Inc., by permission of Motorola, Inc.



3836-184

Figure 9-10. Motorola Display Monitor signal circuit board (A4A2) test point and adjustment locations.

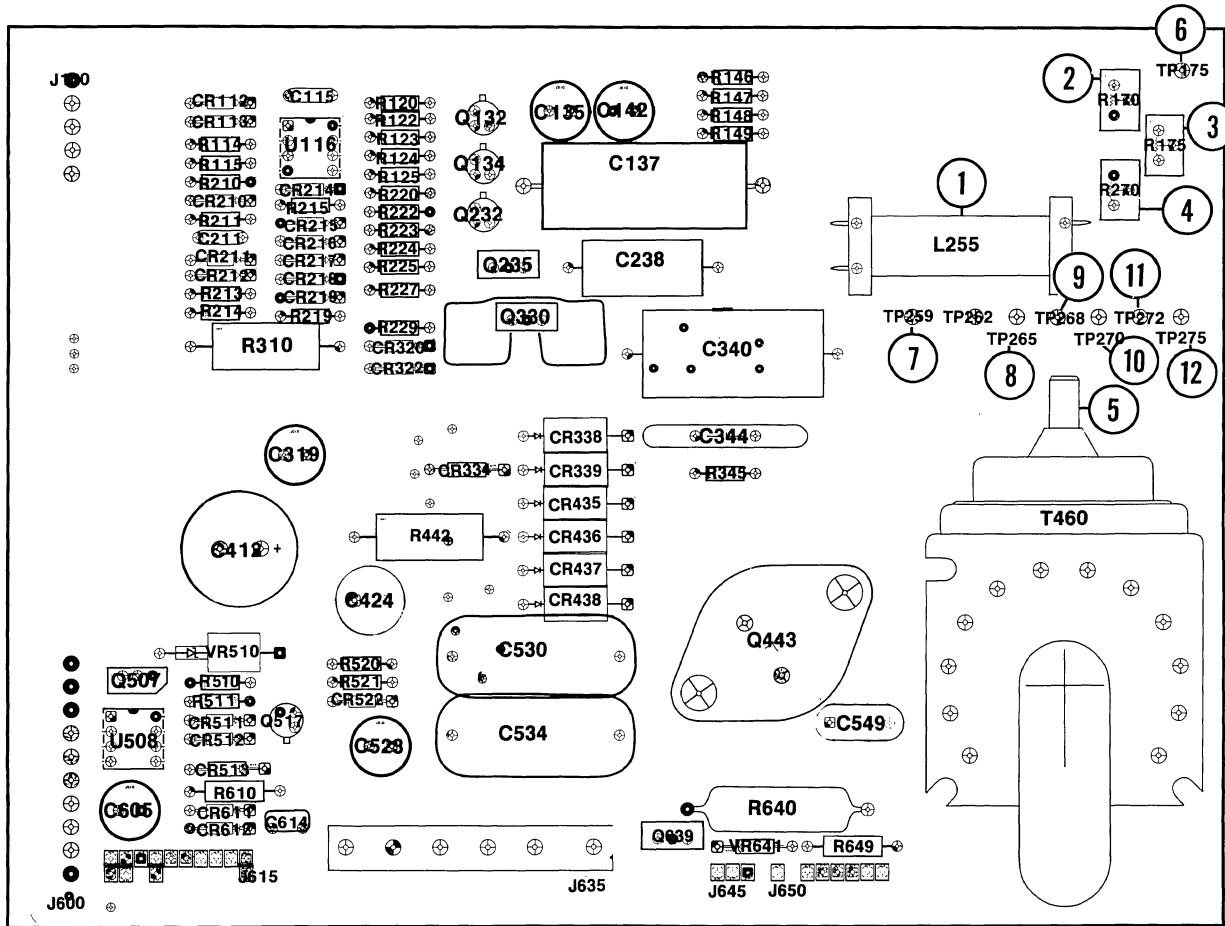


3836-229

Figure 9-11. Motorola Display Monitor deflection circuit board (A4A1) test point and adjustment locations.

DAS9129 COLOR DISPLAY MONITOR (A30)

The following figures identify test points and adjustments on the color display boards.



3836-230

Figure 9-12. DAS9129 Color Display Monitor deflection circuit board (A30A1) test point and adjustment locations.

Deflection Board Test Points and Adjustments

1. **L255.** Adjusted to position each side of raster about 1/4 inch from side of screen.
2. **R170.** Adjusted to position top of raster about 3/8 inch from top of screen.
3. **R175.** Adjusted to position bottom of raster about 3/8 inch from bottom of screen.
4. **R270.** Adjusted for a dim display with rear panel BRIGHTNESS control at minimum (fully counterclockwise).
5. **Focus (part of T460).** Adjusted for best focus near upper left corner of raster.

6. **TP175.** Zero summing point for vertical nodes.
7. **TP259.** Checked for flyback pulse with 100X probe.

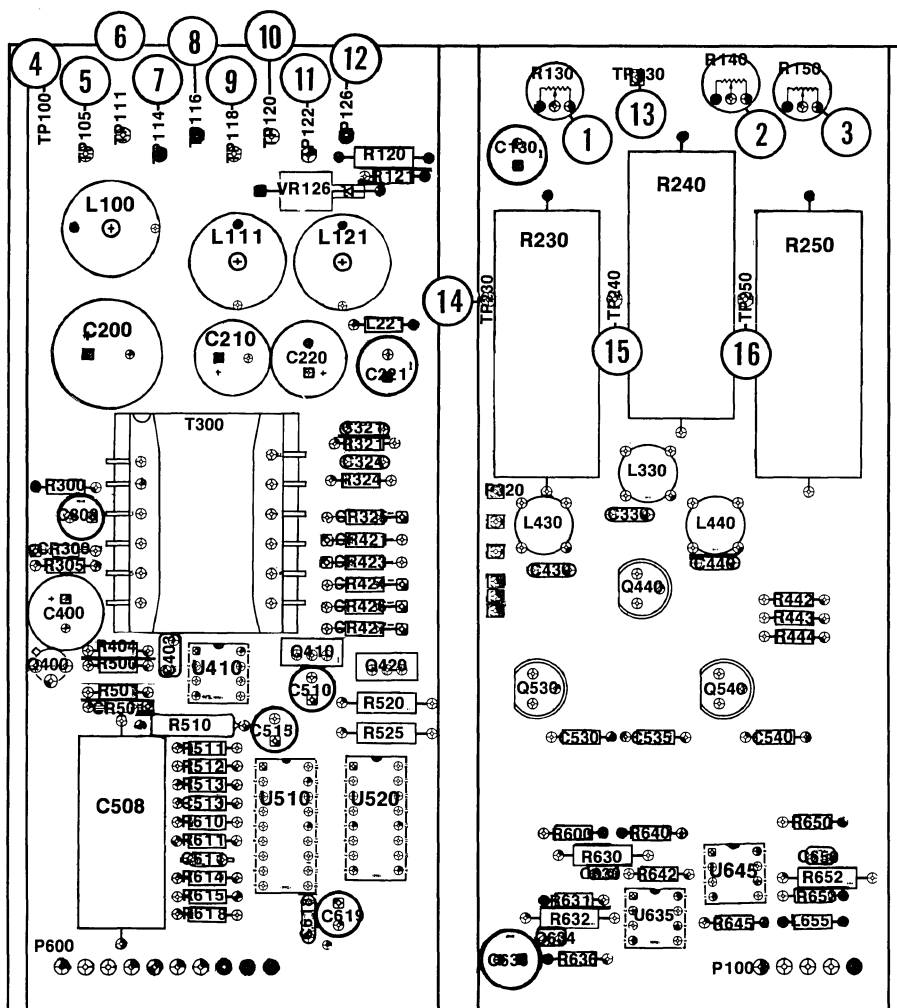


Use of probe factors less than 100X at TP259 can damage probe or oscilloscope input.

8. **TP265.** Checked for ≈ 2.2 V parabolic waveform with period of 16.6 msec (correction voltage for CRT).
9. **TP268.** Checked for horizontal sync pulse.
10. **TP270.** Checked for vertical drive voltage.
11. **TP272.** Checked for vertical sync pulse.
12. **TP275.** Ground.

Z-Axis Board Test Points and Adjustments

1. **R130.** Adjusts green gun emission level.
2. **R140.** Adjusts red gun emission level.
3. **R150.** Adjusts yellow gun emission level.
4. **TP100.** Checks +110 V dc in Monitor power supply.
5. **TP105.** Checks primary voltage waveform in Monitor power supply.
6. **TP111.** Checks MPSCK (monitor power supply clock).



3836-231

Figure 9-13. DAS9129 Color Display Monitor Z-axis circuit board (A30A2) test point and adjustment locations.

7. TP114. Checks +24 V dc in Monitor power supply.
8. TP116. Checks -10 V dc in Monitor power supply.
9. TP118. Checks RAMP(H), the turn-on ramp, in the Monitor power supply control circuit.
10. TP120. Checks RESET(L) condition at 0(H) of Current Limit Flip Flop U520.
11. TP122. Checks +5 V dc from Deflection board.
12. TP126. Checks +12 V dc from Deflection board.
13. TP130. Ground.

14. **TP230.** Checks control voltage for green gun emission.
15. **TP240.** Checks control voltage for red gun emission.
16. **TP250.** Checks control voltage for yellow gun emission.

CONTROLLER BOARD (A6)

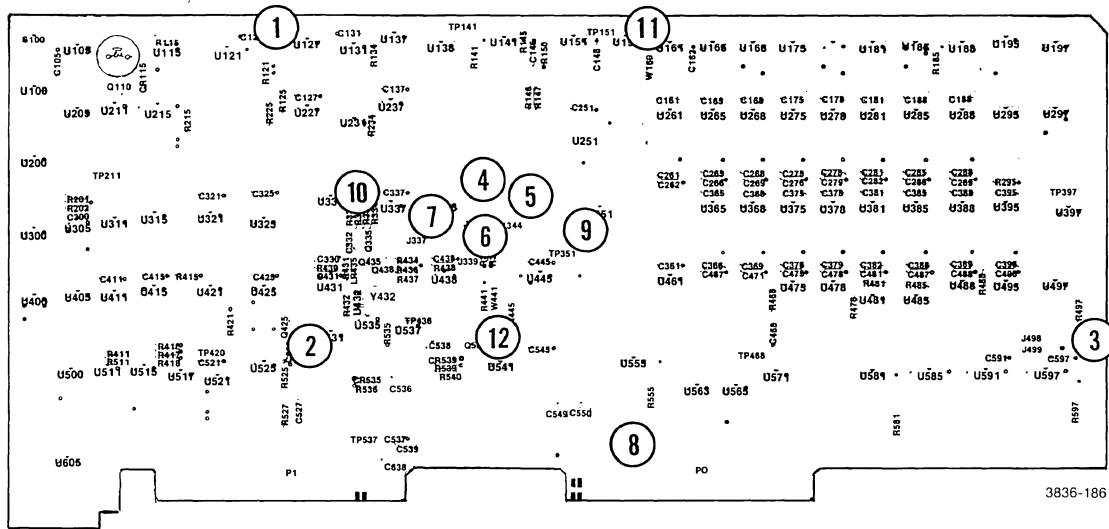


Figure 9-14. Controller board (A6) test point and adjustment locations.

1. **R121.** This trimmer potentiometer controls the contrast on the Motorola Display Monitor.
2. **Q425** collector. This is the video out of the Controller board.
3. **J498 and J499.** These jacks each have a shorting strap that may be repositioned depending on the type of ROM used for U597.

ROM in U597	J498 strap position	J499 strap position
2716	short pin 2 to pin 3	short pin 2 to pin 3
MK36000	short pin 1 to pin 2	short pin 1 to pin 2
68764	short pin 1 to pin 2	short pin 1 to pin 2

4. **J340.** This strap must be in place for DMAs to operate. To functionally remove the DMA chip from the Controller board circuit, remove jumpers J340, J344, and J339.
5. **J344.** This strap must be in place for DMAs to operate. To functionally remove the DMA chip from the Controller board circuit, remove jumpers J340, J344, and J339.
6. **J339.** This strap must be in place for DMAs to operate. To functionally remove the DMA chip from the Controller board circuit, remove jumpers J340, J344, and J339.

7. **J337.** Do not install a shorting strap at this point. This strap passes the INT7(L) signal that is not currently used.
8. **U555.** The suggested method for exercising the kernel of the DAS Controller board is forcing the microprocessor to execute NOP instructions. The NOP command for a Z80 is 00 hexadecimal.

The easiest method for forcing the NOP instruction is to remove A6U555 (the data bus buffer) from the Controller board. Replace the buffer with a 1 kΩ single-in-line resistor pack. Replace the buffer with a 1 kΩ single-in-line resistor pack, installing pin 1 of the resistor pack in pin 10 of the socket that held the buffer.
9. **TP351.** This point is the clock for the Z80A. The clock should be a 270 ns period square wave.
10. **U337, pin 6.** This is a 29.49 MHz clock that drives all clocks on the Controller and controls the baud rates for the I/O Interface.
11. **W160.** Do not connect this strap. This strap passes the INT1(L) signal that is not currently used by the Controller board.
12. **W441.** Do not connect this strap. This strap passes the INT2(L) signal that is not currently used by the Controller board.

TRIGGER/TIME BASE BOARD (A10)

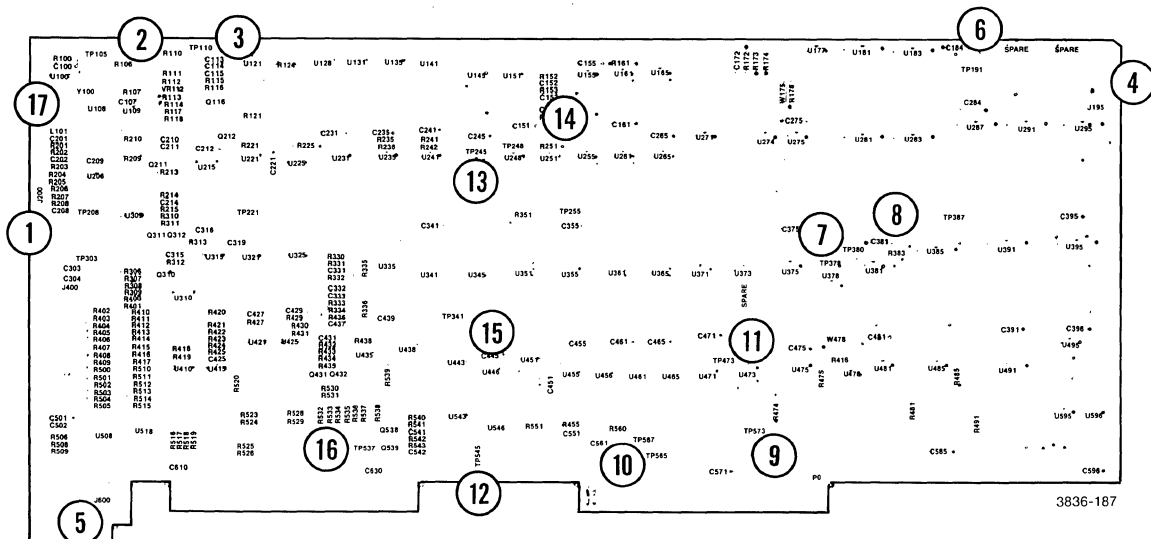


Figure 9-15. Trigger/Time Base board (A10) test point and adjustment locations.

1. **J200.** These pins are normally disconnected. Short the pins together when adjusting the threshold voltage accuracy for the External Clock probe.
2. **R107 and R110.** These trimmer resistors adjust the threshold gain and offset voltages.
 - R110 sets the threshold DAC reference to 1.60 V.
 - R107 sets the offset of the External Clock Probe to 0 V for a programmed value of 0 V.
3. **TP105, TP110, and TP208.** These test points are used to set the threshold gain and offset voltages.
 - TP105 is the virtual ground for the adjustment. Use this test point for the ground reference when adjusting the DAC.
 - TP110 is the threshold DAC reference (should be 1.60 V).
 - TP208 is the output of the threshold circuit for the data acquisition probe.
4. **J195.** This jack has two shorting straps that may be repositioned depending on the type of ROM used for U295.

ROM type in U295**strap positions**

MK36000
2716

short pin 2 to pin 3 and pin 5 to pin 6
short pin 1 to pin 2 and pin 4 to pin 5

5. **J600.** Move this shorting strap from pins 1 and 2 to pins 2 and 3 to prevent the STOP PG line from the Trigger/Time Base controller interface from stopping any pattern generator modules in the DAS.
6. **TP191.** When the DAS self-diagnostics are in LOOPING mode, TP191 toggles at the end of each execution of any diagnostic test. Use this test point to trigger oscilloscopes or logic analyzers.
7. **TP378.** The CLKA(H) line. Check this point for possible clock distribution problems.
8. **TP380.** The CLKB(L) line. Check this point for possible clock distribution problems.
9. **TP573.** The CLKA(L) line. Check this point for possible clock distribution problems.
10. **TP567.** The D QUAL(H) line. Check this point for problems with the 91A32 qualifier lines.
11. **TP473.** This line turns the CLKA(H) line on and off. Check here for problems with CLKA(H).
12. **TP545.** This point is the first stage in the pipelined internal timing sequencer.
13. **TP245.** This point goes high when the A counter is finished.
14. **TP248.** This point goes high when the initial triggering sequence is done (i.e., events 1, 2, and 3 have satisfied their conditions).

15. **TP341.** This point stays high until the delay counter starts, then the point clocks the delay counter.
16. **TP537.** This point goes high when the delay counter is finished.
17. **U100, pin 9.** This point should have a square wave with a 10 ns period. This is the clock source that is divided down for the internal clocks.

91A32 DATA ACQUISITION MODULE (A12)

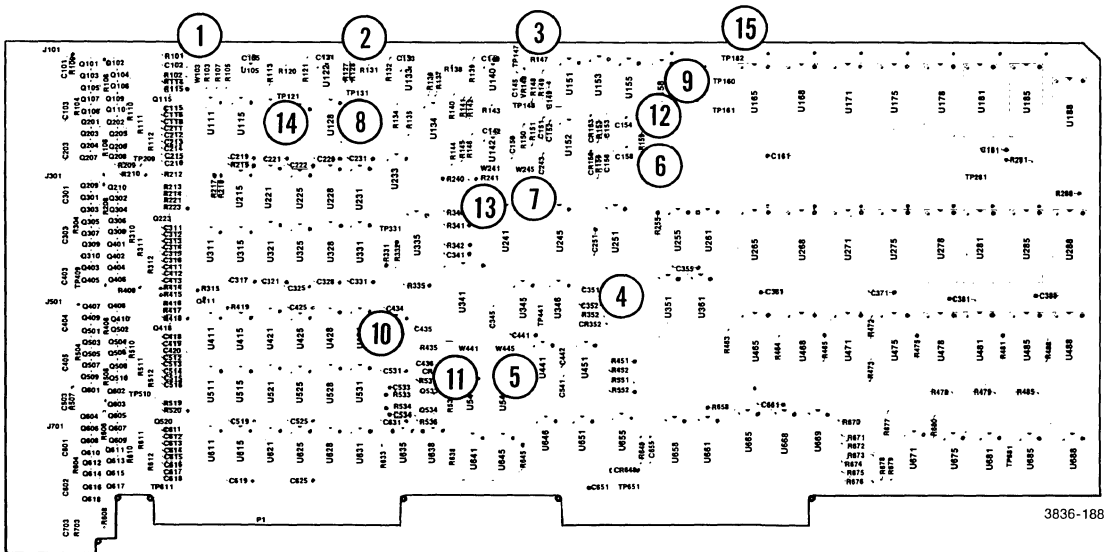
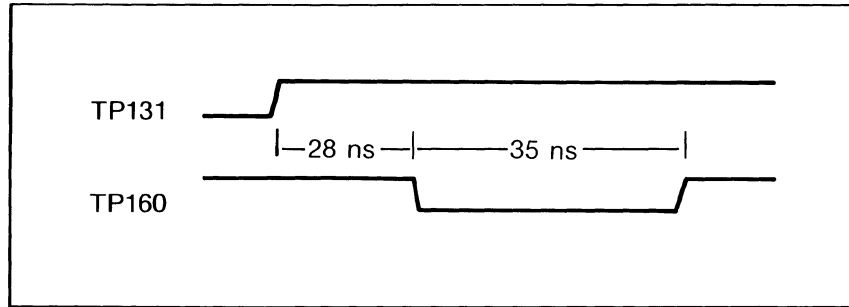


Figure 9-16. 91A32 Data Acquisition Module (A12) test point and adjustment locations.

1. **J103.** These pins are normally disconnected. Short the pins together when adjusting the threshold accuracy for the data acquisition probes.
2. **R147, R120, R131, R138, and R143.** These trimmer resistors adjust the threshold gain and offset voltages.
 - R147 sets the threshold DAC reference voltage to 1.60 V.
 - R120 sets the offset of the pod A threshold to 0 V for a programmed value of 0 V (referenced between TP147 and U122, pin 6).
 - R131 sets the offset of the pod B threshold to 0 V for a programmed value of 0 V (referenced between TP147 and U133, pin 6).
 - R138 sets the offset of the pod C threshold to 0 V for a programmed value of 0 V (referenced between TP147 and U140, pin 6).
 - R143 sets the offset of the pod D threshold to 0 V for a programmed value of 0 V (referenced between TP147 and U142, pin 6).

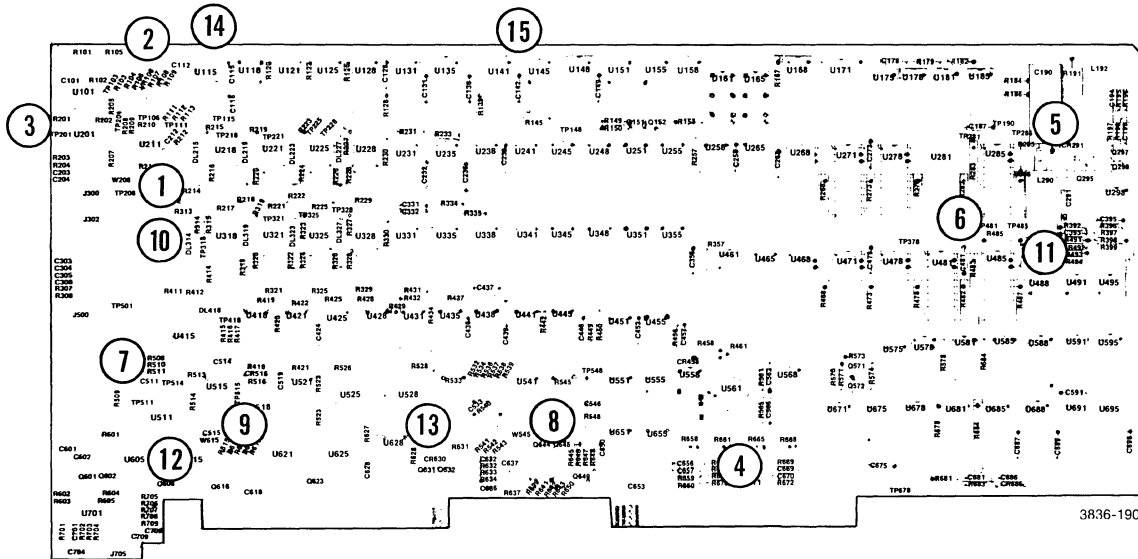
3. **TP147, and TP148.** These test points are used to set the threshold gain.
 - TP147 is the virtual ground for the adjustment. Use this test point for the ground reference when adjusting the DAC.
 - TP148 is the threshold DAC reference (should be 1.60 V).
4. **C351.** This trimmer capacitor sets the even write-enable delay.
5. **W445.** This strap extends the adjustability of C351 by shorting either pins 1 and 2 or shorting pins 2 and 3.
6. **C158.** This trimmer capacitor sets the even write-enable pulse width.
7. **W245.** This strap extends the adjustability of C153 by shorting either pins 1 and 2 or shorting pins 2 and 3.
8. **TP131.** This test point is used to set the even write-enable pulse. The pulse on TP160 should have a falling edge 27 ns after the rising edge on TP131. The pulse on TP160 should also have a rising edge 62 ns after the rising edge on TP171. Refer to Figure 9-17.
9. **TP160.** This test point is used to set the even write-enable pulse. Refer to TP131 for more information.
10. **C435.** This trimmer capacitor sets the odd write-enable delay.
11. **W441.** This strap extends the adjustability of C435 by shorting either pins 1 and 2 or shorting pins 2 and 3.
12. **C154.** This trimmer capacitor sets the odd write-enable pulse width.
13. **W241.** This strap extends the adjustability of C154 by shorting either pins 1 and 2 or shorting pins 2 and 3.
14. **TP121.** This test point is used to set the odd write-enable pulse. The pulse on TP162 should have a falling edge 27 ns after the rising edge on TP121. The pulse on TP162 should also have a rising edge 62 ns after the rising edge on TP121.
15. **TP162.** This test point is used to set the odd write-enable pulse. Refer to TP121 for more information.



3836-189

Figure 9-17. 91A32 write-enable timing.

91A08 DATA ACQUISITION MODULE (A13)



3836-190

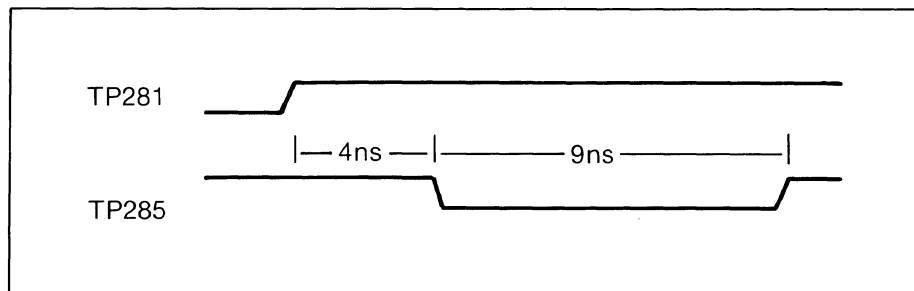
Figure 9-18. 91A08 Data Acquisition Module (A13) test point and adjustment locations.

1. **W208.** These pins are normally disconnected. Short pins together when adjusting the threshold voltage accuracy for the 100 MHz Clock Probe and the data acquisition probe.
2. **R101, R105, and R110.** These trimmer resistors adjust the threshold gain and offset voltages.
 - R110 sets the threshold DAC reference to 1.60 V.
 - R105 sets the offset of the 100 MHz Clock Probe to 0.75 V for a programmed value of 0 V.
 - R101 sets the offset of the data acquisition probe to 0 V for a programmed value of 0 V.

3. **TP106, TP111, TP201, and TP204.** These test points are used to set the threshold gain and offset voltages.
 - TP106 is the virtual ground for the adjustment. Use this test point for the ground reference when adjusting the DAC.
 - TP111 is the threshold DAC reference (should be 1.60 V).
 - TP201 is the output of the threshold circuit for the data acquisition probe.
 - TP204 is the output of the threshold circuit for the 100 MHz Clock Probe.

4. **R658, R662, R668, and R665.** These trimmer resistors set the write-enable pulse position and width for the 91A08 acquisition memories (even and odd sides).
 - R658 sets the even write-enable pulse width.
 - R662 sets the even write-enable delay.
 - R668 sets the odd write-enable pulse width.
 - R665 sets the odd write-enable delay.

5. **TP281 and TP285.** These test points are used to set the even write-enable pulses. The pulse on TP285 should have a falling edge 4 ns after a rising edge on TP281. The pulse on TP285 should also have a rising edge 13 ns after the rising edge on TP281. Refer to Figure 9-19.



3836-191

Figure 9-19. 91A08 write-enable timing.

6. **TP481 and TP485.** These test points are used to set the odd write-enable pulses. The pulse on TP485 should have a falling edge 4 ns after a rising edge on TP481. The pulse on TP485 should also have a rising edge 13 ns after the rising edge on TP481.

7. **TP511.** There is a coaxial cable connected between J302 and J705 that sets the delay for the 100 MHz Clock Probe. Adjust the length of this cable for a total delay of 21 ns between the clock probe tip and test point TP511.

8. **W545.** Shorting two of these three pins together sets the glitch triggering mode used by the 91A08.
 - Short pins 1 and 2. The glitch triggering mode is programmable by the DAS. The DAS programs it to AND the glitches and the trigger word.
 - Short pins 2 and 3. Glitch recognition is ORed with the trigger word.
 - No short. Glitch recognition is ANDed with the trigger word.
9. **W615.** Shorting these two pins together causes a trigger to occur and sets the delay counter counting continuously. Stop/store will not occur. These pins are useful in troubleshooting delay counter problems.

10. **Test points for the qualifier and data channels.**

CH0	TP228
CH1	TP325
CH2	TP225
CH3	TP328
CH4	TP321
CH5	TP221
CH6	TP318
CH7	TP218
Qualifier	TP418

11. **Bottom of L290.** This is a good place to check the 91A08 module's internal +3 V supply. The standard failure mode is for the +3 supply to float to approximately +4.2 V.
12. **U605, pin 11.** This is the output of the 91A08 clock selector. Check this pin if the 91A08 is not receiving clock signals.
13. **U528, pin 11.** This is the output of the 91A08 even clock. This point should be a square wave at one half the frequency of the clock.
14. **Three feed-through holes.** Connected to the unused outputs of the three flip-flops that directly drive the qualifier bus. If any of these flip-flops on any 91A08 in the mainframe are stuck, then no data can be acquired by any 91A08 in the DAS.

Location	Connected To
Rear hole ¹	U518, pin 7
Center hole	U518, pin 12
Front hole	U621, pin 14

¹The rear hole is the one closest to the end of the board with the probe connector.

15. **Feed-through hole.** Connected to the unused output of a gate that directly drives the qualifier bus. The connected point is U518, pin 14. If this gate is stuck, then no data can be acquired by any 91A08 in the DAS.

91P16 PATTERN GENERATOR MODULE (A14)

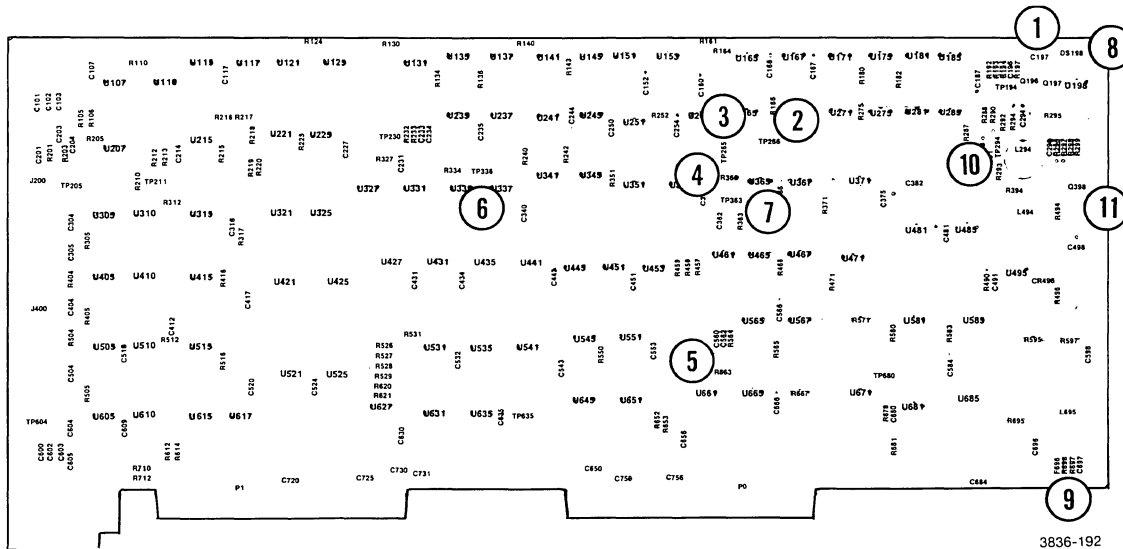
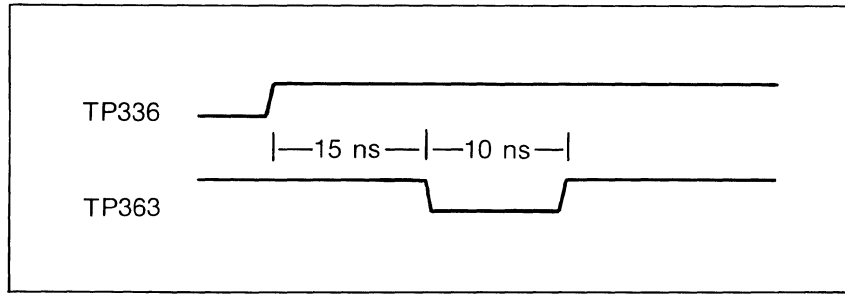


Figure 9-20. 91P16 Pattern Generator Module (A14) test point and adjustment locations.

1. **C197.** This trimmer capacitor adjusts the accuracy of the strobes on the 91P16.
2. **TP266.** Check this test point for the output of strobe 0.
3. **TP265.** Check this test point for the output of strobe 1.
4. **R360.** This trimmer resistor sets the write-enable pulse width for the call stack.
5. **R663.** This trimmer resistor sets the write-enable delay for the call stack.
6. **TP336.** This test point is used to set the write-enable pulse for the call stack. The pulse on TP363 should have a falling edge 15 ns after the rising edge on TP336. The pulse on TP363 should also have a rising edge 25 ns after the rising edge on TP336. Refer to Figure 9-21.

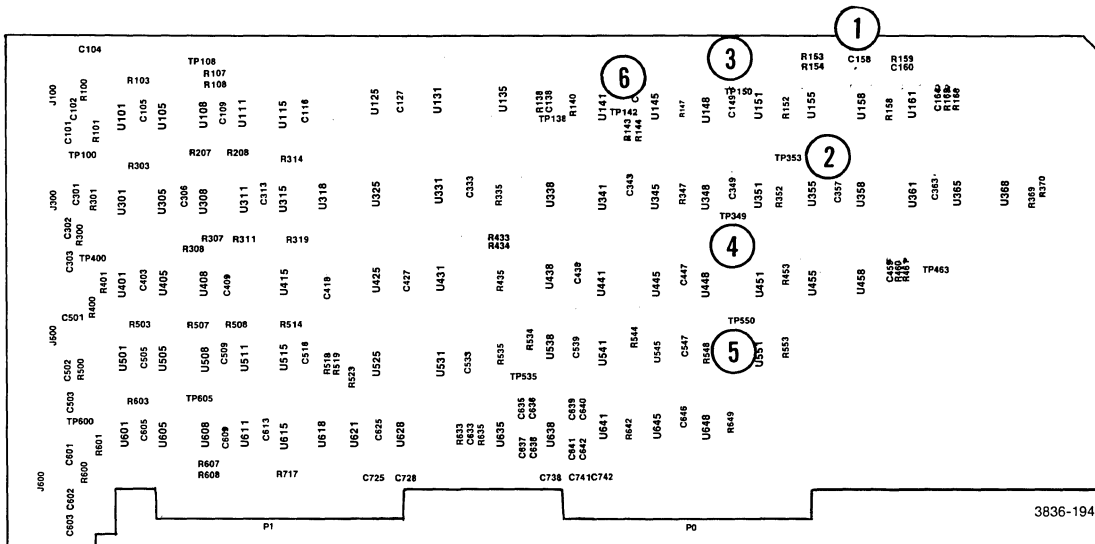


3836-193

Figure 9-21. 91P16 write-enable timing.

7. **TP363.** This test point is used to set the write-enable pulse for the call stack. Refer to TP336 for more information.
8. **DS198.** This LED turns on whenever the fuse is blown in the 2 A current source circuit.
9. **F696.** This is the fuse for the 2 A current source circuit.
10. **TP294.** The clock at this test point synchronizes the start of the strobe with the beginning of pattern generator clock cycles. This clock should match the clock rate of the 91P16 module.
11. **Q398, collector.** This point verifies the operation of the 2 A current source. The point should exhibit a switching waveform at approximately 20 Hz.

91P32 PATTERN GENERATOR EXPANDER MODULE (A17)



3836-194

Figure 9-22. 91P32 Pattern Generator Expander Module (A17) test point and adjustment locations.

1. **C158.** This trimmer capacitor adjusts the accuracy of the strobes on the 91P32.
2. **TP353.** Check this test point for the output of strobe 2.
3. **TP150.** Check this test point for the output of strobe 3.
4. **TP349.** Check this test point for the output of strobe 4.
5. **TP550.** Check this test point for the output of strobe 5.
6. **TP142.** The clock at this test point synchronizes the start of the strobe with the beginning of pattern generator clock cycles. This clock should match the clock rate of the 91P32 module.

OPTION 01, TAPE DRIVE (A18)

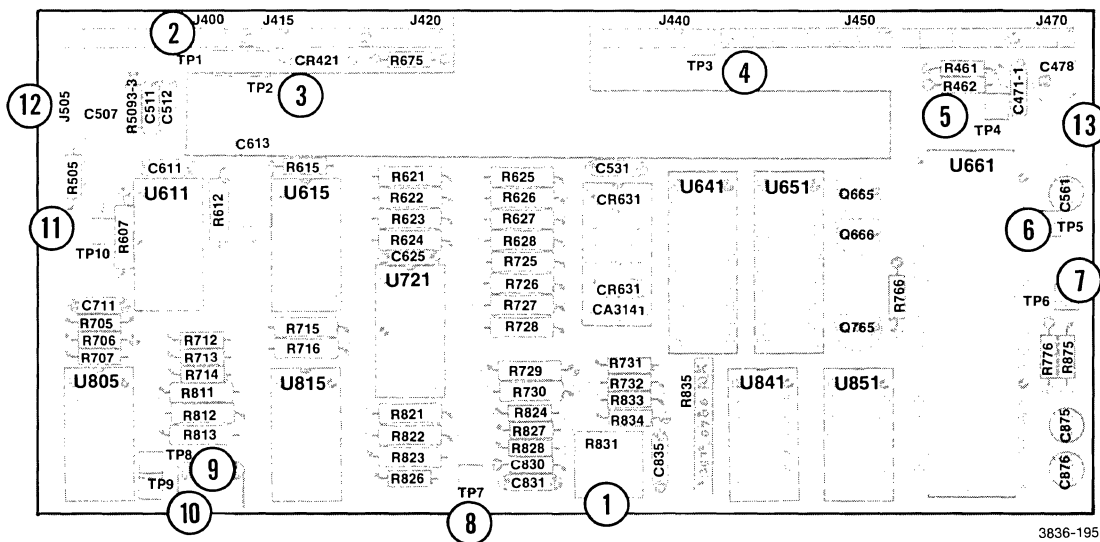
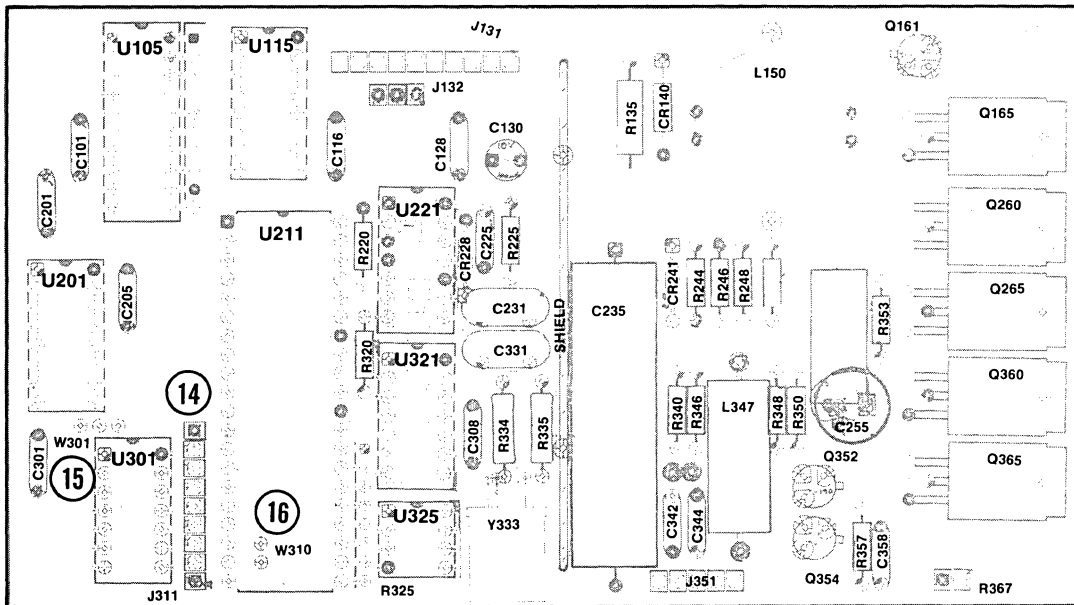
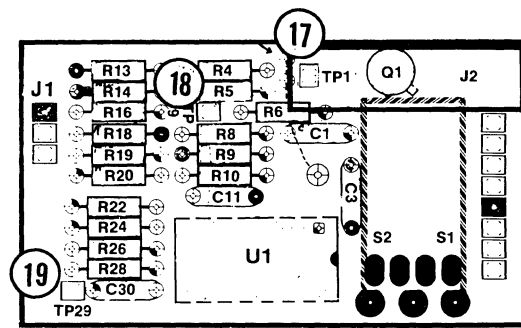


Figure 9-23. Tape drive data board (A18A1) test point and adjustment locations.



3836-196

Figure 9-24. Tape drive servo board (A18A2) test point and adjustment locations.



STATUS BOARD

3836-197

Figure 9-25. Tape drive status board (A18A3) test point and adjustment locations.

1. **R831.** This trimmer potentiometer sets the gain for the data pre-amp. Adjust this trimmer so data at test point TP7 is 2 V p-p.
2. **TP1.** A ground pin.
3. **TP2.** This pin shows the serial data that comes from the tape heads to be read by the tape controller IC.
4. **TP3.** This pin shows the +2 V reference voltage.
5. **TP4.** This pin indicates when the tape controller IC is generating an interrupt for the DAS Controller board.
6. **TP5.** This pin is attached to the gap detect input of the tape controller IC.
7. **TP6.** This pin indicates which track of the tape is selected. High is track A, low is track B.
8. **TP7.** This pin has the output of the tape pre-amp. Monitor this point when adjusting the gain of the pre-amp.
9. **TP8.** This pin has the output of the tape threshold detector.
10. **TP9.** This pin is attached to the programmable gain circuit. This pin should always be high when used in the DAS.
11. **TP10.** This pin shows the output of the selected tape head through the initial buffer.
12. **J505.** This jumper should always be set to the B side.
13. **W570.** A jumper should always connect pins 1 and 2 of W570.
14. **J311.** This jack is used for troubleshooting the servo controller IC. For further information refer to the troubleshooting tree for the tape drive.
15. **W301.** This wire selects the clock frequency for the servo controller IC. The B side should always be connected.
16. **W310.** This jumper controls the operating mode of the servo controller for DAS applications. This jumper should not be connected.
17. **TP1.** This test point is connected to infrared LED DS2. If this point goes to +5 V, the diode is open; if it goes to ground, the diode has shorted out. A diode drop above ground probably indicates the LED is operating.
18. **TP9.** This point is the output of the tach wheel sensor. TTL levels should be seen here.
19. **TP29.** This point is the output of the tape hole detector.

OPTION 02, I/O INTERFACE (A19)

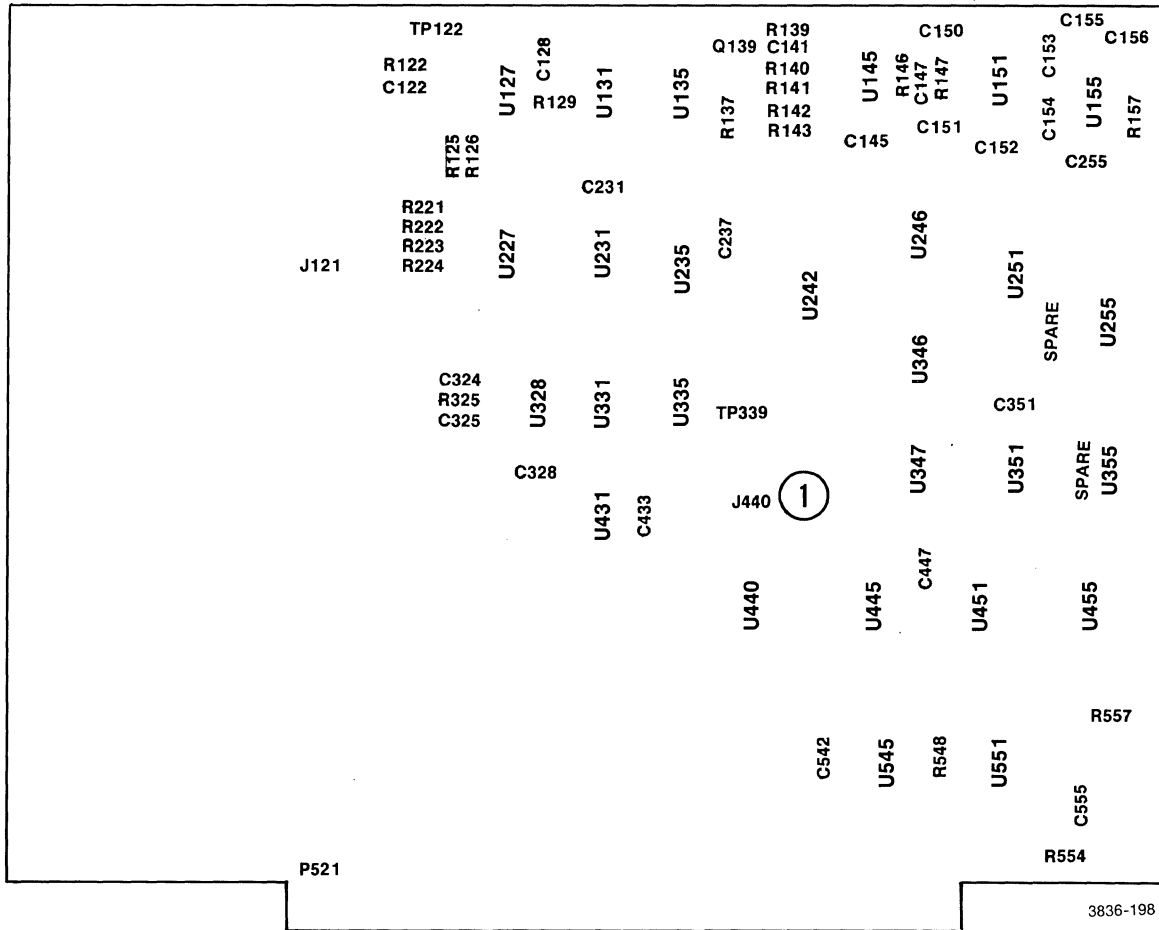


Figure 9-26. I/O Interface (A19) test point and adjustment locations.

1. **J440.** This jack has two shorting straps that may be repositioned depending on the type of ROM used for U440.

ROM Type in U440

Strap Positions

MK36000	short pin 1 to pin 2 and pin 4 to pin 5
2716	short pin 2 to pin 3 and pin 5 to pin 6

ONLINE DEBUGGING TOOL (ODT) INFORMATION

The DAS online debugging tool (ODT) is a firmware program resident in the Interp ROM on the Controller board. The program can be used to exercise any portion of the firmware-addressable hardware in a DAS system, if the mainframe has an operational I/O Interface (Option 02). ODT operates entirely out of the registers in the Z80, no RAM is used.

The tools required to operate ODT are:

- a DAS mainframe with an I/O Interface (Option 02)
- a 4800 baud, full duplex RS-232 terminal
- a null modem
- a debounced, normally open shorting button to call the Z80 NMI.

INITIATING ODT

On power-up, the DAS programs the I/O Interface option to 4800 baud. This occurs whether the power-up RAM or ROM tests are passed or not. A null modem should now be connected to the RS-232 port on the back of the DAS mainframe. Figure 9-27 shows a null modem schematic.

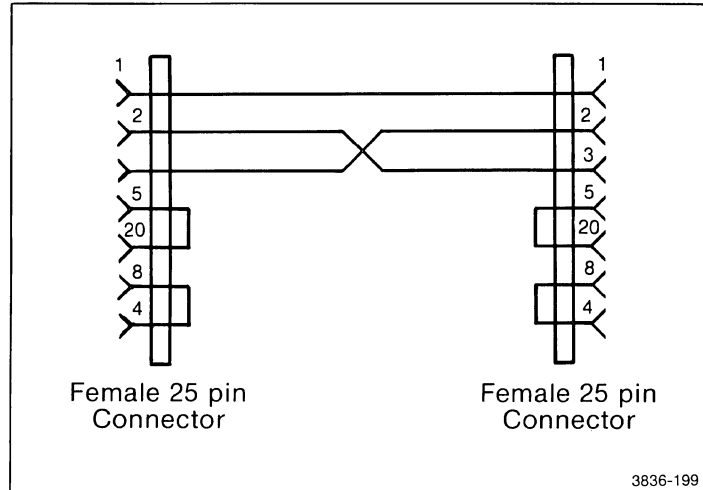


Figure 9-27. Schematic of a null modem.

The null modem allows the DAS to talk over RS-232 without the use of a modem. Connect the 4800 baud terminal to the null modem. Slide back the DAS side panel adjacent to the module compartment until the soldered side of the Trigger/Time Base board is exposed. Continue to slide the side panel back until two square pins on the Interconnect are exposed: the RESET pin and the NMI pin.

Connect one side of the debounced shorting button to the NMI square pin. Connect the other side of the shorting button to ground. Pressing the shorting button should cause the terminal to display the message * NMI INTERRUPT * followed by a list of the contents of the Z80 registers. At this point all commands executable by ODT are accessible through the terminal.

NOTE

DAS memory and status are not disturbed by execution of ODT. The DAS display does not give any indication that ODT is in operation. ODT may be exited with the G (go) command (refer to Table 9-6). This allows the DAS to continue running from where it left off.

ODT COMMANDS

The following is a list of the commands that can be executed by ODT. Commands are executed upon receipt of the carriage return character.

**Table 9-6
List of ODT Commands**

nnnn	Open and display the contents of memory location nnnn. One byte (two hexadecimal digits) is displayed. The contents of the memory location can be changed by entering two new hexadecimal digits on the terminal followed by the carriage return, line feed, or © character.
line feed	If a location in memory is currently open, close the current location and open the location immediately following.
©	If a location in memory is currently open, close the current location and open the location immediately previous.
nnR	Open and display the contents of I/O address nn.
nnWmm	Write the hexadecimal number mm into I/O address nn. The write is performed when the location is closed with a carriage return, line feed, or © character.
nnnnG	Start program execution at location nnnn. The register contents of the Z80 are restored to the values originally contained when NMI was called.
G	Continues program execution from an NMI or RESTART instruction. The Z80 registers are restored to the values originally contained when NMI was called.
nnnnX	Same as the G command except that the registers in the Z80 are not restored and therefore no RAM is used. This command is useful for debugging DAS Controller boards that have character a RAM failure.

The ODT program stores the last location opened. This location can be re-opened by sending a slash (/) character to the DAS. When a location is open, a character value from the DAS character set (CRT Controller character code) can be entered by typing a quote (") character followed by the desired character.

Since the NMI interrupt does not reset the stack of the Z80, care should be taken to properly nest NMI requests with the G command. If the NMI button is pressed twice, it will take two G commands to continue the program. The first G command will return to the ODT input loop, and the second G will start program execution.

I/O MAPS

The following set of tables list all the I/O ports in the DAS. These tables may be used in combination with the online debugging tool (ODT) to access any part of the DAS that is written to or read from by DAS firmware. Using ODT, very fast hexadecimal code routines can be written for execution by the DAS. These routines can then be used to exercise almost any section of the hardware in a predictable manner.

Table 9-7
Controller I/O Map

I/O Addr (Hex)	R/W	Description	Location
00—7F	---	Instrument card I/O addresses, mapped by mapping register.	
80—88		DMA Controller.	A6U251
80	R/W	DMA Controller address register 0.	A6U251
81	R/W	DMA Controller word count register 0.	A6U251
82	R/W	DMA Controller address register 1.	A6U251
82	R/W	DMA Controller word count register 1.	A6U251
84	R/W	DMA Controller address register 2.	A6U251
83	R/W	DMA Controller word count register 2.	A6U251
86	R/W	DMA Controller address register 3.	A6U251
87	R/W	DMA Controller word count register 3.	A6U251
88	W	DMA Controller control bits. Bit 0: Enable DMA channel 0. Bit 1: Enable DMA channel 1. Bit 2: Enable DMA channel 2. Bit 3: Enable DMA channel 3. Bit 4: Enable rotating priority. Bit 5: Enable extended write.	A6U251

**Table 9-7 (cont)
Controller I/O Map**

I/O Addr (Hex)	R/W	Description	Location															
88	R	Bit 6: Enable word count stop bit. Bit 7: Enable auto load. DMA Controller status bits Bit 0: Terminal count status, channel 0. Bit 1: Terminal count status, channel 1. Bit 2: Terminal count status, channel 2. Bit 3: Terminal count status, channel 3. Bit 4: Update flag.	A6U121															
90—91		CRT Controller	A6U121															
90	R/W	CRT Controller parameter register.	A6U121															
91	W	CRT Controller command register.	A6U121															
		Bit 0: Turns off CRT.	A6U121															
91	R	CRT Controller status register.	A6U121															
AC	W	Beeper register	A6U227															
		Bit 0: Beeper.																
		Bit 1: Keyboard remote light(L).																
		Bit 2: Keyboard lockout light(L).																
		Bits 3 and 4: Baud clock selector.																
		<table border="0" style="margin-left: 40px;"> <tr> <td style="padding-right: 10px;">4</td> <td style="padding-right: 10px;">3</td> <td>selected baud clock</td> </tr> <tr> <td>0</td> <td>0</td> <td>153.6 KHz</td> </tr> <tr> <td>0</td> <td>1</td> <td>76.8 KHz</td> </tr> <tr> <td>1</td> <td>0</td> <td>38.4 KHz</td> </tr> <tr> <td>1</td> <td>1</td> <td>19.2 KHz</td> </tr> </table>	4	3	selected baud clock	0	0	153.6 KHz	0	1	76.8 KHz	1	0	38.4 KHz	1	1	19.2 KHz	
4	3	selected baud clock																
0	0	153.6 KHz																
0	1	76.8 KHz																
1	0	38.4 KHz																
1	1	19.2 KHz																
		Bit 5: Tape reset.																
		Bit 6: Diagnostic DMA request.																
		Bit 7: Diagnostic interrupt 7.																
B0	W	Slot and port select.	A6U121															
C0	W	Glitch suppress.	A6U121															
C0	R	Keyboard	A6U525															
		Bits 0—6: Key data.																
		Bit 7: Key down detect(L).																

Table 9-8
Trigger/Time Base I/O Map

I/O Addr (Hex)	R/W	Description	Location
0	W	ROM selector.	A10U495
0	R	Module ID (none = FF hexadecimal).	--
1	W	External clock probe threshold sel.	A10U131
1	R	Pod status Bit 2: Pod C ID. Bit 3: Normally low (diagnostic). Bit 5: 91A32 triggered(L). Bit 6: Pod C present.	A10U177
2	W	Control register 0 Bit 0: Invert event 2. Bit 1: Clear trigger. Bit 2: Start all. Bit 3: Stop pattern generator. Bit 5: ARM trigger. Bit 6: Event 1 OR event 2. Bit 7: Invert event 3.	A10U275
2	R	MOS status register Bit 0: Stop/store. Bit 1: Start all. Bit 2: Pod C MOS(L). Bit 3: A counter, bit 7. Bit 4: A counter, bit 15. Bit 5: Delay counter, bit 7. Bit 6: Delay counter, bit 15. Bit 7: diagnostic.	A10U375
3	W	91A32 clock rate register.	A10U135
4	W	91A08 clock rate register.	A10U141
5	W	Low order delay count register.	A10U351 A10U351
5	R	Status register	A10U177

Table 9-8 (cont)
Trigger/Time Base I/O Map

I/O Addr (Hex)	R/W	Description	Location
		Bit 0: DAC data register, bit 7. Bit 1: 91A08 clock rate register, bit 7. Bit 2: ROM selector register, bit 0. Bit 3: A counter register, bit 15.	
6	W	High order delay count register.	A10U345 A10U365
7	W	Low order A counter register.	A10U271
8	W	High order A counter register.	A10U274
9	W	Single step.	--
A	W	Diagnostic B done.	A10U245B
B	W	Diagnostic 91A32 trigger.	A10U145A
C	W	Diagnostic delay enable.	A10U461B
D	W	Trigger clock select register. Bits 0—2: Trigger clock sel. 2 1 0 Selected clock 0 1 1 91A32 internal clock 1 0 0 CLK1 1 1 0 CLK1(L) 1 1 1 clock off Bit 3: Enable PG external control. Bit 4: PG ext clk polarity. Bit 5: PG ext pause polarity. Bit 6: PG interrupt polarity. Bit 7: PG inhibit polarity.	A10U128

Table 9-9
91A32 I/O Map

I/O Addr (Hex)	R/W	Description	Location																																				
0	R	Module ID (80 hexadecimal).	A12U245																																				
1	W	Probe threshold select.	A12U152																																				
1	R	Pod status register. Bits 0—3: Bit is low when probe is plugged into corresponding pod connector and pod ID button is pressed. Bits 4—7: Bit is low when probe is plugged into corresponding pod connector.																																					
2	W	91A32 control register A12U665 Bits 0—3: These bits enable the data acquisition RAM. Low enables the RAM. Bits 4—6: These bits select the 91A32 clock. <table border="0" style="margin-left: 40px;"> <tr> <td>6</td> <td>5</td> <td>4</td> <td>Selected clock</td> </tr> <tr> <td>6</td> <td>0</td> <td>0</td> <td>single step</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>91A32 int clock(L)</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>CLK3(L)</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>CLK3</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>CLK2(L)</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>CLK2</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>CLK1(L)</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>CLK1</td> </tr> </table> Bit 7: Enable word recognizer.	6	5	4	Selected clock	6	0	0	single step	0	0	1	91A32 int clock(L)	0	1	0	CLK3(L)	0	1	1	CLK3	1	0	0	CLK2(L)	1	0	1	CLK2	1	1	0	CLK1(L)	1	1	1	CLK1	
6	5	4	Selected clock																																				
6	0	0	single step																																				
0	0	1	91A32 int clock(L)																																				
0	1	0	CLK3(L)																																				
0	1	1	CLK3																																				
1	0	0	CLK2(L)																																				
1	0	1	CLK2																																				
1	1	0	CLK1(L)																																				
1	1	1	CLK1																																				
2	R	MOS status register Bits 0—3: Bit is low when MOS switch is set on corresponding probe. Bit 4: All stored data is valid. Bit 5: Last stored word was in even side RAM (high true). Bit 6: Diagnostic word 1 recognizer readback. Bit 7: Diagnostic word 1 XOR word 2 recognizer readback.	A12U241																																				

Table 9-9 (cont)
91A32 I/O MAP

I/O Addr (Hex)	R/W	Description	Location
3	W	Chip select register Bit 0: Load the even MAR. Bit 1: Disable write enable generators. Bit 2: Add an extra cycle to the clock pipeline (used for modules using external clocks other than master clock in split clock mode). Bits 3—6: These bits enable the different qualifier lines and select the qualifier polarities. Bit 7: Test bus enable.	A12U658
3	R	MAR readback (reads back the off MAR)	A12U251
4	W	MAR clock (increments or loads the even MAR).	A12U655
4	R	Even side acquisition memory byte 0 readback.	A12U165 A12U168 A12U351
5	W	Loads even and odd word recognizer RAM nibble 0.	A12U465 A12U468
5	R	Even side acquisition memory byte 1 readback.	A12U171 A12U175 A12U351
6	W	Loads even and odd word recognizer RAM nibble 1.	A12U471 A12U475
6	R	Even side acquisition memory byte 2 readback.	A12U178 A12U181 A12U351
7	W	Loads even and odd word recognizer RAM nibble 2.	A12U478 A12U481
7	R	Even side acquisition memory byte 3 readback.	A12U185 A12U188 A12U351
8	W	Loads even and odd word recognizer RAM nibble 3.	A12U485 A12U488
8	R	Odd side acquisition memory byte 0 readback.	A12U265 A12U268 A12U361

Table 9-9 (cont)
91A32 I/O Map

I/O Addr (Hex)	R/W	Description	Location
9	W	Single step clock.	--
9	R	Odd side acquisition memory byte 1 readback.	A12U271 A12U275 A12U361
A	W	Load odd MAR(L) (load with the data in the even MAR).	A12U655
A	R	Odd side acquisition memory byte 2 readback.	A12U278 A12U281 A12U361
B	W	Set the qualifier for pod A to a predetermined state.	A12U233A
B	R	Odd side acquisition memory byte 3 readback.	A12U285 A12U288 A12U361
C	W	Set the qualifier for pod B to a predetermined state.	A12U233B
F	W	Initialize the 91A32 module.	--

Table 9-10
91A08 I/O Map

I/O Addr (Hex)	R/W	Description	Location
0	R	Module ID (81 hex).	A13U695
1	W	Probe threshold select.	A13U118
1	R	Pod status register Bit 0: Acquisition memory access enabled. Bit 1: Probe clock enabled. Bit 2: Pod C ID button is pressed. Bit 3: Word recognizer control register bit 3. Bit 5: 91A08 triggered. Bit 6: Pod C is connected.	A13U678

Table 9-10 (cont)
91A08 I/O Map

I/O Addr (Hex)	R/W	Description	Location																																																
2	W	<p>Bit 7: Word recognizer data register bit 2.</p> <p>Clock select register</p> <p>Bit 0: Enable probe clock.</p> <p>Bits 1—3: These bits select the clock used by the 91A08.</p> <table border="0" data-bbox="722 703 1153 976"> <tr> <td>3</td> <td>2</td> <td>1</td> <td>Selected clock</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>off(L)</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>91A32 internal clock</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>CLK1(L)</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>CLK1</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>91A08 internal clock</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>91A08 probe clock</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>91A08 probe clock(L)</td> </tr> </table> <p>Bits 4—6: These bits select the clock used by the 91A08 difference counter.</p> <table border="0" data-bbox="722 1071 1153 1218"> <tr> <td>6</td> <td>5</td> <td>4</td> <td>Selected clock</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>91A32 internal clock</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>CLK1(L)</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>CLK</td> </tr> </table>	3	2	1	Selected clock	0	0	0	off(L)	0	0	1	91A32 internal clock	0	1	0	CLK1(L)	0	1	1	CLK1	1	0	0	91A08 internal clock	1	0	1	91A08 probe clock	1	1	0	91A08 probe clock(L)	6	5	4	Selected clock	1	1	0	91A32 internal clock	1	0	1	CLK1(L)	0	1	1	CLK	A13U131
3	2	1	Selected clock																																																
0	0	0	off(L)																																																
0	0	1	91A32 internal clock																																																
0	1	0	CLK1(L)																																																
0	1	1	CLK1																																																
1	0	0	91A08 internal clock																																																
1	0	1	91A08 probe clock																																																
1	1	0	91A08 probe clock(L)																																																
6	5	4	Selected clock																																																
1	1	0	91A32 internal clock																																																
1	0	1	CLK1(L)																																																
0	1	1	CLK																																																
2	R	<p>MOS status register</p> <p>Bit 0: 91A08 stop/store.</p> <p>Bit 1: ARM 91A08 trigger(L).</p> <p>Bit 2: Pod C MOS(L).</p> <p>Bit 3: Glitch control register bit 3.</p> <p>Bit 4: MAR overflow detect.</p> <p>Bit 5: Even clock (high indicates even RAM loaded last).</p> <p>Bit 6: Lower byte delay register bit 4 (diagnostic).</p> <p>Bit 7: Upper byte delay register bit 0 (diagnostic).</p>	A13U681																																																
3	W	Load memory address register (MAR).	A13U255 A13U258																																																

Table 9-10 (cont)
91A08 I/O Map

I/O Addr (Hex)	R/W	Description	Location																		
3	R	Read memory address register (MAR).	A13U461 A13U488																		
4	W	Load a single byte into the acquisition memory.	A13U175B																		
4	R	Read acquisition memory, one byte at a time (eight bytes per address).	A13U685 A13U175B																		
		<table border="0"> <tr> <td>read number</td> <td>data</td> </tr> <tr> <td>first</td> <td>even data (8 bits)</td> </tr> <tr> <td>second</td> <td>even glitch (8 bits)</td> </tr> <tr> <td>third</td> <td>even misc. (4 bits)</td> </tr> <tr> <td>fourth</td> <td>no data (0 bits)</td> </tr> <tr> <td>fifth</td> <td>odd data (8 bits)</td> </tr> <tr> <td>sixth</td> <td>odd glitch (8 bits)</td> </tr> <tr> <td>seventh</td> <td>odd misc. (4 bits)</td> </tr> <tr> <td>eighth</td> <td>no data (0 bits)</td> </tr> </table>	read number	data	first	even data (8 bits)	second	even glitch (8 bits)	third	even misc. (4 bits)	fourth	no data (0 bits)	fifth	odd data (8 bits)	sixth	odd glitch (8 bits)	seventh	odd misc. (4 bits)	eighth	no data (0 bits)	
read number	data																				
first	even data (8 bits)																				
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third	even misc. (4 bits)																				
fourth	no data (0 bits)																				
fifth	odd data (8 bits)																				
sixth	odd glitch (8 bits)																				
seventh	odd misc. (4 bits)																				
eighth	no data (0 bits)																				
5	W	Load low order delay counter byte.	A13U428 A13U155																		
5	R	Read low order difference counter byte.	A13U688																		
6	W	Load high order delay counter byte.	A13U145 A13U151																		
6	R	Read high order difference counter byte.	A13U691																		
7	W	Set whether bits must be high or low to be recognized.	A13U125																		
8	W	Set which bits will be used in word recognition.	A13U128																		
A	W	Set which bits will use glitch recognition for triggering	A13U121																		
B	W	Trigger control register Bit 0: Clear 91A08 module. Bit 1: Enable glitch OR data triggering. Bit 2: Ignore glitches in trigger (set if all glitches are don't care). Bit 3: Put the 91A08 word recognition signal on the event 1 line. Bit 4: ARM the 91A08 trigger. Bit 5: Let 91A32 trigger ARM the 91A08 trigger.	A13U135																		

**Table 9-10 (cont)
91A08 I/O Map**

I/O Addr (Hex)	R/W	Description	Location
C	W	Qualifier and memory control register Bit 0: Inhibit probe qualifier. Bit 1: Set whether probe qualifier is active high or low. Bit 2: Let 91A32 qualifier bus also control 91A08 qualification. Bit 3: Disable the load/read counter. Bit 4: Enable loading the low order byte of the delay counter. Bit 5: Enable acquisition memory load. Bit 6: Enable access to the acquisition memory. Bit 7: Inhibit the write enable generators.	A13U141

**Table 9-11
91P16 I/O Map**

I/O Addr (Hex)	R/W	Description	Location
0	R	Module ID (16 hex).	A14U481 A14U485
1	R	Pod status register Bit 0: Pattern generator is halted. Bit 1: Goes low when probe in pod connector B has the pod ID button pressed. Bit 2: Goes low when probe in pod connector C has the pod ID button pressed. Bit 4: Pattern generator probes are inhibited (tristate). Bit 5: Goes low when probe is installed in pod connector B. Bit 6: Goes low when probe is installed in pod connector C.	A14U166

Table 9-11 (cont)
91P16 I/O Map

I/O Addr (Hex)	R/W	Description	Location
2	W	Control register 0 Bit 0: Sets the polarity of strobe 0. Bit 1: Sets the polarity of strobe 1. Bit 2: Enable strobe loading. Bit 3: Clear the strobe counter(L). Bits 4 and 5: These bits select the clock used by the 91P16. 5 4 Selected clock 0 0 91A32 internal clock 0 1 PG external clock 1 0 single step 1 1 91A08 internal clock Bits 6 and 7: These bits select what data will be read through the memory read buffer. 7 6 Readback selected 0 0 program counter value 0 1 vector byte 0 1 0 vector byte 1 1 1 no readback	A14U585
3	W	Control register 1 Bit 0: Enable the clock to the probes and the strobes. Bit 1: Enable the instruction multiplexer. Bit 2: Turn on the clock to the instruction register. Bit 5: Enable interrupt requests.	A14U581
4	W	Load strobes.	A14U153 A14U165 A14U271C
4	R	Read vector memory or program counter depending on status of control register 0, bits 6 and 7.	A14U371

Table 9-11 (cont)
91P16 I/O Map

I/O Addr (Hex)	R/W	Description	Location
5	W	Load μ Code byte 0.	A14U435 A14U441
6	W	Load μ Code byte 1.	A14U427 A14U431
7	W	Load vector memory byte 0.	A14U421 A14U425
8	W	Load vector memory byte 1.	A14U521 A14U525
9	W	Single step clock.	--
A	W	Used to transfer the loaded program counter value to address the A14U471 vector memory.	A14U367
B	W	Load the program counter value.	A14U445 A14U541
C	W	Load the instruction register with data in the μ Code memory (the μ Code address is specified by the program counter value).	A14U451 A14U453 A14U467A
D	W	Load the clock control RAM at the address specified by the μ Code memory.	A14U145 A14U151

Table 9-12
91P32 I/O Map

I/O Addr (Hex)	R/W	Description	Location
0	R	Module ID (85 hex).	A17U641
1	R	Pod status register Bit 0: Detects ID button pressed on pod A. Bit 1: Detects ID button pressed on pod B. Bit 2: Detects ID button pressed on pod C. Bit 3: Detects ID button pressed on pod. Bit 4: Detects whether a probe is connected to pod connector A. Bit 5: Detects whether a probe is connected to pod connector B. Bit 6: Detects whether a probe is connected to pod connector C. Bit 7: Detects whether a probe is connected to pod connector D.	A17U638
2	W	Control register 0 Bit 0: Select vector memory byte 2 for readback. Bit 1: Select vector memory byte 3 for readback. Bit 2: Select vector memory byte 4 for readback. Bit 3: Select vector memory byte 5 for readback.	A17U538
3	W	Control register 1 Bit 0: Enable strobe RAM loading. Bit 1: Select polarity of strobe 2. Bit 2: Select polarity of strobe 3. Bit 3: Select polarity of strobe 4. Bit 4: Select polarity of strobe 5. Bit 5: Clear the strobe counter. Bit 7: Enable the clock to the probes.	A17U545

Table 9-12 (cont)
91P32 I/O Map

I/O Addr (Hex)	R/W	Description	Location
4	W	Load the strobe RAM.	A17U358 A17U361 A17U365 A17U368
4	R	Read the enabled vector memory byte. (The byte is selected by control register 0, bits 0 - 3.)	A17U635
5	W	Load the strobe μ Code RAM Bit 0: This bit specifies when strobe 2 starts. Bit 1: This bit specifies when strobe 3 starts. Bit 2: This bit specifies when strobe 4 starts. Bit 3: This bit specifies when strobe 5 starts.	A17U135
9	W	Load vector memory byte 2.	A17U125 A17U131
A	W	Load vector memory byte 3.	A17U325 A17U331
B	W	Load vector memory byte 4.	A17U425 A17U431
C	W	Load vector memory byte 5.	A17U525 A17U531

Table 9-13
Option 01 (Tape Drive for DC100-Type Cartridges) I/O Map

I/O Addr (Hex)	R/W	Description	Location																																				
E0	R/W	Data register. This register accepts data to be stored on the tape in write mode. In read mode, this register contains data read back from the tape.	A18A1U661																																				
E1	W	<p>Command register 1</p> <p>Bits 0 and 1: These bits control the synchronization signal written onto the tape.</p> <p>Bit 2: This bit controls the mode of the tape controller IC. When this bit is high, the tape drive begins writing data when SYN (bit 2 of status register) goes high.</p> <p>Bits 3—5: These bits control the speed of the tape drive servo controller.</p> <table border="0" data-bbox="695 989 1149 1291"> <tr> <td>5</td> <td>4</td> <td>3</td> <td>Servo reaction</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>stop tape motion</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>find beginning of tape</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>reset servo</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>acknowledge power-up</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>forward at 25 ips</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>reverse at 25 ips</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>forward at 60 ips</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>reverse at 60 ips</td> </tr> </table> <p>Bit 6: This bit selects either track A or B to be read or written.</p> <p>Bit 7: This bit reduces the effective amplitude of the tape output by 6 dBV. This bit can be used to simulate reading an old tape.</p>	5	4	3	Servo reaction	0	0	0	stop tape motion	0	0	1	find beginning of tape	0	1	0	reset servo	0	1	1	acknowledge power-up	1	0	0	forward at 25 ips	1	0	1	reverse at 25 ips	1	1	0	forward at 60 ips	1	1	1	reverse at 60 ips	A18A1U661
5	4	3	Servo reaction																																				
0	0	0	stop tape motion																																				
0	0	1	find beginning of tape																																				
0	1	0	reset servo																																				
0	1	1	acknowledge power-up																																				
1	0	0	forward at 25 ips																																				
1	0	1	reverse at 25 ips																																				
1	1	0	forward at 60 ips																																				
1	1	1	reverse at 60 ips																																				
E1	R	<p>Status register</p> <p>Bits 0—1: These bits indicate the number of times the Controller board should service the tape drive.</p> <table border="0" data-bbox="695 1711 1039 1885"> <tr> <td>0</td> <td>1</td> <td>Function</td> </tr> <tr> <td>0</td> <td>0</td> <td>no service required</td> </tr> <tr> <td>0</td> <td>1</td> <td>read/write 1 byte</td> </tr> <tr> <td>1</td> <td>0</td> <td>read/write 2 bytes</td> </tr> <tr> <td>1</td> <td>1</td> <td>overflow</td> </tr> </table>	0	1	Function	0	0	no service required	0	1	read/write 1 byte	1	0	read/write 2 bytes	1	1	overflow	A18A1U661																					
0	1	Function																																					
0	0	no service required																																					
0	1	read/write 1 byte																																					
1	0	read/write 2 bytes																																					
1	1	overflow																																					

Table 9-13 (cont)
Option 01 (Tape Drive for DC100-Type Cartridges) I/O Map

I/O Addr (Hex)	R/W	Description	Location
E3	W	<p>Bit 2: This bit goes high when the data and sync counters are synchronized.</p> <p>Bit 3: When the tape drive is not reading or writing, this bit indicates the status of the write inhibit switch on the data cartridge. When the tape drive is reading, this bit indicates an overflow (insufficient data servicing).</p> <p>Bit 4: This bit goes high whenever an inter-record gap is detected. This causes an interrupt if the interrupt has been enabled by command register 2, bit 3.</p> <p>Bit 5: This bit goes high if the tape cartridge is removed.</p> <p>Bit 6: This bit goes high when a hole in the tape is detected.</p> <p>Bit 7: This bit goes high if the servo fail flag occurs, which indicates that the tape servo is inoperable.</p> <p>Command register 2</p> <p>Bits 0—2: These bits control the state of CRC (cyclic redundancy check, a means of detecting tape errors).</p> <p>Bit 3: This bit turns on the current to the tape head. The current must be on to write data and/or inter-record gaps.</p> <p>Bit 4: Gap detect interrupt allowed.</p> <p>Bits 5—7: These bits must be a logic low.</p>	A18A1U661

Table 9-14
Option 02 (I/O Interface) I/O Map

I/O Addr (Hex)	R/W	Description	Location
F0	R	<p>This buffer allows the Controller board to read the assigned GPIB talker/listener address</p> <p>Bits 0—4: These bits specify the DAS talker/listener address.</p> <p>Bit 7: This bit selects the type of controller operating the GPIB.</p>	A19A1U135
F4 & F6	W	This buffer accepts data to be written out the RS-232 port on the back of the DAS.	A19A1U251
F4 & F6	R	This buffer writes out data that has been received through the RS-232 port and translated into parallel data.	A19A1U251
F5 & F7	W	<p>The control register for the RS-232 port.</p> <p>Bit 0: Transmit enable.</p> <p>Bit 1: Data terminal ready. This bit activates the DTR(L) pin of A19A1U251.</p> <p>Bit 2: Receive enable.</p> <p>Bit 3: Send break character. Setting this bit makes the RS-232 output line go continuously low.</p> <p>Bit 4: Reset the error flags.</p> <p>Bit 5: Request to send. Setting this bit activates the RTS(L) pin of A19A1U251.</p> <p>Bit 6: Internal reset. Setting this pin puts the 8251A in Mode Instruction Format. Format. For more information on the Mode Instruction, refer to a 8251A Programmable Communications Interface data sheet.</p> <p>Bit 7: Enter hunt mode. Setting this bit enables the chip to search for sync characters.</p>	A19A1U251

Table 9-14 (cont)
Option 02 (I/O Interface) I/O Map

I/O Addr (Hex)	R/W	Description	Location
F5 & F7	R	<p>The status register for the RS-232 port</p> <p>Bit 0: Transmit ready. This bit indicates that the transmit buffer is ready.</p> <p>Bit 1: Receiver ready. This bit indicates that a complete byte has been received and is ready to be read by the Controller board.</p> <p>Bit 2: Transmitter empty. This bit indicates that the transmit buffer is empty.</p> <p>Bit 3: This bit indicates that a parity error is detected. This bit does not inhibit RS-232 operation.</p> <p>Bit 4: Indicates that the Controller board did not read the previously written byte before the present byte was written over it.</p> <p>Bit 5: Framing error. This bit is set when a valid stop bit is not detected at the end of a character (asynchronous only).</p> <p>Bit 6: This bit goes high to indicate that the sync character has been located in the receive mode.</p> <p>Bit 7: This pin goes high when the DSR(L) pin on the 8251A (A19A1U251) goes low.</p>	A19A1U251

NOTE

Most register bits addressed by the GPIB I/O ports (ports F8 through FF) are defined in the standards volume for GPIB, IEEE Std. 488-1978. Refer to that standard for additional questions regarding use or function of the GPIB I/O ports.

Table 9-14 (cont)
Option 02 (I/O Interface) I/O Map

I/O Addr (Hex)	R/W	Description	Location
F8	W	GPIB interrupt mask 0 Bit 0: Unused. Bit 1: Unused. Bit 2: BI. Interrupt on byte input. Bit 3: BO. Interrupt on byte output. Bit 4: END. Interrupt on EOI with ATN false. Bit 5: SPAS. Interrupt on serial poll active state. Bit 6: RLC. Interrupt on local/remote change. Bit 7: MAC. Unused by the DAS.	A19A1U242
F8	R	GPIB interrupt status register 0 Bit 0: INT0. An interrupt has occurred in register 0 (I/O address F8). Bit 1: INT1. An interrupt has occurred in register 1 (I/O address F9). Bit 2: BI. A data byte has been received. Bit 3: BO. A19A1U242 is ready to accept the next (or first) data byte. Bit 4: END. An EOI has occurred with ATN = 0. Bit 5: SPAS. The controller-in-charge has polled the DAS while the DAS was asserting SRQ. Bit 6: RLC. A remote/local change has occurred. Bit 7: MAC. Unused by the DAS.	A19A1U242
F9	W	GPIB interrupt mask 1 Bit 0: GET. Interrupt on group execute trigger.	A19A1U242

Table 9-14 (cont)
Option 02 (I/O Interface) I/O Map

I/O Addr (Hex)	R/W	Description	Location
F9	R	Bit 1: UUCG. Unused by the DAS. Bit 2: UACG. Unused by the DAS. Bit 3: APT. Unused by the DAS. Bit 4: DCAS. This bit is set when the DAS receives a DCL (device clear) signal from the controller-in-charge. Bit 5: MA. Unused by the DAS. Bit 6: SRQ. Unused by the DAS. Bit 7: IFC. Unused by the DAS. GPIB interrupt status register 1 Bit 0: GET. A group execute trigger command has been received. Bit 1: UUCG. Unused by the DAS. Bit 2: UACG. Unused by the DAS. Bit 3: APT. Unused by the DAS. Bit 4: DCAS. This bit is set when the DAS has received a DCL (device clear) from the controller-in-charge. Bit 5: MA. Unused by the DAS. Bit 6: SRQ. Unused by the DAS. Bit 7: IFC. Unused by the DAS.	A19A1U242
FA	R	GPIB address status register. Bit 0: REM. The DAS is in the remote state. Bit 1: ATN. The attention line is low (true) on the bus. Bit 2: LLO. Local lockout is in operation. Bit 3: LPAS. The DAS is in the listener primary addressed state. Bit 4: TPAS. The DAS is in the talker primary addressed state. Bit 5: LADS. The DAS is addressed to listen (or LACS).	A19A1U242

Table 9-14 (cont)
Option 02 (I/O Interface) I/O Map

I/O Addr (Hex)	R/W	Description	Location
FB	W	Bit 6: TADS. The DAS is addressed to talk (or TACS). Bit 7: ulpa. Unused by the DAS. GPIB auxiliary command register. Bit 0: c/s. Clear or set operation (where applicable). Bits 3—7: f4—f0. Auxiliary command select. (Refer to data sheets on the TMS 9914 IC for more information on the use of these bits.)	A16A1U242
FB	R	GPIB bus status register. The DAS Controller board may obtain the status of the IEEE 488 bus management lines by reading the bus status register. There is no storage associated with this register; the information is obtained at the time of reading. Bit 0: ATN. Bit 1: DAV. Bit 2: NDAC. Bit 3: NRFD. Bit 4: EOI. Bit 5: SRQ. Bit 6: IFC. Bit 7: REN.	A16A1U242
FC	R/W	GPIB address register Bit 0: edpa. Unused by the DAS. Bit 1: dal. Unused by the DAS. Bit 2: dat. Unused by the DAS. Bits 3—7: DAS primary address.	A16A1U242
FD	W	GPIB serial poll register. This register contains the byte sent out when the controller in charge carries out a serial poll on the DAS. When a status byte with bit 6 asserted is written to this register, the SRQ line will be asserted by the DAS	A16A1U242

Table 9-14 (cont)
Option 02 (I/O Interface) I/O Map

I/O Addr (Hex)	R/W	Description	Location
FE	W	GPIB parallel poll register. This register is unused by the DAS.	A16A1U242
FE	R	GPIB command pass through register. This register is unused by the DAS.	A16A1U242
FF	W	GPIB data out register. When acting in the Talker mode, this register is used to transfer data bytes from the DAS to the IEEE 488 bus.	A16A1U242
FF	R	GPIB data in register. When addressed as a listener, this register transfers data from the GPIB to the DAS.	A16A1U242

SIGNAL GLOSSARY

Following is a list of signals used in the DAS and in available DAS options. They are arranged alphabetically, then numerically, then by symbol (such as μ Code). They contain the signal mnemonic, the long-form signal name, a brief description of the signal function, and in most cases the number of the schematic involved.

ACNTR 0,1(L): The clock for passing data through the Trigger/Time Base A counter registers (schematic 18).

ADV0 — ADV7: Advance bits 0 to 7 — Used in the 91P16 stack and instruction multiplexer (schematic 34) by the ADVANCE instruction to increment the program count.

ALL VALID(H): Produced by the all valid register in the 91A32 timing circuits (schematic 24), and indicates all addresses in the acquisition memory contain valid data.

ARM(H): Generated by the Trigger/Time Base controller interface (schematic 18) to reset the AAA, BBB, and CCC flip-flops in the trigger circuits.

ARM 91A08 TRIG(L): Arm 91A08 Trigger—Functions with ARM 91A08 ON 91A32 TRIG(H) and 91A32 TRIG 0(H) signals to arm the 91A08 trigger (schematic 31).

ADR0-1, ADR1-1: Register Address 0 and Register Address 1 inputs from the Controller to tape controller U661 on the tape drive data board (schematic 45).

ATN(H): Attention—Part of Interface Option 02. Sent by the bus controller when LOW interface commands are being sent over the DIO lines. When ATN is high, the DIO lines carry data.

A0 — AN: Bit 0 to bit N on the address bus.

BAUD RATE CLOCK: Baud Rate Clock — This is the receiver clock for the RS-232 interface IC (schematic 48). It controls the rate at which serial data is received. Originates in the Controller as BD RT CLK.

BA0 — BAN: Buffered address bit 0 to bit N.

BBRD(L): Double Buffered Read — Functions with PERSONALITY(L), and SEL SLOT(L) to allow the selected Trigger/Time Base ROM to be read on the data bus (schematic 16).

BCLK: Buffered Clock — The clock for the tape controller on the tape drive data board (schematic 45). Clocks at 75 times the write bit rate. Originates in the Controller Module.

BD RT CLK: See BAUD RATE CLOCK.

BD0 — BDN: Buffered data bit 0 to bit N on the data bus.

BD7(H): Buffered Data Bit 7 - If active when BWR(L) and GLITCH SUPPRESS(H) are active, glitches are not displayed (schematic 12).

BMREQ(L): Buffered Memory Request — The buffered MREQ(L) output of the controller micro-processor (schematic 10). This signal goes active to indicate that the address bus holds a valid address for a memory-read or memory-write operation.

BM1(L): Buffered Fetch — Active when the controller microprocessor (schematic 10) is in the op-code fetch cycle of an instruction expression.

BS0 — BS2, BS4 — BS6: Byte Select — Select bytes to be read from the 91A08 even and odd acquisition memory (schematic 28).

BRD(L): Buffered Read — Goes active when the controller microprocessor (schematic 10) is ready to receive on the data bus from the currently addressed device.

BFRSH(L): Buffered Refresh — The buffered RFSH(L) output of the controller microprocessor (schematic 10). Goes active to indicate the lower 7 bits of the address bus contain a refresh address for the dynamic RAMs.

BUFF EN MEM ACQ(H): Buffered Memory Acquisition Enable — Enables the Controller board to write data into odd and even 91A08 acquisition memory (schematic 28).

BUSAK(H): Bus Acknowledge — Active state indicates the data bus, address bus, and control bus can be used by devices other than the controller microprocessor (schematic 10).

BUSRQ(L): Bus Request — This output from the controller microprocessor (schematic 10) goes active to request the use of address, control, and data buses by a device other than the microprocessor.

BWR(L): Buffered Write — Active when the controller microprocessor is writing data on the data bus to the currently addressed device.

BYTE 2 — 5 SEL(H): Byte Select — Select data bytes to be read out of vector memories 2 to 5 (schematics 38 and 39).

CLEAR(L): Presets the pipeline in the external clock probe interface circuit (schematic 17). Loads data from the Trigger Specification menu into the presettable counters in the Trigger/Time Base trigger circuit (schematic 18).

CLK RESET(H): Clock Reset — Resets the Baud Clock circuit on the Controller (schematic 11).

CLK SEL(H): Clock Select — Controls selection of the clock for the 91A08 (schematic 30).

CLR TRIG ECT(H): Clear Trigger ECL — Presets the pipeline for the 91A08 trigger circuits (schematic 31).

CLK 91A08(L): Clock 91A08 — Clocks data out of the 91A08 Internal clock select register (schematic 19)

CLK 91A32(L): Clock 91A32 — Clocks data out of the internal clock select register for the 91A32 (schematic 19).

COMCS(L): Communication Chip Select — When active, selects the 8251A IC that controls the RS-232 interface (schematic 48).

COMP VIDEO: Composite Video — The composite video output of the I/O interface video driver (schematic 49).

CSYNC(H): Clock Sync — The horizontal sync for the Color Display Monitor (schematic C8A). Used instead of HORZ SYNC(H) because the drive requirement is different than for the Monochrome Display Monitor.

CS0 — CS3(L): Control Store Bits 0-3 — Enable acquisition by the 91A32 acquisition memory (schematic 23), and function with the EBRO0-EBRO3 bus to allow memory readback.

CTS(H): Clear to Send — Enables the RS-232 IC (schematic 48) to send serial data if the TxENABLE bit in the command byte is high.

C0 — C1(H): Control Bits 0,1 — Function with the GO TO FIELD in the μ code clock decoder (schematic 35) to stop the 91P16 clock.

CIP1 — 0(L): Cartridge in Place — Input to the tape drive microprocessor (schematic 44) indicating the tape cartridge has been inserted.

CIP2 — 0(L): Cartridge in Place (source) — A ground input to the CIP switch (S2 on schematic 47).

DACK2(L): Data Acknowledge — Signals the CRT Controller in the display generator (schematic 12) that its input data is ready to be transferred.

DATA0 — DATA7: Data bits 0-7 — Data inputs to the tape drive data board (schematic 45) from the data bus.

DAV(H): Data Valid — The handshake signal from the GPIB interface IC (schematic 48) to indicate valid data is on the bus.

DELAY 0 BIT 4(H): Read by the diagnostics during the delay counter test (schematic 26).

DELAY 1 BIT 0(H): Read by the diagnostics during the delay counter test (schematic 26).

DELAY 1 BIT 0(H): Produces TTL data bit 7 output from the 91A08 controller interface (schematic 26).

DIAG B DONE(L): Diagnostic B Done — Resets the trigger flip flop (U245B on schematic 18), indicating diagnostic complete.

DIAG DELAY EN(H): Diagnostic Delay Enable — Nanded in U461A (schematic 18) to enable the Trigger/Time Base trigger circuit so that CLK(H) can drive the delay counter.

DIFF0, DIFF1(L): Difference 0 and 1 — Enabling inputs to the 91A08 difference buffers (schematic 30) to allow the buffers to pass difference count data.

DMA IN PROG(L): Direct Memory Access in Progress — Functions with DMARD(L) to cause the data bus access buffer (schematic 10) to have a high impedance in both directions.

DMARD(L): Direct Memory Access Read — Functions with DMA IN PROG(L) to cause the data access buffer (schematic 10) to have a high impedance in both directions.

DMAWR(L): Direct Memory Access Write — The WR(L) input to the CRT controller (schematic 12), enabling the write cycle of the CRT controller.

DOT CLKs(H): One clock pulse produces one dot in the dot matrix. DOT CLK (9.8305 MHz) is divided by six to produce CHAR CLOCK (schematic 12). Phased DOT CLK(L) is used in video highlighting.

DQUAL(H): Diagnostic Qualifier — Part of the control logic for the 91A32 QUAL(H) output from Trigger/Time Base trigger circuits (schematic 18). Locks up the freeze register so that it continues to output the previously logged-in data.

DRQ2(H): Data Request — A request by the CRT controller (schematic 12) for the DMA controller (schematic 11) to transfer data to the bus.

DTR(H): +12 V to RS-232 connector on DAS rear panel.

D0 — DN: Data bit 0 to data bit N on the data bus.

DIO1 — DIO8: Data Input/Output bits 0-8 — Data I/O lines on the GPIB side of the TMS-9914 GPIB controller (U242 on schematic 48).

EA0 — EA7: Even Address 0-7 — Address input to the 91A08 even acquisition memory (schematic 28).

EBR0 — EBR3(L): Even Bus Acquisition Readback — Selects eight-bit sections of the 91A32 even acquisition memory (schematic 23) to be read back to the Controller.

ECLD0 — ECLD7: ECL Data Bits 0-7 — ECL data inputs to the 91A32 even and odd Acquisition memory (schematic 28), and to the 91A08 memory address registers (schematic 29).

ECL MEM ACQ EN(L): ECL Acquisition Memory Enable — Enables data on the ECLD0—ECLD7 bus in the 91A08 acquisition memory (schematic 28). Masks out the data when high.

ECL QUAL EN(H): ECL Qualifier Enable — ANDed with 91A32 QUAL(L) in the 91A08 qualifier logic (schematic 29) to produce the 91A08 QUAL(H) and QUAL(L) outputs to the 91A08 trigger circuits.

ECL STB CONT CLR(L): ECL Strobe Control Clear — Clears the 91P32 strobe counters (schematic 40).

ECL STB LDEN(H): ECL Strobe Load Enable — Set strobe control registers and resets end detect registers in the 91P32 Strobe Circuits (schematic 40)

ECL STB2 — STB5 POL(H): Strobe 2—5 Polarity — Controls the polarity of the 91P32 strobes (schematic 40). If this signal is high, the output strobes are active low.

EE1 — EE4(L): Even Events 1—4 — Even events from the 91A32 word recognition RAMs (schematic 25) input to the word recognizer multiplexer (along with odd events 1—4).

EMAR LD(L): Even Memory Address Load — Loads the 91A32 even memory address registers (schematic 24) with the contents of the D0—D7 bus.

EN LD DELAY 0(H): Enable Load Delay 0 — Loads the 91A08 lower 1/4 delay counter (schematic 31) with the lowest four bits on the ECLD0 — ECLD7 bus.

EN PROBE CLK(H): Enable Probe Clock — Produces buffered data bit 1 in the 91A08 controller interface (schematic 26). This bit enables the 100 MHz clock probe.

EOI(H): End or Identify — A GPIB Controller output (schematic 48) that indicates the end of a message block if ATN is high, or indicates the bus controller is requesting a parallel poll if ATN is low.

EPC0 — EPC7: ECL Program Counter Bits 0—7 — The address bus for the 91P16 μ Code memory (schematic 33).

EVEN CLK: Even Clock — Clocks the 91A08 even acquisition memory (schematic 28) at one half the selected clock rate so that only alternate sets of data are clocked through.

EVEN REG CLK: Even Register Clock — Clocks the 91A32 even acquisition register (schematic 23) at one half the selected clock rate so that only alternate sets of data are clocked through.

EVENT 1 — EVENT 3(H): Event 1—3 Recognition Signals — These outputs of the 91A32 word recognition multiplexer (schematic 25) are used in the Trigger/Time Base event conditioner (schematic 18) to develop the 91A32 trigger qualification signals.

EVEN WORD(H): Used by the Controller to indicate the location of the last data stored in the 91A32 acquisition memory (schematic 24). High indicates stored in even side, and low indicates stored in odd side.

EW0 — EW31: Even Word Bits 0—31 — The output of the 91A32 even acquisition memory. Used for 91A32 word recognition (schematic 25).

EXT CLK-1: External Clock—An external clock input for the tape controller IC (schematic 45), selectable by jumper W570 on the Tape Drive Data Board.

GC0 — GC7: Glitch Control Bits 0—7: The glitch control word for the 91A08 glitch and word recognition circuit (schematic 27).

GLITCH CONT(L): Glitch Control — Clocks data through the 91A08 glitch care/don't care register (schematic 27).

GLITCH CNTR GC1(H): Glitch Control Bit 1 - Read by the diagnostics to verify operation of the glitch care/don't care register (schematics 26 and 27).

GLITCH SUP REG(H): Glitch Suppress Register — Suppresses glitches from the timing display via the CRT controller (schematic 12). Low state allows keyboard read (schematic 13).

GND SENSE: Ground Sense — Ground input from the probe to the probe threshold DAC (schematic 17). Used with USER SENSE to establish VREF for the DAC.

GOTO FIELD(H): Eight-bit input to the instruction multiplexer registers (schematic 34). The multiplexer selects between GOTO 0—7 and ADV 0—7 to control the program counter value EPC 0—7.

GPA0, 2, 4, 8, 16: GPIB Address — Set with the DIP switch on the DAS back panel and sent to the GPIB controller (schematic 48).

GREEN: Green Video Data — Generates the green portion of the display on the Color Display Monitor via the green gun Z-axis output transistor (Q530 on schematic C8B).

GZ0: Green Gun Cathode Voltage — Input to the green-gun cathode on the Color Display Monitor CRT (schematic C8C).

G0 — G7: Glitch Data Bits 0—7 — Glitch recognition data to the 91A32 acquisition memory (schematic 28) from the 91A08 glitch and word recognizers (schematic 27).

HDT-0(L): Hole Detect — HDT input to the 6500/1 tape microprocessor (schematic 46). Hole count indicates speed and direction of tape.

HGLTB(H): Highlight — Output of CRT controller (schematic 12). Controls highlighting of displayed characters.

HOL(H): Hole Detected — An output from the 6500/1 microprocessor (schematic 46) to the tape controller indicating a hole has been detected.

HOLD OFF(L): Inhibits the Trigger/Time Base pipelined internal timing sequencer (schematic 17).

HORZ SYNC(H): Horizontal Sync — Synchronizes the horizontal scan in the Monochrome Display Monitor (schematic 8).

HVILIM: High Voltage Current Limiter — Limits current in the high-voltage circuit for the Color Display Monitor (schematic C8A).

IDENTIFY(H): Identifies probes connected to pods A to D.

INH PG, INH A — D: Inhibit Pattern Generator — Transmitted to the probes by the 91P32 Probe Clock and Inhibit circuit (schematic 40) causing the probes to enter a high impedance state.

INH PG is called TRI-ST ECL(H) on schematic 35, and PG EXT TRI-ST(H) on schematic 3 (pin B29 on the bus).

INIT(L): Initiate - Resets the qualifier logic to a known state before programming the qualifiers (schematic 24).

INT EN(L): Interrupt Enable — Enables the 91P16 interrupt logic circuit (schematic 34).

INTRPT VCTR(L): Interrupt Vector — Clocks the DMA and slot select logic (schematic 11) when an interrupt is acknowledged.

INT TRI-ST(H): Interrupt Tri-State — Creates the inhibit signal from the 91P16 clock and inhibit circuit (schematic 35) to the probes.

INT0 — INT7(L): Interrupt Bits 0—7 — The interrupt input to the controller interrupt logic (schematic 10) If one of the bits is active, the counter (U137A) is stopped and an interrupt signal is sent to the microprocessor.

INV2, INV3(H): Invert 2, Invert 3 — Invert EVENT 2 and EVENT 3 signals in the Trigger/Time Base event conditioner (schematic 18).

IR CLK: Instruction Register Clock — Clocks instruction codes through the 91P16 instruction register (schematic 33).

IR CLK SEL(H): Instruction Register Clock Select — ANDed with IRLD0(L) in the 91P16 clock control circuit (schematic 35) to determine clock selection for the 91P16 instruction register.

IRLD0(L): Instruction Register Load — Inhibits the 91P16 instruction register clock (schematic 35) while the instruction register is being loaded.

IRQ-0: Interrupt Request — The INT(H) output from the tape controller (schematic 45) (not used).

KBIT INT(L): Keydown — The inverted STROBE(H) output of the keyboard controller (schematic 9). Stays low to the keyboard read (schematic 13) as long as any key is being pressed.

KBIT0 — KBIT6: Keyboard Status Bits 0—6 — Output data from the keyboard controller (schematic 9) to the keyboard read (schematic 13).

KEY DN(L): Keydown — See KBIT INT(L).

KEYDOWN(L): See KBIT INT(L).

LOCKOUT(H): The Lockout indication from the controller DMA and slot select circuit (schematic 11) to the LOCKOUT lamp on the keyboard. Responds to lockout commands from the RS-232 and GPIB, and to the self-test mode.

LWR CAS(L): Lower Column Address Strobe — Selects the column (as opposed to the row) in the controller lower RAM (schematic 14).

LWR RAS(L): Lower Row Address Strobe — Selects the row (as opposed to the column) in the controller lower RAM (schematic 14).

LWR WR(L): Lower Write — The write command from RAM addressing logic (schematic 13) to the controller lower RAM (schematic 14).

MAP0 — MAP3: The memory map control word for the Trigger/Time Base ROM (schematic 16).

MAP1(L): Clocks memory map data through the Trigger/Time Base memory map control register (schematic 16).

MAR CLK(L): Memory Address Register Clock — Clocks the 91A32 qualification signal through the even/odd register flip-flops (schematic 24).

MAR LD(L): Memory Address Load — Allows the 91A08 memory read and load circuit (schematic 29) to load an address into the address counter.

MAR OVERFLOW(H): Memory Address Register Overflow — Indication to the 91A08 controller interface (schematic 26) that all addresses in the acquisition memory are loaded with valid data.

MAR RDBK(L): Memory Address Register Readback — Enables the 91A32 odd memory address data to be read back through the memory address register tri-state buffer (U251 on schematic 24).

MC11, MC12(H): Micro Code Bits 11 and 12 — Coding instruction bits for the 91P16 stack and instruction multiplexer (schematic 34).

MEM ACC EN(H): Memory Access Enable — Output by the 91A08 memory read and load circuit (schematic 29). Allows the Controller board to read from or write to the acquisition memory.

MEM LD(L): Memory Load — Output from the 91A08 controller interface (schematic 26). Allows the Controller board to write data into the acquisition memory.

MEM RD(L): Memory Read — Output from the 91A08 controller interface (schematic 26). Allows the Controller board to read data from the acquisition memory.

MEMR(L): Memory Read — Instructs the controller microprocessor (schematic 10) to read the data bus.

MEMR/W(L): Memory Read/Write — Enables the data bus buffers in the controller microprocessor (schematic 10).

MEMW(L): Memory Write — Instructs the controller microprocessor (schematic 10) to write data on the bus.

MOS(L): MOS Status — Input to the Trigger/Time Base (schematic 17) from the P6452 AUX-NORM slide switch (schematic 41). Low when the switch is in the AUX position.

MPSCK: Main Power Supply Clock — The controlling clock input from the Main Power Supply for regulation of the Color Display Monitor Power Supply (schematic C8A).

MR0 — MR7: Memory Read Bits 0—7 — The output data from the 91A08 acquisition memory (schematic 28).

M1, M+: Motor Drive Voltage — Drive voltage for the motor in the tape transport (schematics 44 and 46).

NDAC(H): Not Data Accepted — A handshake line. GPIB controller (schematic 48) sets this signal high when it has latched the data from the I/O lines.

NRFD(H): Not Ready for Data — Handshake line. GPIB controller (schematic 48) sets this high to indicate readiness for next byte.

OA0 — OA7: Odd Address Bits 0—7 — Address for the 91A08 odd acquisition memory (schematic 28).

OBRO — OBR3(L): Odd Byte Read Bits 0—3 — Allows the 91A32 odd acquisition memory (schematic 23) to be read by the Controller board.

ODD CLK: Odd Clock — Clocks the 91A08 odd acquisition memory (schematic 28) at one half the selected clock rate so that only alternate sets of data are clocked through.

ODD REG CLK: Odd Register Clock — Clocks the 91A32 odd acquisition register (schematic 28) at one half the selected clock rate so that only alternate sets of data are clocked through.

ODD WE(L): Odd Write Enable — Enables the 91A32 acquisition memory (schematic 23) to write data into the odd side.

OMAR LD(L): Odd Memory Address Load — Loads the 91A32 memory address registers (schematic 24) with the contents of the D0 — D7 bus.

OUT CNTR CLK(H): Output Counter Clock — Increments the 91P16 vector memory and probe interface output latches (schematic 36) when OUT CNTR LD(L) is high.

OUT CNTR LD(L): Output Counter Load — Allows data to be clocked through the 91P16 vector memory and probe interface output latches (schematic 36). The latches function as registers in this condition.

OW0—OW31: Odd Word Bits 0—31 — The output of the 91A32 odd acquisition memory (schematic 25).

PC CLK: Program Counter Clock — Clocks the program counter buffer in the 91P16 stack and instruction multiplexer (schematic 34).

PC0 — PC7: Program Count Bits 0—7 — The 91P16 stack and instruction multiplexer count (schematic 34) sent to any 91P32 Pattern Generator Expander in the DAS.

PERSONALITY(L): A memory map output from the controller (schematic 13) that selects the personality ROMs.

PG EXT CLK(L): Pattern Generator External Clock — The external clock input for the 91P16 clock selector circuit (schematic 35).

PG EXT INT(H): Pattern Generator External Interrupt — Interrupts the 91P16 stack and instruction multiplexer (schematic 34).

PG EXT PAUSE(H): Program Counter External Pause — Generates a HALT RD(H) output from the 91P16 μ code clock decoder (schematic 35).

PG EXP TRI-ST(H): Pattern Generator Expander Tri-State — Transmits inhibit commands from the 91P32 strobe circuits (schematic 40) to the probes, causing them to enter the high impedance state. PG EXP TRI-ST(H) (schematic 3) is called INH PG(H) on schematic 40, and TRI-ST ECL(H) on schematic 35.

PG EXT TRI-ST(H): Pattern Generator External Tri-State — Generates the pattern generator inhibit signal (TRI-ST ECL(H)) output from the 91P16 timing circuits (schematic 35).

PG TRI-ST ECL(H): Same signal as PG EXT TRI-ST(H) and INH PG(H). See those listings.

PRB CLK EN(H): Probe Clock Enable — Enables the 91P16 INT CLK (schematic 35) output to the probes.

PRB CLK EN(L): Enables the 91A32 probe clock and inhibit (schematic 40) output to the probes.

PREVIOUS(H): Previous bit value transmitted from the timing diagram decoder (schematic 12) to the display generator.

PROBE PRESENT (POD N)(L): Indicates a probe is installed in the pod.

PUT 91A08 TRIG ON EVENT 1(L): Resets the 91A08 start-up registers (schematic 30), allowing them to clock START ACQ(H).

QEN0 — QEN3(H): Qualifier Enable Bits 0—3 — Enables the 91A32 qualifier logic circuit (schematic 24).

QUAL A, B(H): Qualify on Pod A, B — The qualification signals from the 91A32 probe receivers (schematic 21) to the 91A32 qualifier logic (schematic 24).

QUAL MEM CNTL(L): Qualifier Memory Control — Clocks TTL data into the 91A08 qualifier and memory control register (schematic 29).

Q0, Q1 SET(L): Qualifier 0 and 1 Set — Sets the 91A32 qualifier logic registers (schematic 24) for the QUAL A(L), QUAL A(H), and QUAL B(H) signals.

Q+1 EN(H): Qualifier + One Enable — Adds an extra cycle to the 91A32 qualifier signal in the SPLIT CLOCK mode (schematic 24).

RAM DIS(H): Inhibits the 91A32 even and odd write enable generators (schematic 24).

RA0 — RA6: RAM Address Bits 0—6 — The address for the controller system RAM (schematic 14).

READ(L): The READ input to the tape controller (schematic 45).

RED: Red Video Data — Generates the red portion of the display on the Color Monitor via the red-gun Z-axis output transistor (Q440 on schematic C8B).

REMOTE(L): The input to the keyboard REMOTE lamp (schematic 9). Active when the RS-232 port is transmitting or receiving data, when DAS is remote-addressed by the GPIB, when the tape drive is formatting a tape (blinks), or when DAS is in the self-test mode.

REN(H): Remote Enable — Sent by the I/O interface controller (schematic 48) to select control by the GPIB.

RESET A(L): Resets the Trigger/Time Base memory map register (schematic 16) and clock select registers (schematic 19).

RVB0 — RVB7: Vector Readback Bits 0—7 — 91P16 vector readback data to the readback comparators (schematic 32). Enabled comparators convert ECL to TTL. Disabled comparators output low levels.

RVVB(H): Reverse Video — Goes active in the CRT display generator (schematic 12) enabling the CRT to display inverse video.

RX(H): Receiver Data — Serial data input to the RS-232 controller (schematic 48), converted in the controller to parallel data.

RZ0: Red Gun Cathode Voltage — Input to the Color Display Monitor (schematic C8C).

SC1 — SC3(L): Servo Control — The tape motion command input to the tape drive microprocessor (schematic 46).

PORT 1 — PORT 15(L): Indicates when the slot select logic (schematic 11) is to write data to the selected module. (PORT 8—11 lines are not used — reserved for future expansion).

SEL SLOT 1 — SEL SLOT 15(L): Select Slot — Indication from the controller slot select logic (schematic 11) as to which personality ROM is being read by the Controller.

SELECT(L): The SEL(L) command to the tape controller (schematic 45).

SFF(L): Servo Fail Flag — The FLAG 2 input to the tape controller (schematic 45) from the tape drive servo board.

SINGLE STEP(H): The command for the 91A32 clock select logic (schematic 19) to single step the 91A32 internal clock signal.

SRQ(H): Service Request — An output of the GPIB controller (schematic 48) that, when low, indicates a need for service. Not connected through the Interconnect board.

STACK LD(L): Stack Load — The Load command to the 91P16 clock control RAM (schematic 35).

START ACQ(H): Start Acquisition — Resets the wait/start-up registers in the 91A08 start-up circuit (schematic 30) so that the clock drivers can start sending the probe clocks. (Originates as START ALL(H) on schematic 15).

START ALL(H): See START ACQ(H).

START ALL(L): Enables the 91A32 QUAL(H) output from the Trigger/Time Base trigger circuit (schematic 18).

STB CNTR CLR(L): Strobe Counter Clear — Clears the strobe counter in the 91P16 memory and strobe circuit (schematic 33).

STB CONT EN(L): See ECL STB CONT EN(L).

STBD2 — STBD5 POL: Strobe Polarity Data Bits 0—5 — Controls polarity of the 91P32 strobes (schematic 40) to the pattern generator probes.

STB LD EN(LDEN(H): Strobe Load Enable — Enables the 91P16 μ code memory and strobe circuit (schematic 33) to load strobes into the pattern generator probes.

STB T0(H): Strobe Transfer — Enables the 91P16 strobe control registers (schematic 33) to pass the next strobe select signal that enters the registers.

STB0 POL — STOB1 POL(H): Strobe Polarity — Control polarity of the 91P16 strobes (schematic 33) to the pattern generator probes.

STOP-STORE(H): Store(H), Don't Store(L) — Store control output from the Trigger/Time Base trigger circuit (schematic 18) to the MOS status data word (schematic 15). Controls probe threshold (schematic 17).

STOP PG(H): Stop Pattern Generator — A stop command from the Trigger/Time Base signal control (schematic 17) to the pattern generators.

STPL-0: Sensed Tachometer Position Lamp — Indicates the position of the tachometer (schematic 47) that allows the tape drive servo board to monitor tachometer wheel rotation.

TAPE CS(L): Tape Chip Select — Controller board signal to the tape controller SEL(L) input (schematic 45).

TAPE RESET(L): Controller board signal that resets all tape controller functions (schematic 45).

TBD0 — TBD7(L): Test Bus Data Bits 0—7 — Data input from the test bus to the 91A32 probe receivers (schematics 21 and 22). Simulates probe data.

TB07(H): Test Bus Status 0 Bit — Clock selection bit from the 91A08 clock selector (schematic 19) to the status 0 data (schematic 15).

TERMINATOR: Input to the GPIB control buffer (schematic 48) from the DAS back panel DIP switch. Specifies the line terminator for the GPIB and RS-232.

TEST BUS EN(L): Enables test bus data input to 91A32 probe receivers (schematics 21 and 22) to simulate probe data input.

THRESHOLD: An analog offset voltage applied to the shunt leg of the P6452 input voltage divider (schematic 41) to center the input signal around probe ground.

THRESHOLD(L): The input to the Trigger/Time Base probe threshold DAC (schematic 17) that controls the analog THRESHOLD output to the probes.

TPL—1(H): Tape Lamp — Response to the hole detect photo transistor (schematic 47). Sent to the tape microprocessor (schematic 46).

TRIG CLK SEL(H): Trigger Clock Select — The clock-select input to the Trigger/Time Base pipelined internal timing sequencer (schematic 17).

TRIG CONT(L): Trigger Control — The load input from the 91A08 controller interface to the 91A08 trigger control register (schematic 31).

TRI-ST ECL(H): See PG EXP TRI-ST.

TRI-ST RD(H): Tri-State Read — The command from the 91P16 probe clock and inhibit circuit (schematic 35) to read the probe tri-state levels.

TTLD0 — TTLD7: TTL Data Bits 0—7 — Output data from the 91A08 controller interface to the 91A08 memory and qualifier control (schematic 29). Controls behavior of qualifier and storage circuits.

TX: Transmitter Clock — The TxD clock from the RS-232 controller (schematic 48). Controls character transmission rate.

T0 — T7: RAM Data Bits 0—7 — The input/output data to/from the controller system RAM (schematic 14).

UPR CAS(L): Upper Column Address Strobe — From the RAM addressing logic (schematic 13). Selects the column (as opposed to the row) in the controller upper RAM (schematic 14).

UPR RAS(L): Upper Row Address Strobe — From the RAM addressing logic (schematic 13). Selects the row (as opposed to the column) in the controller upper RAM (schematic 14).

UPR WR(L): Upper Write — The write command from RAM addressing logic (schematic 13) to the controller upper RAM (schematic 14).

USER SENSE: Sense input from the probe to the probe threshold DAC (schematic 17). Used with GND SENSE to establish V_{REF} input for the DAC.

VB0 — VB15: Vector Data Bits 0—15 — The outputs of the 91P32 vector RAM 2 and 3 (schematic 38) to the probes.

VCTR MSEL(H): Vector Memory Select — Determines which 8-bit byte of the 91P16 vector RAM (schematic 36) will be read.

VCTR PC LD(L): Vector Program Counter Load — Wire ORed with PC CLK(L). Loads the 91P16 program counter (schematic 34).

VCTR0 — VCTR1(L): Vectors 0 and 1 — The write enable input to the 91P16 vector RAMs (schematic 36).

VCTR2 — VCTR5(L): The write enable input to the 91P32 vector RAMs (schematics 38 and 39).

VH: High Output Level — Controls (with VL) the V_{out} level of the P6455 Probe (schematic 42).

VL: Low Output Level — Controls (with VH) the V_{out} level of the P6455 Probe (schematic 42).

VSPB(H): Video Suppressed Buffered — Blanks the tenth line of all characters in display generator data selectors (schematic 12).

VTC(H): Threshold Voltage Control — Controls the threshold of the 100 MHz Clock Probe in the 91A08 clocks and difference counter (schematic 30).

WAIT(L): The WAIT input to the controller microprocessor (schematic 10) via the interconnect board. The microprocessor remains in the Wait state as long as the input is active.

WAIT-1(L): Wait One Cycle — The instruction to the controller microprocessor wait generator circuit (schematic 10) to wait for the duration of one cycle.

WD REC CONT WC3(H): Word Recognizer Control Bit 3 — The bit 3 output of the 91A08 bit care/don't care register (schematic 27). High if the bit is watched (care condition).

WD REC CONT(L): Clocks data through the 91A08 bit care/don't care register (schematic 27).

WD REC DATA: Word Recognition Data Control — Clocks TTL data through the 91A08 bit H/L register (schematic 27).

WD REC EN(H): Word Recognition Enable — Enables the 91A32 word recognizer multiplexer (schematic 25) to pass word recognition signals to the high speed bus.

WD REC MUX CONT(H): Word Recognition Multiplexer Control — The set input to the 91A32 word recognition multiplexer (schematic 25).

WD REC WE0 — WE3(L): Even Word Recognition Bits 0—3 — The address to the 91A32 even word recognition RAMs (schematic 25).

WD0 — WD7: Word Recognition Data Bits 0—7 — The word recognition Word 2 output of the 91A08 bit H/L register (schematic 27).

WR CLK(H): Word Recognition Clock — Clocks word recognition signals from the 91A32 word recognition multiplexer (schematic 25) through the output register to the high speed bus.

WP1–1: Write Program — A write enabling input through the tape write inhibit circuit (schematic 45) to the tape controller. Active (+12 V) when a cartridge is in place.

WP2–1: Write Program Source — The write enabling voltage input to cartridge-in-place switch S1 on the tape drive status board. Voltage selected by jumper on the tape drive data board (schematic 45).

WRITE(L): The Write instruction to the tape controller (schematic 45).

YELLOW: Yellow Gun Video Data — Generates yellow video on the Color Display Monitor via the Z-axis output transistor (Q550 on schematic C8B).

YZ0: Yellow Cathode Voltage — Input to the yellow-gun cathode of the Color Display Monitor CRT (schematic C8C).

1MS CLK: One Millisecond Clock — The 1 ms selection from the 91A32 clock select (schematic 19) as the 91A32 INT CLK.

1 OR 2(H): Event 1 or Event 2 — Decoding control for the Trigger/Time Base event conditioner (schematic 18). Control the way the event inputs are decoded.

1 μ s CLK: One Microsecond Clock — The 1 μ s selection by the 91A32 clock select (schematic 19) as the 91A32 INT CLK.

10 ns CLK: Ten Nanosecond Clock — The 10 ns selection by the 91A08 clock selector (schematic 19) as the 91A08 INT CLK.

10 μ s CLK: Ten Microsecond Clock — The 10 μ s selection by the 91A32 clock select (schematic 19) as the 91A32 INT CLK.

15 MHz: Fifteen MHz Controller Clock — The divide-by-two output of the 29.4912 MHz crystal oscillator in the controller clock circuit (schematic 10).

20 ns CLK: Twenty Nanosecond Clock — The 20 ns selection by the 91A08 clock select (schematic 19) as the 91A08 INT CLK.

20/3: I/O Option 02 Enable — The Y7 output of the controller DMA and slot select I/O register (U345 on schematic 11). The clock input for the GPIB and RS-232 controllers (schematic 48).

30 MHz: Thirty MHz Clock — The undivided output of the 29.4912 MHz controller clock (schematic 10). Input to the display clocks circuit (schematic 12).

40 ns CLK: Forty Nanosecond Clock — The 40 ns selection by the 91A08 clock select (schematic 19) as the 91A08 INT CLK.

50 ns CLK: Fifty Nanosecond Clock — The 50 ns selection by the 91A32 clock select (schematic 19) as the 91A32 INT CLK.

60 Hz: Sixty Hz Clock — The clock from display monitor timing (schematic 12) to the controller DMA and slot select circuit (schematic 11). Resets the interrupt vector flip-flop (U305A) at a 30 Hz rate.

91A08 INT CLK(H)(L): 91A08 Internal Clock — From 91A08 clock select (schematic 19) to the 91A08 clock selector (schematic 30). Controls clock selection.

91A08 PRB CLK 0—2 or 91A08 P CLK 0—2: 91A08 Probe Clocks 0—2 — 91A08 clock driver outputs (schematic 30) to slots 3, 4, and 5 from slot 6 for additional 91A08s.

91A08 PROBE CLK IN(H): 91A08 Probe Clock Input — The 91A08 PRB CLK 0—2 outputs of the clock drivers (schematic 30) as inputs to additional 91A08s in slots 3, 4, and 5.

91A08 STOP—STORE(L): Goes active when the end of the count is reached in the 91A08 lower 1/4 counter (schematic 31), and stops all 91A08 Modules from acquiring data.

91A08 QUAL BUS(L): 91A08 Qualifier Bus Control — The reciprocal of 91A08 STOP-STORE output of the lower 1/4 delay counter (schematic 31). Allows the 91A08 to store data until the delay reaches the full count.

QUAL(H)(L): 91A08 Qualifier — Qualifier input to the 91A08 lower 1/4 counter (schematic 31).

91A32 INT CLK(L): 91A32 Internal Clock — The 91A32 internal clock select signal from the Trigger/Time Base (schematic 19) to the 91A32 clock select circuit (schematic 24).

91A32 QUAL(H): 91A32 Qualifier — Enables the 91A32 qualifier logic circuit (schematic 24) to qualify on the next clock input. Enables DQUAL(H) output of the pipelined internal timing sequencer (schematic 17).

91A32 TRIGRD(H): 91A32 Trigger Read — Sent from the pipelined internal timing sequencer (schematic 17) to the pod status data word (schematic 15).

91A32 TRGRD(L): Halts DQUAL(H) output of pipelined internal timing sequencer (schematic 17), and stops the 91A08 difference counter (schematic 30).

91A32 TRIGO(L): 91A32 Trigger - Goes active after the 91A32 triggers, and starts the 91A08 difference counter (schematic 30).

91A32 TRIGO(H): 91A32 Trigger - Goes active after the 91A32 triggers, and arms any module being armed by the 91A32 (schematic 31).

91A32 TTL QUAL EN(H): 91A32 TTL Qualifier Enable - When asserted, causes the 91A32 qualifier to drive the 91A08 qualifier. This signal is only asserted for the 91A32 AND 91A08 trigger mode (schematics 29 and 30).

100 μ s CLK: 100 Microsecond Clock — The 100 μ s selection by the 91A32 clock select (schematic 19) as the 91A32 INT CLK.

614.4 kHz: An output of the controller baud clock circuit (schematic 11). Selectable by a jumper in the tape drive as the clock input to the tape controller (schematic 45).

μ C PC EN(L): Micro-Code Program Counter Enable — Enables the program counters in the 91P16 instruction multiplexers (schematic 34), and sets the clock control registers (schematic 35).

μ C PC LD(L): Micro-Code Program Counter Load — Loads μ code data into the 91P16 μ code memory (schematic 33).

μ C0: Micro-Code Bit 0 — The write-enable input to the 91P32 μ code RAM (schematic 40).

μ C0 — μ C1: Micro-Code Bits 0 and 1 — The write-enable inputs to the 91P16 μ code RAMs (schematic 33).

REPLACEABLE ELECTRICAL PARTS

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

LIST OF ASSEMBLIES

A list of assemblies can be found at the beginning of the Electrical Parts List. The assemblies are listed in numerical order. When the complete component number of a part is known, this list will identify the assembly in which the part is located.

CROSS INDEX-MFR. CODE NUMBER TO MANUFACTURER

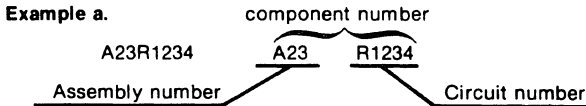
The Mfr. Code Number to Manufacturer index for the Electrical Parts List is located immediately after this page. The Cross Index provides codes, names and addresses of manufacturers of components listed in the Electrical Parts List.

ABBREVIATIONS

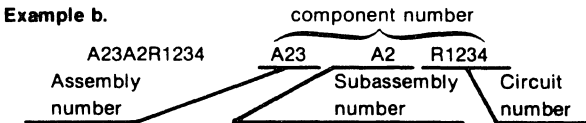
Abbreviations conform to American National Standard Y1.1.

COMPONENT NUMBER (column one of the Electrical Parts List)

A numbering method has been used to identify assemblies, subassemblies and parts. Examples of this numbering method and typical expansions are illustrated by the following:



Read: Resistor 1234 of Assembly 23



Read: Resistor 1234 of Subassembly 2 of Assembly 23

Only the circuit number will appear on the diagrams and circuit board illustrations. Each diagram and circuit board illustration is clearly marked with the assembly number. Assembly numbers are also marked on the mechanical exploded views located in the Mechanical Parts List. The component number is obtained by adding the assembly number prefix to the circuit number.

The Electrical Parts List is divided and arranged by assemblies in numerical sequence (e.g., assembly A1 with its subassemblies and parts, precedes assembly A2 with its subassemblies and parts).

Chassis-mounted parts have no assembly number prefix and are located at the end of the Electrical Parts List.

TEKTRONIX PART NO. (column two of the Electrical Parts List)

Indicates part number to be used when ordering replacement part from Tektronix.

SERIAL/MODEL NO. (columns three and four of the Electrical Parts List)

Column three (3) indicates the serial number at which the part was first used. Column four (4) indicates the serial number at which the part was removed. No serial number entered indicates part is good for all serial numbers.

NAME & DESCRIPTION (column five of the Electrical Parts List)

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

MFR. CODE (column six of the Electrical Parts List)

Indicates the code number of the actual manufacturer of the part. (Code to name and address cross reference can be found immediately after this page.)

MFR. PART NUMBER (column seven of the Electrical Parts List)

Indicates actual manufacturers part number.

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

CROSS INDEX—MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip
000DS	MOTOROLA DISPLAY SYSTEMS DIVISION MOTOROLA INC.	1299 E ALGONQUIN ROAD	SCHAUMBURG, IL 60196
000EO	ZEPHER ELECTRONIC SALES CORP.	647 INDUSTRY DRIVE	SEATTLE, WA 98188
000FG	RIFA WORLD PRODUCTS INC.	7625 BUSH LAKE RD P.O. BOX 35263	MINNEAPOLIS, MN 55435
000FJ	MARCOM SWITCHES INC.	67 ALBANY STREET	CAZENOVIA, N.Y. 13035
000GS	A P PRODUCTS, INC.	BOX 110	PAINESVILLE, OHIO 44077
000IG	FUJITSU-AMERICA INC.	1208 E. ARQUES AVE.	SUNNYVALE, CA 94086
000IY	MOTOROLA INC.	2012 CALLE DEL MUNDO	SANTA CLARA, CA 95051
000JB	STAR MICRONICS INC.	200 PARK AVE SUITE 08	NEW YORK, NY 10166
000JF	FUJI SEMICONDUCTOR	NEW YURAKUCHO BLDG	TOKYO 100, JAPAN
000KL	NEC OF AMERICA COMPONENTS WEST	13540 N.W. MILL CREEK DRIVE	PORTLAND, OR 97229
000LI	TOPTRON CORP		TOKYO, JAPAN
00779	AMP, INC.	P.O. BOX 3608	HARRISBURG, PA 17105
00853	SANGAMO ELECTRIC CO., S. CAROLINA DIV.	P.O. BOX 128	PICKENS, SC 29671
01121	ALLEN-BRADLEY COMPANY	1201 2ND STREET SOUTH	MILWAUKEE, WI 53204
01281	TRW ELECTRONIC COMPONENTS, SEMICONDUCTOR OPERATIONS	14520 AVIATION BLVD.	LAWNDALE, CA 90260
01295	TEXAS INSTRUMENTS, INC. SEMICONDUCTOR GROUP	P.O. BOX 5012	DALLAS, TX 75222
01961	PULSE ENGINEERING, INC.	7250 CONVOY COURT	SAN DIEGO, CA 92111
02111	SPECTROL ELECTRONICS CORPORATION	17070 EAST GALE AVENUE	CITY OF INDUSTRY, CA 91745
02735	RCA CORPORATION, SOLID STATE DIVISION	ROUTE 202	SOMERVILLE, NY 08876
02763	GRIPPE MACHINING AND MFG. COMPANY	15642 COMMON ROAD	ROSEVILLE, MI 48066
03508	GENERAL ELECTRIC COMPANY, SEMI-CONDUCTOR PRODUCTS DEPARTMENT	ELECTRONICS PARK P O BOX 867	SYRACUSE, NY 13201
04222	AVX CERAMICS, DIVISION OF AVX CORP.	6615 W IRVING PARK ROAD	MYRTLE BEACH, SC 29577
04426	ILLINOIS TOOL WORKS, INC., LICON DIV.	5005 E MCDOWELL RD, PO BOX 20923	CHICAGO, IL 60634
04713	MOTOROLA, INC., SEMICONDUCTOR PROD. DIV.	461 N 22ND STREET	PHOENIX, AZ 85036
CODE 05	292 NOT FOUND		
04713	MOTOROLA, INC., SEMICONDUCTOR PROD. DIV.	5005 E MCDOWELL RD, PO BOX 20923	PHOENIX, AZ 85036
05347	ULTRONIX, INC.	600 W JOHN ST.	GRAND JUNCTION, CO 81501
05828	GENERAL INSTRUMENT CORP ELECTRONIC SYSTEMS DIV.		HICKSVILLE LI, NY 11802
07263	FAIRCHILD SEMICONDUCTOR, A DIV. OF FAIRCHILD CAMERA AND INSTRUMENT CORP.	464 ELLIS STREET	MOUNTAIN VIEW, CA 94042
09019	GENERAL ELECTRIC CO. SEMI-CONDUCTOR PRODUCTS DEPT. OPERATIONAL PLANNING AND CUSTOMER ENGINEERING	ELECTRONICS PARK	SYRACUSE, NY 13201
09023	CORNELL-DUBILIER ELECTRONIC DIVISION FEDERAL PACIFIC ELECTRIC CO.	2652 DALRYMPLE ST.	SANFORD, NC 27330
11236	CTS OF BERNE, INC.	406 PARR RD.	BERNE, IN 46711
11983	NORTONICS COMPANY, INC.	8101 10TH AVENUE NORTH	MINNEAPOLIS, MN 55427
12969	UNITRODE CORPORATION	580 PLEASANT STREET	WATERTOWN, MA 02172
13150	VERNITRON ELECTRICAL COMPONENTS, BEAU PRODUCTS DIVISION	P O BOX 10 P O BOX 913	LACONIA, NH 03246
13571	ELECTRONIC RESEARCH CO.	3301 ELECTRONICS WAY P O BOX 3049	SHAWNEE MISSION, KS 66201
14433	ITT SEMICONDUCTORS	1655 ELMWOOD AVENUE 1710 S. DEL MAR AVE.	WEST PALM BEACH, FL 33402 CRANSTON, RI 02907 SAN GABRIEL, CA 91776
14604	ELMWOOD SENSORS, INC.	P.O. BOX 600, 600 W. JOHN ST.	HICKSVILLE, NY 11802
14752	ELECTRO CUBE INC.	2905 BLUE STAR ST.	ANAHEIM, CA 92806
14936	GENERAL INSTRUMENT CORP., SEMICONDUCTOR PRODUCTS GROUP	4201 27TH STREET	MILWAUKEE, WI 53216
15454	RODAN INDUSTRIES, INC.	2201 LAURELWOOD DRIVE	SANTA CLARA, CA 95054
15605	CUTLER-HAMMER, INC.	811 E. ARQUES	SUNNYVALE, CA 94086
17856	SILICONIX, INC.	900 FOLLIN LANE, SE	VIENNA, VA 22180
18324	SIGNETICS CORP.	YOUK EXPRESSWAY	NEW CUMBERLAND, PA 17070
19396	ILLINOIS TOOL WORKS, INC. PAKTRON DIV.	550 HIGH STREET	BRADFORD, PA 16701
22526	BERG ELECTRONICS, INC.	2620 ENDRESS PLACE	GREENWOOD, IN 46142
24546	CORNING GLASS WORKS, ELECTRONIC COMPONENTS DIVISION	186 WOOD AVE. S	ISELIN, NJ 08830
24931	SPECIALITY CONNECTOR CO., INC.	PROVIDENCE PIKE	SLATERSVILLE, RI 02876
25088	SIEMENS CORP.	1881 SOUTHLAND BLVD.	DAYTON, OHIO 45439
25403	AMPEREX ELECTRONIC CORP., SEMICONDUCTOR AND MICROCIRCUITS DIV.	2900 SEMICONDUCTOR DR.	SANTA CLARA, CA 95051
27012	MICRO DEVICES, CORPORATION	5224 KATRINE AVE.	DOWNERS GROVE, IL 60515
27014	NATIONAL SEMICONDUCTOR CORP.		
27264	MOLEX PRODUCTS CO.		

CROSS INDEX—MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip
31211	MOTOROLA INC. MOTOROLA AUTOMOTIVE PRODUCTS DIV MOTOROLA CTR	1299 E ALGONQUIN RD.	SCHAUMBURG, IL 60196
32997	BOURNS, INC., TRIMPOT PRODUCTS DIV.	1200 COLUMBIA AVE.	RIVERSIDE, CA 92507
33096	COLORADO CRYSTAL CORPORATION	2303 W 8TH STREET	LOVELAND, CO 80537
34333	SILICON GENERAL, INC.	7382 BOLSA AVE.	WESTMINSTER, CA 92683
34335	ADVANCED MICRO DEVICES	901 THOMPSON PL.	SUNNYVALE, CA 94086
34576	ROCKWELL INTERNATIONAL CORP. ELECTRONIC DEVICES DIVISION	3310 MIRALBMA AVE.	ANAHEIM, CA 92803
34630	TYCO FILTERS DIV., INC.	3940 W. MONTECITO	PHOENIX, AZ 85019
34649	INTEL CORP.	3065 BOWERS AVE.	SANTA CLARA, CA 95051
50434	HEWLETT-PACKARD COMPANY	640 PAGE MILL ROAD	PALO ALTO, CA 94304
50558	ELECTRONIC CONCEPTS, INC.	526 INDUSTRIAL WAY WEST	EATONTOWN, NJ 07724
51406	MURATA CORPORATION OF AMERICA	2 WESTCHESTER PLAZA	ELMSFORD, NY 10523
51642	CENTRE ENGINEERING INC.	2820 E COLLEGE AVENUE	STATE COLLEGE, PA 16801
51984	NEC AMERICA INC. RADIO AND TRANSMISSION DIV.	2990 TELESTAR CT. SUITE 212	FALLS CHURCH, VA 22042
52648	PLESSEY SEMICONDUCTORS	1641 KAISER	IRVINE, CA 92714
54473	MATSUSHITA ELECTRIC, CORP. OF AMERICA	1 PANASONIC WAY	SECAUCUS, NJ 07094
55680	NICHICON/AMERICA/CORP.	6435 N PROESEL AVENUE	CHICAGO, IL 60645
56289	SPRAGUE ELECTRIC CO.	87 MARSHALL ST.	NORTH ADAMS, MA 01247
56708	ZILOG INC.	14060 BUBB RD.	CUPERTINO, CA 95014
57668	R-OHM CORP.	16931 MILLIKEN AVE.	IRVINE, CA 92713
57924	BOURNS INC NETWORKS DIV 12155	MAGNOLIA AVE	RIVERSIDE, CA 92503
59660	TUSONIX INC.	2155 N FORBES BLVD	TUCSON, AZ 85705
59821	CENTRALAB INC	7158 MERCHANT AVE	EL PASO, TX 79915
60705	SUB NORTH AMERICAN PHILIPS CORP		
71400	CERA-MITE CORP.	1327 6TH AVE.	GRAFTON, WI 53024
71450	BUSSMAN MFG., DIVISION OF MCGRAW-EDISON CO.	2536 W. UNIVERSITY ST.	ST. LOUIS, MO 63107
72982	CTS CORP.	905 N. WEST BLVD	ELKHART, IN 46514
73138	ERIE TECHNOLOGICAL PRODUCTS, INC.	644 W. 12TH ST.	ERIE, PA 16512
73803	BECKMAN INSTRUMENTS, INC., HELIPOT DIV. TEXAS INSTRUMENTS, INC., METALLURGICAL MATERIALS DIV.	2500 HARBOR BLVD.	FULLERTON, CA 92634
74276	SIGNALITE DIV., GENERAL INSTRUMENT CORP.	34 FOREST STREET	ATTLEBORO, MA 02703
75042	TRW ELECTRONIC COMPONENTS, IRC FIXED RESISTORS, PHILADELPHIA DIVISION	1933 HECK AVE.	NEPTUNE, NJ 07753
75915	LITTELFUSE, INC.	401 N. BROAD ST.	PHILADELPHIA, PA 19108
76493	BELL INDUSTRIES, INC., MILLER, J. W., DIV.	800 E. NORTHWEST HWY	DES PLAINES, IL 60016
76854	OAK INDUSTRIES, INC., SWITCH DIV.	19070 REYES AVE., P O BOX 5825	COMPTON, CA 90224
80009	TEKTRONIX, INC.	S. MAIN ST.	CRYSTAL LAKE, IL 60014
80031	ELECTRA-MIDLAND CORP., MEPCO DIV.	P O BOX 500	BEAVERTON, OR 97077
81073	GRAYHILL, INC.	22 COLUMBIA ROAD	MORRISTOWN, NJ 07960
84411	TRW ELECTRONIC COMPONENTS, TRW CAPACITORS	561 HILLGROVE AVE., PO BOX 373	LA GRANGE, IL 60525
90201	MALLORY CAPACITOR CO., DIV. OF P. R. MALLORY AND CO., INC.	112 W. FIRST ST.	OGALLALA, NE 69153
91637	DALE ELECTRONICS, INC.	3029 E. WASHINGTON STREET	INDIANAPOLIS, IN 46206
93410	ESSEX INTERNATIONAL, INC., CONTROLS DIV. LEXINGTON PLANT	P. O. BOX 372	COLUMBUS, NE 68601
95146	ALCO ELECTRONICS PRODUCTS, INC.	P. O. BOX 609	
96733	SAN FERNANDO ELECTRIC MFG CO	P. O. BOX 1007	MANSFIELD, OH 44903
98291	SEAELECTRO CORP.	P. O. BOX 1348	LAWRENCE, MA 01842
99801	RADAR ELECTRONICS CO.	1501 FIRST ST	SAN FERNANDO, CA 91341
S3629	PANEL COMPONENTS CORP.	225 HOYT	MAMARONECK, NY 10544
T0510	PANASONIC COMPANY DIVISION OF MATSUSHITA ELECTRIC CORP OF AMERICA	168 WESTERN AVE. WEST	SEATTLE, WA 98119
T0900	UNITED CHEMI-CON	2015 SECOND ST.	BERKELEY, CA 94170
T0946	SAN-O INDUSTRIAL CORP.	ONE PANASONIC WAY	SECAUCUS, NJ 07094
T1345	Z-MAR ASS CORP	9801 W. HIGGINS ROAD	ROSEMONT, IL 60018
		170 WILBUR PL	BAHEMIA, LONG ISLAND, NY 1171
		4000 E. VALLEY ROAD	RENTON, WA 98055

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A1	670-6735-00	B010100	B011059	CKT BOARD ASSY:MAINFRAME INTERCONNECT (DAS9109 ONLY)	80009	670-6735-00
A1	-----					
A1	670-6735-01	B011060	B050249	CKT BOARD ASSY:MAINFRAME INTERCONNECT (DAS9109 ONLY)	80009	670-6735-01
A1	-----					
A1	670-6735-02	B050250		CKT BOARD ASSY:MAINFRAME INTERCONNECT (DAS9109 ONLY)	80009	670-6735-02
A1	-----					
A2	670-6734-01	B010100	B011049	CKT BOARD ASSY:MAINFRAME POWER (DAS 9109 ONLY)	80009	670-6734-01
A2	-----					
A2	670-6734-02	B011050	B020239	CKT BOARD ASSY:MAINFRAME POWER (DAS 9109 ONLY)	80009	670-6734-02
A2	-----					
A2	670-6734-03	B020240		CKT BOARD ASSY:MAINFRAME POWER (DAS 9109 ONLY)	80009	670-6734-03
A2	-----					
A2	670-6734-01	B010100	B010299	CKT BOARD ASSY:MAINFRAME POWER (DAS 9129 ONLY)	80009	670-6734-01
A2	-----					
A2	670-6734-02	B010300	B020249	CKT BOARD ASSY:MAINFRAME POWER (DAS 9129 ONLY)	80009	670-6734-02
A2	-----					
A2	670-6734-03	B020250		CKT BOARD ASSY:MAINFRAME POWER (DAS 9129 ONLY)	80009	670-6734-03
A2	-----					
A2	670-6734-03			CKT BOARD ASSY:MAINFRAME POWER (DAS 9119 ONLY)	80009	670-6734-03
A2	-----					
A3	620-0296-00			+5 VOLTS PWR SPLY MDL,OPTION 03 & 04	80009	620-0296-00
A3A1	-----			CKT BOARD ASSY:5V AT 15A POWER (PART OF 620-0296-XX)	80009	
A3A1	-----			CKT BOARD ASSY:5V AT 15A POWER	80009	
	-----			(PART OF 620-0296-XX)		
A4	119-1317-02			MONITOR,CRT:	80009	119-1317-02
A4	-----			(DAS9109 ONLY)		
A4A1	118-0952-00			CKT BOARD ASSY:DEFLECTION (DAS9109 ONLY)	80009	118-0952-00
A4A1	-----					
A4A2	118-0951-00			CKT BOARD ASSY:SIGNAL	80009	118-0951-00

A4A2	-----			(DAS9109 ONLY)		
A5	-----			KEYBOARD:		
A5A1	670-6736-00			CKT BOARD ASSY:KEYBOARD	80009	670-6736-00
A6	670-6737-00	B010100	B020472	CKT BOARD ASSY:CONTROLLER (DAS9109 ONLY)	80009	670-6737-00
A6	-----					
A6	670-6737-01	B020473	B029999	CKT BOARD ASSY:CONTROLLER	80009	670-6737-01

A6	-----			(DAS9109 ONLY)		
A6	670-6737-02	B030000	B049999	CKT BOARD ASSY:CONTROLLER (DAS9109 ONLY)	80009	670-6737-02
A6	-----					
A6	670-6737-03	B050000		CKT BOARD ASSY:CONTROLLER (DAS9109 ONLY)	80009	670-6737-03
A6	-----					
A7	010-6452-01			PROBE,DATA ACQ:P6452,8-CHANNEL	80009	010-6452-01

A7A1	670-7265-00			CKT BOARD ASSY:DATA ACQUISITION PROBE	80009	670-7265-00
A9	010-6454-01			PROBE,DATA ACQ:P6454,100MHZ CLOCK	80009	010-6454-01
A10	670-6738-00	B010100	B010599	CKT BOARD ASSY:TRIGGER/TIME BASE	80009	670-6738-00
A10	670-6738-01	B010600	B010414	CKT BOARD ASSY:TRIGGER/TIME BASE	80009	670-6738-01
A10	670-6738-03	B010415	B019999	CKT BOARD ASSY:TRIGGER/TIME BASE	80009	670-6738-03
A10	670-6738-04	B020000	B029999	CKT BOARD ASSY:TRIGGER/TIME BASE	80009	670-6738-04

A10	670-6738-05	B030000		CKT BOARD ASSY:TRIGGER/TIME BASE	80009	670-6738-05
A12	670-6742-00	B010100	B013054	CKT BOARD ASSY:32 CHAN DATA ACQUISITION (91A32 ONLY)	80009	670-6742-00
A12	-----					
A12	670-6742-01	B013055		CKT BOARD ASSY:32 CHAN DATA ACQUISITION (91A32 ONLY)	80009	670-6742-01
A12	-----					

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A13	670-6743-00	B010100	B011544	CKT BOARD ASSY:8 CHAN DATA ACQUISITION (91A08 ONLY)	80009	670-6743-00
A13	-----					
A13	670-6743-01	B011545	B011760	CKT BOARD ASSY:8 CHAN DATA ACQUISITION (91A08 ONLY)	80009	670-6743-01
A13	-----					
A13	670-6743-02	B011761	B019999	CKT BOARD ASSY:8 CHAN DATA ACQUISITION (91A08 ONLY)	80009	670-6743-02
A13	-----					
A13	670-6743-04	B020000		CKT BOARD ASSY:8 CHAN DATA ACQUISITION (91A08 ONLY)	80009	670-6743-04
A13	-----					
A14	670-6739-00			CKT BOARD ASSY:PATTERN GENERATOR (91P16 ONLY)	80009	670-6739-00
A14	-----					
A15	010-6455-01			PROBE,WORD GEN:P6455,TTL/MOS	80009	010-6455-01
A15A1	670-7266-01			CKT BOARD ASSY:TTL/MOS PATTERN GEN PROBE	80009	670-7266-01
A16	010-6456-01			PROBE,PAT GEN:P6456,ECL	80009	010-6456-01
A16A1	670-7267-01			CKT BOARD ASSY:ECL PATTERN GEN PROBE	80009	670-7267-01
A16A1A1	670-7360-00			CKT BOARD ASSY:PATT GEN LEAD SET (91P16,91P32 ONLY)	80009	670-7360-00
A17	670-6740-00	B010100	B010449	CKT BOARD ASSY:32 CHAN PATT GEN EXPANSION (91P32 ONLY)	80009	670-6740-00
A17	-----					
A17	670-6740-01	B010450		CKT BOARD ASSY:32 CHAN PATT GEN EXPANSION (91P32 ONLY)	80009	670-6740-01
A17	-----					
A18	119-1311-00			TAPE DRIVE OPTION 01	80009	119-1311-00
A18A1	670-6752-00			CKT BOARD ASSY:DATA	80009	670-6752-00
A18A2	670-6753-00			CKT BOARD ASSY:SERVO	80009	670-6753-00
A18A3	650-0254-00			TAPE TRANSPORT:	80009	650-0254-00
A18A3A1	670-6755-00			CKT BOARD ASSY:SENSOR	80009	670-6755-00
A18A3A2	670-6754-00	B010100	B010557	CKT BOARD ASSY:CARTRIDGE STATUS	80009	670-6754-00
A18A3A2	670-6754-01	B010558		CKT BOARD ASSY:CARTRIDGE STATUS	80009	670-6754-01
A19	-----			I/O INTERFACE OPTION 02		
A19A1	670-6750-00	B010100	B019999	CKT BOARD ASSY:I/O OPTION	80009	670-6750-00
A19A1	670-6750-01	B020000		CKT BOARD ASSY:I/O OPTION	80009	670-6750-01
A19A2	670-6751-00	B010100	B019999	CKT BOARD ASSY:I/O CONNECTOR (DAS9109 ONLY)	80009	670-6751-00
A19A2	-----					
A19A2	670-7391-00	B020000		CKT BOARD ASSY:I/O CONNECTOR (DAS9109 ONLY)	80009	670-7391-00
A19A2	-----					
A19A2	670-7391-00			CKT BOARD ASSY:I/O CONNECTOR (DAS9129 ONLY)	80009	670-7391-00
A19A2	-----					
A25	-----			CAPACITOR BRACKET:		
A25A1	670-7190-00			CKT BOARD ASSY:CAPACITOR BRACKET (DAS9109 ONLY)	80009	670-7190-00
A25A1	-----					
A30	-----			COLOR DISPLAY MONITOR DAS9129		
A30A1	670-7295-00	B010100	B010149	CKT BOARD ASSY:DEFLECTION (DAS9129 ONLY)	80009	670-7295-00
A30A1	-----					
A30A1	670-7295-01	B010150	B020489	CKT BOARD ASSY:DEFLECTION (DAS9129 ONLY)	80009	670-7295-01
A30A1	-----					
A30A1	670-7295-02	B020490		CKT BOARD ASSY:DEFLECTION (DAS9129 ONLY)	80009	670-7295-02
A30A1	-----					
A30A2	670-7292-00			CKT BOARD ASSY:COLOR "Z" AXIS (DAS9129 ONLY)	80009	670-7292-00
A30A2	-----					
A30A3	670-7293-00			CKT BOARD ASSY:CRT SOCKET (DAS9129 ONLY)	80009	670-7293-00
A30A3	-----					
A31	670-7294-00	B010100	B020274	CKT BOARD ASSY:MAIN INTERCONNECT (DAS9129 ONLY)	80009	670-7294-00
A31	-----					
A31	670-7294-01	B020275		CKT BOARD ASSY:MAIN INTERCONNECT (DAS9129 ONLY)	80009	670-7294-01
A31	-----					

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Component No.	Tektronix Part No.	Serial/Model No.		Name & Description	Mfr Code	Mfr Part Number
		Eff	Dscont			
A31	670-7294-00	B020000	B020299	CKT BOARD ASSY:MAIN INTERCONNECT	80009	670-7294-00
A31	-----			(DAS9109 ONLY)		
A31	670-7294-01	B020300		CKT BOARD ASSY:MAIN INTERCONNECT	80009	670-7294-01
A31	-----			(DAS9109 ONLY)		
A31	670-7294-01			CKT BOARD ASSY:MAIN INTERCONNECT	80009	670-7294-01
A31	-----			(DAS9119 ONLY)		
A32	-----			CAPACITOR BRACKET DAS9129		
A32A1	670-7291-00			CKT BOARD ASSY:CAPACITOR BRACKET	80009	670-7291-00
A32A1	-----			(DAS9129 ONLY)		
A33	670-7475-00	B010100	B019999	CKT BOARD ASSY:CONTROLLER	80009	670-7475-00
A33	-----			(DAS9129 ONLY)		
A33	670-7475-01	B020000	B029999	CKT BOARD ASSY:CONTROLLER	80009	670-7475-01
A33	670-7475-02	B030000	B049999	CKT BOARD ASSY:CONTROLLER	80009	670-7475-02
A33	670-7475-03	B050000	B050199	CKT BOARD ASSY:CONTROLLER	80009	670-7475-03
A33	670-7475-03			CKT BOARD ASSY:CONTROLLER	80009	670-7475-03
A33	-----			(DAS9119 ONLY)		
A33	670-7475-04	B050200		CKT BOARD ASSY:CONTROLLER	80009	670-7475-04

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A1	670-6735-00	B010100	B010835	CKT BOARD ASSY:MAINFRAME INTERCONNECT (DAS9109 ONLY)	80009	670-6735-00
A1	-----					
A1	670-6735-01	B011060	B050249	CKT BOARD ASSY:MAINFRAME INTERCONNECT (DAS9109 ONLY)	80009	670-6735-01
A1	-----					
A1	670-6735-02	B050250		CKT BOARD ASSY:MAINFRAME INTERCONNECT (DAS9109 ONLY)	80009	670-6735-02
A1	-----					
A1C10	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C12	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C15	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C16	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C19	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C20	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C40	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C50	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C60	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C70	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C71	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C72	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C73	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C80	283-0238-00			CAP.,FXD,CER DI:0.01UF,10%,50V	72982	8121N075X7R0103K
A1C81	283-0238-00			CAP.,FXD,CER DI:0.01UF,10%,50V	72982	8121N075X7R0103K
A1C101	290-0755-00	B010100	B010180	CAP.,FXD,ELCTLT:100UF,+50-10%,10V	55680	ULA1A01TEA
A1C101	290-0919-00	B010181		CAP.,FXD,ELCTLT:470UF,+50-10%,35V	T0510	ECEA1BB471SC
A1C102	290-0831-00			CAP.,FXD,ELCTLT:470UF,+50-10%,50V	55680	ULB1E471TFANNA
A1C106	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A1C107	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A1C108	283-0164-00			CAP.,FXD,CER DI:2.2UF,20%,25V	04222	SR402E225MAA
A1C202	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1C203	290-0770-00			CAP.,FXD,ELCTLT:100UF,+50-10%,25V	56289	502D230
A1C412	290-0932-00			CAP.,FXD ELECT:390UF,+ 100-10%,15VDC	90201	VPR391N01E1A3J
A1C435	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A1CR109	152-0585-00			SEMICONV DEVICE:SILICON,BRIDGE,200V,1A	80009	152-0585-00
A1CR120	152-0769-00	B010100	B050249	SEMICONV DEVICE:RECT BRIDGE,SI,400V	05828	KBPC804
A1CR120	152-0826-00	B050250		SEMICONV DEVICE:RECTIFIER BRIDGE,SI,600V,25	14936	RKBPC25-06W
A1E115	307-0449-00	B050250		RES,V SENSITIVE:		
A1E124	119-0181-00			ARSR,ELEC SURGE:230V,GAS FILLED	74276	CG230L
A1E125	119-0181-00			ARSR,ELEC SURGE:230V,GAS FILLED	74276	CG230L
A1J00	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J01	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J10	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J11	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J20	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J21	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J30	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J31	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J40	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J41	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J50	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J51	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J60	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J61	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J70	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J71	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A1J81	131-1003-00			CONN,RCPT,ELEC:CKT BD MT,3 PRONG	80009	131-1003-00

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A1J82	131-1003-00	B010120		CONN,RCPT,ELEC:CKT BD MT,3 PRONG	80009	131-1003-00
A1J101	131-2265-00			TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A1J102	131-2265-00			TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A1J124	131-1688-00			TERM,QIK DISC:MALE,0.032 X 0.25 BL,45 DEG	00779	42577-4
A1J125	131-1688-00			TERM,QIK DISC:MALE,0.032 X 0.25 BL,45 DEG	00779	42577-4
A1J131	131-2570-00			CONN,RCPT,ELEC:CKT BD,50/100 CONT,FEM	00779	532094-1
A1J201	131-2265-00			TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A1J211	131-2664-00			CONN,RCPT,ELEC:HEADER,1 X 10,0.156 SP	99801	09-70-1101-3
A1J212	131-2265-00			TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A1J221	131-2664-00			CONN,RCPT,ELEC:HEADER,1 X 10,0.156 SP	99801	09-70-1101-3
A1J311	131-2265-00			TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A1J312	131-2664-00			CONN,RCPT,ELEC:HEADER,1 X 10,0.156 SP	99801	09-70-1101-3
A1J321	131-2265-00			TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A1J401	131-2664-00			CONN,RCPT,ELEC:HEADER,1 X 10,0.156 SP	99801	09-70-1101-3
A1J423	131-2786-00			CONN,RCPT,ELEC:HEADER,2 X 8,16 MALE	22526	65863-015
A1L112	108-1122-00			COIL,RF:FIXED,450UH	80009	108-1122-00
A1L113	108-1122-00			COIL,RF:FIXED,450UH	80009	108-1122-00
A1L418	108-0336-00			COIL,RF:100UH	80009	108-0336-00
A1Q111	151-0429-00			TRANSISTOR:SILICON,PNP	04713	SJE957
A1Q112	151-0405-00			TRANSISTOR:SILICON,NPN,SEL FROM MJE800	04713	SJE943
A1R10	307-0492-00			RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A1R11	307-0492-00			RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A1R12	307-0492-00			RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A1R13	307-0492-00			RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A1R14	307-0492-00			RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A1R15	307-0594-00			RES NTWK,FXD FI:7,220 OHM,2%,1.0W	91637	CSC08A01101221G
A1R16	307-0492-00			RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A1R17	307-0487-00			RES,NTWK,FXD,FI:100 OHM,20%,0.50W	91637	CSC04C01-101J
A1R18	307-0487-00			RES,NTWK,FXD,FI:100 OHM,20%,0.50W	91637	CSC04C01-101J
A1R19	307-0487-00			RES,NTWK,FXD,FI:100 OHM,20%,0.50W	91637	CSC04C01-101J
A1R20	307-0501-00			RES,NTWK,FXD,FI:THICK FILM,(5) 50 OHM,5%	91637	MSP06A01-500J
A1R60	307-0501-00			RES,NTWK,FXD,FI:THICK FILM,(5) 50 OHM,5%	91637	MSP06A01-500J
A1R65	307-0487-00			RES,NTWK,FXD,FI:100 OHM,20%,0.50W	91637	CSC04C01-101J
A1R71	307-0492-00			RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A1R72	307-0594-00			RES NTWK,FXD FI:7,220 OHM,2%,1.0W	91637	CSC08A01101221G
A1R74	307-0487-00			RES,NTWK,FXD,FI:100 OHM,20%,0.50W	91637	CSC04C01-101J
A1R75	307-0487-00			RES,NTWK,FXD,FI:100 OHM,20%,0.50W	91637	CSC04C01-101J
A1R108	321-0222-00			RES.,FXD,FILM:2K OHM,1%,0.125W	91637	MFF1816G20000F
A1R109	321-0239-07			RES.,FXD,FILM:3.01K OHM,0.1%,0.125W	91637	MFF1816C30100B
A1R110	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A1R111	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A1R120	307-0350-00	B010100	B010180	RES.,THERMAL:7.5 OHM,10%,3.9%/DEG C	15454	75DJ7R5R0220SS
A1R123	307-0350-00	B010100	B010180	RES.,THERMAL:7.5 OHM,10%,3.9%/DEG C	15454	75DJ7R5R0220SS
A1R201	315-0122-00			RES.,FXD,CMPSN:1.2K OHM,5%,0.25W	01121	CB1225
A1R432	315-0471-00			RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A1T101	120-1252-00			XFMR,PWR,STPDN:	80009	120-1252-00
A1U111	156-0067-00			MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	01295	MICROA741CP
A1VR111	152-0168-00			SEMICONV DEVICE:ZENER,0.4W,12V,5%	04713	SZG35009K4

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A2	670-6734-01	B010100	B011049	CKT BOARD ASSY:MAINFRAME POWER (DAS 9109 ONLY)	80009	670-6734-01
A2	-----					
A2	670-6734-02	B011050	B020239	CKT BOARD ASSY:MAINFRAME POWER (DAS 9109 ONLY)	80009	670-6734-02
A2	-----					
A2	670-6734-03	B020240		CKT BOARD ASSY:MAINFRAME POWER (DAS 9109 ONLY)	80009	670-6734-03
A2	-----					
A2	670-6734-01	B010100	B010299	CKT BOARD ASSY:MAINFRAME POWER (DAS 9129 ONLY)	80009	670-6734-01
A2	-----					
A2	670-6734-02	B010300	B020249	CKT BOARD ASSY:MAINFRAME POWER (DAS 9129 ONLY)	80009	670-6734-02
A2	-----					
A2	670-6734-03	B020250		CKT BOARD ASSY:MAINFRAME POWER (DAS 9129 ONLY)	80009	670-6734-03
A2	-----					
A2	670-6734-03			CKT BOARD ASSY:MAINFRAME POWER (DAS 9119 ONLY)	80009	670-6734-03
A2	-----					
A2C184	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C223	283-0627-00			CAP.,FXD,MICA D:0.0033UF,5%,500V	00853	D195F332J0
A2C275	281-0814-00			CAP.,FXD,CER DI:100PF,10%,100V	04222	GC101A101K
A2C276	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C307	290-0114-00			CAP.,FXD,ELCTLT:47UF,20%,6V	56289	150D476X0006B2
A2C316	290-0114-00			CAP.,FXD,ELCTLT:47UF,20%,6V	56289	150D476X0006B2
A2C360	283-0414-00			CAP.,FXD,CER DI:0.022UF,20%,500V	51642	300-500X7R223M
A2C362	283-0414-00			CAP.,FXD,CER DI:0.022UF,20%,500V	51642	300-500X7R223M
A2C377	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2C386	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C456	290-0800-00			CAP.,FXD,ELCTLT:250UF,+100-10%,20V	56289	672D257H0200M5C
A2C458	290-0800-00			CAP.,FXD,ELCTLT:250UF,+100-10%,20V	56289	672D257H0200M5C
A2C476	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C486	281-0814-00			CAP.,FXD,CER DI:100PF,10%,100V	04222	GC101A101K
A2C505	285-1203-00			CAP.,FXD,PLSTC:4UF,10%,200V	14752	C2551
A2C525	290-0770-00			CAP.,FXD,ELCTLT:100UF,+50-10%,25V	56289	502D230
A2C532	283-0249-00			CAP.,FXD,CER DI:0.068UF,10%,50V	72982	8131N075 C 683K
A2C536	283-0249-00			CAP.,FXD,CER DI:0.068UF,10%,50V	72982	8131N075 C 683K
A2C570	290-0768-00			CAP.,FXD,ELCTLT:10UF,+50-10%,100V	54473	ECE-A100V10L
A2C577	281-0814-00			CAP.,FXD,CER DI:100PF,10%,100V	04222	GC101A101K
A2C579	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C584	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C635	290-0800-00	B010100	B010219	CAP.,FXD,ELCTLT:250UF,+100-10%,20V	56289	672D257H0200M5C
A2C635	290-0946-00	B010220		CAP.,FXD,ELCTLT:270UF,10+100%,40V	90201	VPR271N040E1E1C
A2C665	290-0838-00			CAP.,FXD,ELCTLT:2200UF,+50-10%,35V	54473	ECE-B1VV222S
A2C708	285-1203-00			CAP.,FXD,PLSTC:4UF,10%,200V	14752	C2551
A2C725	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C728	281-0762-00			CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A2C745	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2C811	285-1192-00			CAP.,FXD,PPR DI:0.0022UF,20%,250VAC	000FG	PME271Y422
A2C812	285-1192-00			CAP.,FXD,PPR DI:0.0022UF,20%,250VAC	000FG	PME271Y422
A2C813	281-0773-00			CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A2C823	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2C824	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C845	290-0800-00	B010100	B010219	CAP.,FXD,ELCTLT:250UF,+100-10%,20V	56289	672D257H0200M5C
A2C845	290-0946-00	B010220		CAP.,FXD,ELCTLT:270UF,10+100%,40V	90201	VPR271N040E1E1C
A2C860	290-0759-00			CAP.,FXD,ELCTLT:290UF,+75-10%,15V	90201	TTX291U015C1A3
A2C865	290-0759-00			CAP.,FXD,ELCTLT:290UF,+75-10%,15V	90201	TTX291U015C1A3
A2C870	290-0759-00			CAP.,FXD,ELCTLT:290UF,+75-10%,15V	90201	TTX291U015C1A3
A2C875	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A2C887	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C912	285-1192-00			CAP.,FXD,PPR DI:0.0022UF,20%,250VAC	000FG	PME271Y422
A2C920	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C923	281-0823-00			CAP.,FXD,CER DI:470PF,10%,50V	12969	CGB471KDN
A2C925	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C928	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2C930	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A2C939	285-1142-00			CAP.,FXD,PLSTC:0.01UF,1%,200VDC	19396	103F02PP580
A2C955	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2C960	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2C965	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2C970	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2C975	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2C976	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A2CR178	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR255	152-0754-00			SEMICONV DEVICE:RECT,SI,SCHOTTKY,40V,8A	80009	152-0754-00
A2CR258	152-0397-00			SEMICONV DEVICE:SILICON,50V,12A	80009	152-0397-00
A2CR268	152-0397-00			SEMICONV DEVICE:SILICON,50V,12A	80009	152-0397-00
A2CR282	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR306	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A2CR308	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A2CR312	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A2CR315	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A2CR317	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A2CR318	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A2CR355	152-0754-00			SEMICONV DEVICE:RECT,SI,SCHOTTKY,40V,8A	80009	152-0754-00
A2CR356	152-0655-00			SEMICONV DEVICE:SILICON,100V,3A	03508	A115AX39
A2CR357	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR358	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR359	152-0655-00			SEMICONV DEVICE:SILICON,100V,3A	03508	A115AX39
A2CR376	152-0659-00			SEMICONV DEVICE:SILICON,100V,6A	04713	MR751
A2CR385	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR430	152-0640-00	B010100	B010219	SEMICONV DEVICE:SILICON,35V,30A,DO-4 (QUANTITY OF 2)	01281	SD-4101
A2CR430	152-0793-00	B010220		SEMICONV DEVICE:DUAL RECT,SI,40V,25A (QUANTITY OF 2)	000JF	ESAD83-004
A2CR478	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR513	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A2CR519	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A2CR565	152-0659-00			SEMICONV DEVICE:SILICON,100V,6A	04713	MR751
A2CR576	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR688	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR738	152-0581-00			SEMICONV DEVICE:SILICON,20V,1A	04713	1N5817
A2CR772	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR783	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR813	131-0566-00			BUS CONDUCTOR:DUMMY RES,2.375,22 AWG	57668	JWW-0200EO
A2CR921	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR922	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR976	152-0066-00			SEMICONV DEVICE:SILICON,400V,750MA	14433	LG4016
A2CR977	152-0066-00			SEMICONV DEVICE:SILICON,400V,750MA	14433	LG4016
A2CR980	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2CR981	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A2F150	159-0153-00			FUSE,WIRE LEAD:1.5A,125V,FAST BLOW	71400	GFA 1-1/2
A2L425	108-1075-00			COIL,RF:FIXED,67MH	80009	108-1075-00

Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A2L448	108-0911-00		COIL,RF:FIXED,65UH	80009	108-0911-00
A2L645	108-1076-00		COIL,RF:FIXED,112MH	80009	108-1076-00
A2L701	108-0921-00		COIL,RF:FIXED,140UH	80009	108-0921-00
A2L850	108-1017-00		COIL,RF:FXD,1MH	80009	108-1017-00
A2P910	131-2264-00		CONN,RCPT,ELEC:CKT BD,10 CONTACT,R ANGLE	80009	131-2264-00
A2P940	131-2264-00		CONN,RCPT,ELEC:CKT BD,10 CONTACT,R ANGLE	80009	131-2264-00
A2P960	131-2264-00		CONN,RCPT,ELEC:CKT BD,10 CONTACT,R ANGLE	80009	131-2264-00
A2Q158	151-0364-00		TRANSISTOR:SILICON,PNP	80009	151-0364-00
A2Q168	151-0365-00		TRANSISTOR:SILICON,NPN	03508	X42C182
A2Q172	151-0365-00		TRANSISTOR:SILICON,NPN	03508	X42C182
A2Q205	151-0679-00		TRANSISTOR:SILICON,NPN	04713	SJE362
A2Q215	151-0679-00		TRANSISTOR:SILICON,NPN	04713	SJE362
A2Q514	151-0390-00		TRANSISTOR:SILICON,NPN	04713	SPS3414
A2Q516	151-0391-00		TRANSISTOR:SILICON,PNP	80009	151-0391-00
A2Q518	151-0390-00		TRANSISTOR:SILICON,NPN	04713	SPS3414
A2Q832	151-0302-00		TRANSISTOR:SILICON,NPN	07263	S038487
A2Q834	151-0301-00		TRANSISTOR:SILICON,PNP	27014	2N2907A
A2Q916	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A2Q918	151-0301-00		TRANSISTOR:SILICON,PNP	27014	2N2907A
A2Q985	151-0503-00		SCR:SILICON,TO-92	04713	SCR5138
A2R177	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A2R178	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A2R183	321-0193-00		RES.,FXD,FILM:1K OHM,1%,0.125W	91637	MFF1816G10000F
A2R184	321-0351-00		RES.,FXD,FILM:44.2K OHM,1%,0.125W	91637	MFF1816G44201F
A2R224	308-0405-00		RES.,FXD,WW:70 OHM,5%,3W	91637	RS2B-B70R00J
A2R275	308-0680-00		RES.,FXD,WW:0.045 OHM,10%,3W	91637	RS2B-R0450K
A2R277	321-0982-00		RES.,FXD,FILM:450K OHM,1%,0.125W	91637	MFF1816G45002F
A2R278	321-0993-07		RES.,FXD,FILM:90K OHM,0.1%,0.125W	91637	MFF1816C90001B
A2R283	315-0753-00		RES.,FXD,CMPSN:75K OHM,5%,0.25W	01121	CB7535
A2R285	315-0104-00		RES.,FXD,CMPSN:100K OHM,5%,0.25W	01121	CB1045
A2R286	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A2R289	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A2R360	305-0360-00		RES.,FXD,CMPSN:36 OHM,5%,2W	01121	HB3605
A2R362	305-0360-00		RES.,FXD,CMPSN:36 OHM,5%,2W	01121	HB3605
A2R365	308-0802-00		RES.,FXD,WW:0.01 OHM,5%,5W	91637	SPR100S-R01J
A2R375	303-0150-00		RES.,FXD,CMPSN:15 OHM,5%,1W	01121	GB1505
A2R381	321-0193-00		RES.,FXD,FILM:1K OHM,1%,0.125W	91637	MFF1816G10000F
A2R382	321-0358-00		RES.,FXD,FILM:52.3K OHM,1%,0.125W	91637	MFF1816G52301F
A2R384	315-0753-00		RES.,FXD,CMPSN:75K OHM,5%,0.25W	01121	CB7535
A2R462	308-0643-00		RES.,FXD,WW:0.1 OHM,3%,3W	91637	RS2B-ER1000H TR
A2R464	308-0643-00		RES.,FXD,WW:0.1 OHM,3%,3W	91637	RS2B-ER1000H TR
A2R466	308-0643-00		RES.,FXD,WW:0.1 OHM,3%,3W	91637	RS2B-ER1000H TR
A2R468	308-0643-00		RES.,FXD,WW:0.1 OHM,3%,3W	91637	RS2B-ER1000H TR
A2R473	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A2R474	315-0514-00		RES.,FXD,CMPSN:510K OHM,5%,0.25W	01121	CB5145
A2R477	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A2R479	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A2R488	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A2R532	306-0150-00		RES.,FXD,CMPSN:15 OHM,10%,2W	01121	HB1501
A2R536	306-0150-00		RES.,FXD,CMPSN:15 OHM,10%,2W	01121	HB1501
A2R560	308-0680-00		RES.,FXD,WW:0.045 OHM,10%,3W	91637	RS2B-R0450K
A2R572	315-0100-00		RES.,FXD,CMPSN:10 OHM,5%,0.25W	01121	CB1005
A2R575	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A2R576	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscnt	Name & Description	Mfr Code	Mfr Part Number
A2R582	315-0753-00		RES.,FXD,CMPSN:75K OHM,5%,0.25W	01121	CB7535
A2R600	315-0105-00		RES.,FXD,CMPSN:1M OHM,5%,0.25W	01121	CB1055
A2R606	315-0105-00		RES.,FXD,CMPSN:1M OHM,5%,0.25W	01121	CB1055
A2R615	315-0561-00		RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A2R616	315-0272-00		RES.,FXD,CMPSN:2.7K OHM,5%,0.25W	01121	CB2725
A2R617	315-0561-00		RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A2R618	315-0272-00		RES.,FXD,CMPSN:2.7K OHM,5%,0.25W	01121	CB2725
A2R620	315-0561-00		RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A2R622	315-0272-00		RES.,FXD,CMPSN:2.7K OHM,5%,0.25W	01121	CB2725
A2R625	308-0344-00		RES.,FXD,WW:18.2 OHM,1%,3W	91637	RS2B-18R20F-TR
A2R633	131-0566-00		BUS CONDUCTOR:DUMMY RES,2.375,22 AWG	57668	JWW-0200E0
A2R634	303-0101-00		RES.,FXD,CMPSN:100 OHM,5%,1W	01121	GB1015
A2R675	321-0208-00		RES.,FXD,FILM:1.43K OHM,1%,0.125W	91637	MFF1816G14300F
A2R676	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A2R677	315-0132-00		RES.,FXD,CMPSN:1.3K OHM,5%,0.25W	01121	CB1325
A2R678	315-0201-00		RES.,FXD,CMPSN:200 OHM,5%,0.25W	01121	CB2015
A2R688	321-0402-01		RES.,FXD,FILM:150K OHM,0.5%,0.125W	91637	MFF1816G15002D
A2R726	321-0289-07		RES.,FXD,FILM:10K OHM,0.1%,0.125W	91637	MFF1816C10001B
A2R730	308-0757-00		RES.,FXD,WW:0.025 OHM,3%,5W	91637	LVR5-GR0250H
A2R731	315-0753-00		RES.,FXD,CMPSN:75K OHM,5%,0.25W	01121	CB7535
A2R734	321-0986-07		RES.,FXD,FILM:25K OHM,0.1%,0.125W	91637	MFF1816C25001B
A2R736	321-0986-07		RES.,FXD,FILM:25K OHM,0.1%,0.125W	91637	MFF1816C25001B
A2R737	321-0289-07		RES.,FXD,FILM:10K OHM,0.1%,0.125W	91637	MFF1816C10001B
A2R738	315-0472-00		RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A2R739	315-0432-00		RES.,FXD,CMPSN:4.3K OHM,5%,0.25W	01121	CB4325
A2R755	308-0431-00		RES.,FXD,WW:120 OHM,5%,3W	91637	CW2B-120R0J-TR
A2R770	321-0213-00		RES.,FXD,FILM:1.62K OHM,1%,0.125W	91637	MFF1816G16200F
A2R771	321-0236-00		RES.,FXD,FILM:2.8K OHM,1%,0.125W	91637	MFF1816G28000F
A2R772	321-0233-00		RES.,FXD,FILM:2.61K OHM,1%,0.125W	91637	MFF1816G26100F
A2R780	315-0753-00		RES.,FXD,CMPSN:75K OHM,5%,0.25W	01121	CB7535
A2R781	321-0402-01		RES.,FXD,FILM:150K OHM,0.5%,0.125W	91637	MFF1816G15002D
A2R782	321-0385-00		RES.,FXD,FILM:100K OHM,1%,0.125W	91637	MFF1816G10002F
A2R783	321-0368-00		RES.,FXD,FILM:66.5K OHM,1%,0.125W	91637	MFF1816G66501F
A2R800	315-0471-00		RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A2R815	321-0289-07		RES.,FXD,FILM:10K OHM,0.1%,0.125W	91637	MFF1816C10001B
A2R816	321-0289-07		RES.,FXD,FILM:10K OHM,0.1%,0.125W	91637	MFF1816C10001B
A2R817	321-0289-07		RES.,FXD,FILM:10K OHM,0.1%,0.125W	91637	MFF1816C10001B
A2R818	321-0260-00		RES.,FXD,FILM:4.99K OHM,1%,0.125W	91637	MFF1816G49900F
A2R819	321-0380-00		RES.,FXD,FILM:88.7K OHM,1%,0.125W	91637	MFF1816G88701F
A2R822	315-0302-00		RES.,FXD,CMPSN:3K OHM,5%,0.25W	01121	CB3025
A2R825	315-0512-00		RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A2R826	321-0176-00		RES.,FXD,FILM:665 OHM,1%,0.125W	91637	MFF1816G665R0F
A2R827	321-1650-07		RES.,FXD,FILM:8.99K OHM,0.1%,0.125W	91637	MFF1816C89900B
A2R833	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A2R835	315-0472-00		RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A2R836	315-0184-00		RES.,FXD,CMPSN:180K OHM,5%,0.25W	01121	CB1845
A2R837	321-0779-03		RES.,FXD,FILM:7.020K OHM,0.25%,0.125W	91637	MFF1816D70200C
A2R887	321-0244-00		RES.,FXD,FILM:3.4K OHM,1%,0.125W	91637	MFF1816G34000F
A2R888	321-0233-00		RES.,FXD,FILM:2.61K OHM,1%,0.125W	91637	MFF1816G26100F
A2R915	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A2R921	321-0288-00		RES.,FXD,FILM:9.76K OHM,1%,0.125W	91637	MFF1816G97600F
A2R923	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A2R924	315-0222-00		RES.,FXD,CMPSN:2.2K OHM,5%,0.25W	01121	CB2225
A2R926	315-0682-00		RES.,FXD,CMPSN:6.8K OHM,5%,0.25W	01121	CB6825

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A2R927	315-0222-00			RES.,FXD,CMPSN:2.2K OHM,5%,0.25W	01121	CB2225
A2R929	321-0332-07			RES.,FXD,FILM:28K OHM,0.1%,0.125W	91637	MFF1816C28001B
A2R931	321-0175-00			RES.,FXD,FILM:649 OHM,1%,0.125W	91637	MFF1816G649R0F
A2R932	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A2R935	321-0816-03			RES.,FXD,FILM:5K OHM,0.25%,0.125W	91637	MFF1816D50000C
A2R936	311-1557-00			RES.,VAR,NONWIR:25K OHM,20%,0.50W	73138	91-79-0
A2R937	321-0297-00			RES.,FXD,FILM:12.1K OHM,1%,0.125W	91637	MFF1816G12101F
A2R942	321-0277-00			RES.,FXD,FILM:7.5K OHM,1%,0.125W	91637	MFF1816G75000F
A2R943	321-0306-00			RES.,FXD,FILM:15K OHM,1%,0.125W	91637	MFF1816G15001F
A2R944	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A2R976	315-0304-00			RES.,FXD,CMPSN:300K OHM,5%,0.25W	01121	CB3045
A2R982	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A2R983	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A2R984	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A2T235	120-1357-00			XFMR,PWR,STPDN:HF CONVERTER	80009	120-1357-00
A2T415	120-1119-01			TRANSFORMER,RF:BASE DRIVE	80009	120-1119-01
A2T905	120-1165-00			TRANSFORMER,RF:TOROID,COMMON MODE REJECT	80009	120-1165-00
A2TP225	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A2TP475	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A2TP625	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A2U280	156-0158-00			MICROCIRCUIT,LI:DUAL OPERATIONAL AMPLIFIER	18324	MC1458N
A2U485	156-0158-00			MICROCIRCUIT,LI:DUAL OPERATIONAL AMPLIFIER	18324	MC1458N
A2U585	156-0158-00			MICROCIRCUIT,LI:DUAL OPERATIONAL AMPLIFIER	18324	MC1458N
A2U715	156-0575-03			MICROCIRCUIT,DI:3 INPUT NOR GATE,SELECTED	80009	156-0575-03
A2U720	156-0366-02			MICROCIRCUIT,DI:DUAL D FLIP-FLOP,CHK	80009	156-0366-02
A2U820	156-0411-01			MICROCIRCUIT,LI:QUAD,COMPARATOR,SGL SPLY	27014	LM339N
A2U830	156-0411-01			MICROCIRCUIT,LI:QUAD,COMPARATOR,SGL SPLY	27014	LM339N
A2U875	156-1266-00			MICROCIRCUIT,LI:OVER VOLTAGE SENSING CKT	04713	SC77113LH
A2U885	156-1266-00			MICROCIRCUIT,LI:OVER VOLTAGE SENSING CKT	04713	SC77113LH
A2U975	156-1207-00			MICROCIRCUIT,LI:VOLTAGE REGULATOR,-12V	04713	MC79L12ACG
A2VR773	152-0168-00			SEMICONV DEVICE:ZENER,0.4W,12V,5%	04713	SZG35009K4
A2VR931	152-0317-00			SEMICONV DEVICE:ZENER,0.25W,6.2V,5%	04713	SZG20012
A2W823	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A2W823	-----			(QUANTITY OF 2)		

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A3	620-0296-00			POWER SUPPLY:LOW VOLTAGE	80009	
A3CR555	152-0640-00			SEMICONV DEVICE:SILICON,35V,30A,DO-4	01281	SD-4101
A3CR755	152-0640-00			SEMICONV DEVICE:SILICON,35V,30A,DO-4	01281	SD-4101
A3Q165	151-0632-00			TRANSISTOR:SILICON,NPN	04713	SJE1946
A3Q265	151-0632-00			TRANSISTOR:SILICON,NPN	04713	SJE1946
A3R720	308-0818-00			RES.,FXD,WW:0.005 OHM,3%,10W	91637	RH10-89/005 3%
A3A1	-----			CKT BOARD ASSY:5V AT 15A POWER		
A3A1	-----			(PART OF 620-0296-00)		
A3A1C118	285-1192-00			CAP.,FXD,PPR DI:0.0022UF,20%,250VAC	000FG	PME271Y422
A3A1C121	285-1192-00			CAP.,FXD,PPR DI:0.0022UF,20%,250VAC	000FG	PME271Y422
A3A1C135	285-1171-00			CAP.,FXD,MTLZD:2 UF,10%,200 V	84411	X363UW(ADVISE)
A3A1C155	285-1171-00			CAP.,FXD,MTLZD:2 UF,10%,200 V	84411	X363UW(ADVISE)
A3A1C252	290-0114-00			CAP.,FXD,ELCTLT:47UF,20%,6V	56289	150D476X0006B2
A3A1C255	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A3A1C326	281-0809-00			CAP.,FXD,CER DI:200PF,5%,100V	96733	R2915
A3A1C328	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A3A1C350	290-0114-00			CAP.,FXD,ELCTLT:47UF,20%,6V	56289	150D476X0006B2
A3A1C416	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A3A1C425	285-1142-00			CAP.,FXD,PLSTC:0.01UF,1%,200VDC	19396	103F02PP580
A3A1C428	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A3A1C446	290-0770-00			CAP.,FXD,ELCTLT:100UF,+50-10%,25V	56289	502D230
A3A1C468	283-0659-00			CAP.,FXD,MICA D:1160PF,2%,500V	00853	D195F1161G0
A3A1C515	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A3A1C519	281-0770-00			CAP.,FXD,CER DI:0.001UF,20%,100V	04222	MA101C102MAA
A3A1C526	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A3A1C615	290-0800-00			CAP.,FXD,ELCTLT:250UF,+100-10%,20V	56289	672D257H0200M5C
A3A1C625	290-0853-00			CAP.,FXD,ELCTLT:5600UF,+50-10%,6.3V	90201	VPR562T6R3N1L6B
A3A1C646	283-0198-00			CAP.,FXD,CER DI:0.22UF,20%,50V	56289	1C10Z5U223M050B
A3A1C756	283-0198-00			CAP.,FXD,CER DI:0.22UF,20%,50V	56289	1C10Z5U223M050B
A3A1CR148	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A3A1CR158	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A3A1CR217	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A3A1CR252	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A3A1CR254	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A3A1CR342	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A3A1CR354	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A3A1CR355	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A3A1CR356	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A3A1CR508	152-0066-00			SEMICONV DEVICE:SILICON,400V,750MA	14433	LG4016
A3A1J524	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A3A1J524	-----			(QUANTITY OF 2)		
A3A1L116	108-0422-00			COIL,RF:FIXED,82UH	80009	108-0422-00
A3A1L435	108-0911-00	B010100	B010649	COIL,RF:FIXED,65UH	80009	108-0911-00
A3A1L435	108-1136-00	B010650		COIL,RF:FIXED,60UH	T1345	OBD
A3A1L620	108-0950-00			COIL,RF:5.5UH	80009	108-0950-00
A3A1P100	131-2264-00			CONN,RCPT,ELEC:CKT BD,10 CONTACT,R ANGLE	80009	131-2264-00
A3A1P400	131-2264-00			CONN,RCPT,ELEC:CKT BD,10 CONTACT,R ANGLE	80009	131-2264-00
A3A1Q235	151-0503-00			SCR:SILICON,TO-92	04713	SCR5138
A3A1Q244	151-0390-00			TRANSISTOR:SILICON,NPN	04713	SPS3414
A3A1Q246	151-0391-00			TRANSISTOR:SILICON,PNP	80009	151-0391-00
A3A1Q248	151-0390-00			TRANSISTOR:SILICON,NPN	04713	SPS3414

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A3A1Q317	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A3A1Q318	151-0301-00			TRANSISTOR:SILICON,PNP	27014	2N2907A
A3A1Q319	151-0302-00			TRANSISTOR:SILICON,NPN	07263	S038487
A3A1Q335	151-0301-00			TRANSISTOR:SILICON,PNP	27014	2N2907A
A3A1R112	315-0471-00			RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A3A1R145	315-0105-00			RES.,FXD,CMPSN:1M OHM,5%,0.25W	01121	CB1055
A3A1R205	315-0104-00			RES.,FXD,CMPSN:100K OHM,5%,0.25W	01121	CB1045
A3A1R212	315-0103-00	B010100	B010649	RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A3A1R212	131-0566-00	B010650		BUS CONDUCTOR:DUMMY RES.2.375,22 AWG	57668	JWW-0200E0
A3A1R215	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A3A1R216	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A3A1R226	321-0233-00			RES.,FXD,FILM:2.61K OHM,1%,0.125W	91637	MFF1816G26100F
A3A1R227	321-0241-00			RES.,FXD,FILM:3.16K OHM,1%,0.125W	91637	MFF1816G31600F
A3A1R234	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A3A1R235	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A3A1R236	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A3A1R237	315-0272-00			RES.,FXD,CMPSN:2.7K OHM,5%,0.25W	01121	CB2725
A3A1R238	315-0272-00			RES.,FXD,CMPSN:2.7K OHM,5%,0.25W	01121	CB2725
A3A1R239	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A3A1R325	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A3A1R327	315-0222-00	B010100	B010649	RES.,FXD,CMPSN:2.2K OHM,5%,0.25W	01121	CB2225
A3A1R327	315-0432-00	B010650		RES.,FXD,CMPSN:4.3K OHM,5%,0.25W	01121	CB4325
A3A1R336	315-0272-00			RES.,FXD,CMPSN:2.7K OHM,5%,0.25W	01121	CB2725
A3A1R337	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A3A1R338	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A3A1R339	308-0344-00			RES.,FXD,VW:18.2 OHM,1%,3W	91637	RS2B-18R20F-TR
A3A1R354	315-0105-00			RES.,FXD,CMPSN:1M OHM,5%,0.25W	01121	CB1055
A3A1R410	315-0222-00			RES.,FXD,CMPSN:2.2K OHM,5%,0.25W	01121	CB2225
A3A1R416	315-0472-00			RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A3A1R417	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A3A1R426	315-0222-00			RES.,FXD,CMPSN:2.2K OHM,5%,0.25W	01121	CB2225
A3A1R429	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A3A1R506	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A3A1R514	315-0222-00			RES.,FXD,CMPSN:2.2K OHM,5%,0.25W	01121	CB2225
A3A1R516	321-0318-00			RES.,FXD,FILM:20K OHM,1%,0.125W	91637	MFF1816G20001F
A3A1R517	315-0391-00			RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A3A1R518	321-0155-00	B010100	B010649	RES.,FXD,FILM:402 OHM,1%,0.125W	91637	MFF1816G402R0F
A3A1R518	321-0159-00	B010650		RES.,FXD,FILM:442 OHM,1%,0.125W	91637	MFF1816G442R0F
A3A1R525	315-0123-00			RES.,FXD,CMPSN:12K OHM,5%,0.25W	01121	CB1235
A3A1R527	315-0820-00	B010100	B010649	RES.,FXD,CMPSN:82 OHM,5%,0.25W	01121	CB8205
A3A1R527	315-0151-00	B010650		RES.,FXD,CMPSN:150 OHM,5%,0.25W	01121	CB1515
A3A1R546	305-0471-00			RES.,FXD,CMPSN:470 OHM,5%,2W	01121	HB4715
A3A1R606	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A3A1R635	306-0150-00			RES.,FXD,CMPSN:15 OHM,10%,2W	01121	HB1501
A3A1R756	306-0150-00			RES.,FXD,CMPSN:15 OHM,10%,2W	01121	HB1501
A3A1T114	120-0743-00			XFMR,TOROID:13 TURNS,BIFILAR	80009	120-0743-00
A3A1T255	120-1119-01			TRANSFORMER,RF:BASE DRIVE	80009	120-1119-01
A3A1T565	120-1227-00			XFMR,PWR,SDN:HF	80009	120-1227-00
A3A1TP260	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A3A1U215	156-0575-03			MICROCIRCUIT,DI:3 INPUT NOR GATE,SELECTED	80009	156-0575-03
A3A1U225	156-1266-00			MICROCIRCUIT,LI:OVER VOLTAGE SENSING CKT	04713	SC77113LH
A3A1U315	156-0366-02			MICROCIRCUIT,DI:DUAL D FLIP-FLOP,CHK	80009	156-0366-02
A3A1U415	156-0411-01			MICROCIRCUIT,LI:QUAD,COMPARATOR,SGL SPLY	27014	LM339N

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A4 A4	119-1317-02 -----		MONITOR,CRT: (DAS9109 ONLY)	80009	119-1317-02
A4A1 A4A1	118-0952-00 -----		CKT BOARD ASSY:DEFLECTION (DAS9109 ONLY)	80009	118-0952-00
A4A2 A4A2	118-0951-00 -----		CKT BOARD ASSY:SIGNAL (DAS9109 ONLY)	80009	118-0951-00
C1	290-0745-00		CAP.,FXD,ELCTLT:22UF,+50-10%,25V	54473	ECE-A25V22L
C2	283-0144-00		CAP.,FXD,CER DI:33PF,1%,500V	59660	801-547P2G330G
C3	285-0674-00		CAP.,FXD,PLSTC:0.01UF,10%,100V	56289	192P10392
C4	290-0745-00		CAP.,FXD,ELCTLT:22UF,+50-10%,25V	54473	ECE-A25V22L
C5	290-0745-00		CAP.,FXD,ELCTLT:22UF,+50-10%,25V	54473	ECE-A25V22L
C6	283-0197-00		CAP.,FXD,CER DI:470PF,5%,100V	72982	8121N075C0G0471J
C7	285-0892-00		CAP.,FXD,PLSTC:0.22UF,10%,200V	56289	LP66A1C224K002
C8	283-0159-00		CAP.,FXD,CER DI:18PF,5%,50V	51642	T150-050NP0180J
C9	290-0743-00		CAP.,FXD,ELCTLT:100UF,+50-10%,16V	56289	500D146
C10	283-0077-00		CAP.,FXD,CER DI:330PF,5%,500V	59660	831-500B331J
C11	283-0108-00		CAP.,FXD,CER DI:220PF,10%,200V	56289	1C10C0G221K200B
C12	283-0032-00		CAP.,FXD,CER DI:470PF,5%,500V	59660	0831085Z5E00471J
C13	283-0142-00		CAP.,FXD,CER DI:0.0027UF,5%,200V	59660	875571YEE0272J
C15	285-1170-00		CAP.,FXD,PLSTC:0.047UF,10%,600V	14752	230B1F473K
C16	290-0183-00		CAP.,FXD,ELCTLT:1UF,10%,35V	90201	TAC105K035P02
C17	285-0917-00		CAP.,FXD,PLSTC:0.0022UF,5%,200V	84411	TEK36-222-5-2
C18	285-0650-00		CAP.,FXD,PLSTC:0.027UF,5%,100V	56289	192P27352
C19	285-1176-00		CAP.,FXD,CER DI:0.1UF,20%,500V	56289	275C8
C20	118-0958-00		CAP.,FXD,PLSTC:0.047UF,10%,200V	31211	8510072A44
C21	285-1176-00		CAP.,FXD,CER DI:0.1UF,20%,500V	56289	275C8
C22	283-0342-00		CAP.,FXD,CER DI:6.5PF,0.5%,2000V	59660	838-564-C0H0-659
C23	285-0685-00		CAP.,FXD,PLSTC:0.0068UF,10%,100V	84411	TEK44-68291
C26	285-1101-00		CAP.,FXD,PLSTC:0.022UF,10%,200V	19396	223K02PT485
C27	118-0956-00		CAP.,FXD,ELCTLT:5UF,15V,TANTALUM	31211	23S10218A31
C28	118-0956-00		CAP.,FXD,ELCTLT:5UF,15V,TANTALUM	31211	23S10218A31
C29	118-0957-00		CAP.,FXD,PLASTIC:0.01UF,10%,250V	31211	8S10191B98
C30	285-0604-00		CAP.,FXD,PLSTC:0.01UF,20%,400V	56289	192P10304
C31	290-0701-00		CAP.,FXD,ELCTLT:470UF,40%,16VDC	90201	TTX471U0161E1A3P
C32	285-1116-00		CAP.,FXD,PLSTC:0.047UF,20%,400V	14752	230B1E473
C33	118-0955-00		CAP.,FXD,ELCTLT:22UF,160V	31211	23S10255A74
C34	285-1116-00		CAP.,FXD,PLSTC:0.047UF,20%,400V	14752	230B1E473
C35	118-0954-00		CAP.,FXD,MTLZD:0.47UF,10%,400V	31211	8S10212B20
C36	283-0085-00		CAP.,FXD,CER DI:2700PF,5%,1000V	59660	818000B272J
C37	285-0892-00		CAP.,FXD,PLSTC:0.22UF,10%,200V	56289	LP66A1C224K002
C38	118-0953-00		CAP.,FXD,ELCTLT:1800UF,16V	31211	23S10255B83
C40	283-0159-00		CAP.,FXD,CER DI:18PF,5%,50V	51642	T150-050NP0180J
C41	283-0103-00		CAP.,FXD,CER DI:180PF,5%,500V	59660	831-518-Z5D0181J
C42	283-0144-00		CAP.,FXD,CER DI:33PF,1%,500V	59660	801-547P2G330G
C44	285-1197-00		CAP.,FXD,PLSTC:0.033UF,5%,100V	50558	MC64018
C45	283-0167-00		CAP.,FXD,CER DI:0.1UF,10%,100V	72982	8131N145X5R0104K
C46	290-0891-00		CAP.,FXD,ELCTLT:1UF,+75-10%,50V	55680	ULA1H010TEA
D1	152-0233-00		SEMICOND DEVICE:SILICON,85V,100MA	07263	FDH1986
D2	152-0400-00		SEMICOND DEVICE:SILICON,400V,1A	80009	152-0400-00
D3	152-0233-00		SEMICOND DEVICE:SILICON,85V,100MA	07263	FDH1986
D6	152-0233-00		SEMICOND DEVICE:SILICON,85V,100MA	07263	FDH1986
D7	152-0400-00		SEMICOND DEVICE:SILICON,400V,1A	80009	152-0400-00

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Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
D10	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
D11	152-0400-00			SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
D12	118-0942-00			SEMICONV DVC,DI:D12	000DS	48S137622
U1	156-1147-00			MICROCIRCUIT,LI:TV HORIZ PROCESSOR	04713	MC1391P
L1	118-0946-00			COIL,WIDTH:HORIZONTAL	31211	24D25603A04
L2	118-0945-00			COIL,CHOKE:VERT OUT	31211	25D25221A09
L3	118-0944-00			COIL,TUBE DEFL:YOKE	31211	24D68531A03
Q1	151-0639-00			TRANSISTOR:SILICON,NPN	80009	151-0639-00
Q2	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
Q3	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
Q4	118-0980-00			TRANSISTOR:Q4 VIDEO OUTPUT	000DS	48S137093
Q5	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
Q6	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
Q7	118-0979-00			TRANSISTOR:Q7 HORIZ DRIVE	000DS	48S137169
Q8	118-0978-00			TRANSISTOR:Q8 HORIZ OUTPUT	000DS	48S137462
Q9	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
Q10	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
Q11	151-0639-00			TRANSISTOR:SILICON,NPN	80009	151-0639-00
Q12	118-0977-00			TRANSISTOR:Q12 VERT OUTPUT	000DS	48S137598
R6	311-1408-00			RES.,VAR,NONWIR:K OHM,0.25W	71450	X201R102B
R14	311-1408-00			RES.,VAR,NONWIR:K OHM,0.25W	71450	X201R102B
R18	308-0061-00			RES.,FXD,WW:1.5K OHM,5%,5W	91637	RS5-B15000J
R35	118-0962-00			RES.,VAR,NONWW:22K OHM,HORIZ HOLD	000IY	18C25267B01
R49	311-1136-00			RES.,VAR,NONWIR:100K OHM,30%,0.25W	71450	201-YA5536
R52	311-1246-00			RES.,VAR,NONWIR:50K OHM,10%,0.50W	02111	63X-503-T602
R57	311-1749-00			RES.,VAR,NONWIR:TRMR,1.5K OHM,0.75W	73138	91-97-0
R61	311-1646-00			RES.,VAR,NONWIR:TRMR,2M OHM,0.5W	01121	E4A205
R63	311-1296-00			RES.,VAR,NONWIR:TRMR,500K OHM,0.25W	71450	201-YA5548
T1	118-0950-00			XFMR,DRIVER:HORIZONTAL	31211	25D25221A04
T2	118-0949-00			XFMR,PWR,STU:HIGH VOLTAGE	31211	24D25291D03
T3	118-0947-00			XFMR,SHAPING:T3	31211	24C25602B01
V1	118-0943-01			ELECTRON TUBE:CRT,9 INCH,P31,GREEN	000DS	965252A01

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A5A1	670-6736-00		CKT BOARD ASSY:KEYBOARD	80009	670-6736-00
A5A1C127	283-0177-00		CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A5A1C128	281-0773-00		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A5A1C129	281-0773-00		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A5A1C131	281-0773-00		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A5A1C147	283-0094-00		CAP.,FXD,CER DI:27PF,10%,200V	59660	835-583-C0G0270K
A5A1C167	281-0772-00		CAP.,FXD,CER DI:0.0047UF,10%,100V	04222	GC701C472K
A5A1C169	281-0773-00		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A5A1C240	281-0773-00		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A5A1C262	283-0177-00		CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A5A1DS572	150-1061-00		LT EMITTING DIO:RED,660NM,50MA MAX	50434	HLMP-1301
A5A1DS577	150-1061-00		LT EMITTING DIO:RED,660NM,50MA MAX	50434	HLMP-1301
A5A1J141	131-2550-00		CONN,RCPT,ELEC:CKT BD,2 X 8,FEM	22526	65496-043
A5A1R132	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A5A1R149	315-0104-00		RES.,FXD,CMPSN:100K OHM,5%,0.25W	01121	CB1045
A5A1R168	315-0684-00		RES.,FXD,CMPSN:680K OHM,5%,0.25W	01121	CB6845
A5A1S205	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S210	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S215	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S225	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S230	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S235	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S252	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S257	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S270	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S275	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S280	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S305	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S310	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S315	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S325	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S330	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S335	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S355	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S370	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S380	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S410	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S425	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S430	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S435	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S450	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S455	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S460	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S475	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S505	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S510	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S515	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S525	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S530	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S535	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S540	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S555	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S605	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S610	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A5A1S615	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S625	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S630	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S635	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S640	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S710	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S725	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S730	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S735	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S740	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S752	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S757	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S770	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1S780	263-0019-09		SWITCH PB ASSY:MOMENTARY	80009	263-0019-09
A5A1TP115	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A5A1TP249	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A5A1U135	156-0385-02		MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A5A1U141	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A5A1U157	156-0168-00		MICROCIRCUIT,DI:ROM	14936	AY-5-2376

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A6	670-6737-00	B010100 B020472	CKT BOARD ASSY:CONTROLLER (DAS9109 ONLY)	80009	670-6737-00
A6	670-6737-01	B020473 B029999	CKT BOARD ASSY:CONTROLLER (DAS9109 ONLY)	80009	670-6737-01
A6	670-6737-02	B030000	CKT BOARD ASSY:CONTROLLER (DAS9109 ONLY)	80009	670-6737-02
A6C105	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C121	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C127	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C131	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C137	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C145	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C148	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C161	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C162	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C165	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C168	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C175	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C178	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C181	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C185	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C188	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C251	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C261	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C262	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C265	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C266	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C268	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C269	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C275	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C276	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C278	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C279	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C281	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C282	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C285	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C286	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C288	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C289	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C300	281-0759-00		CAP.,FXD,CER DI:22PF,10%,100V	96733	R2735
A6C321	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C325	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C330	283-0111-00		CAP.,FXD,CER DI:0.1UF,20%,50V	56289	273C11
A6C332	283-0144-00		CAP.,FXD,CER DI:33PF,1%,500V	59660	801-547P2G330G
A6C337	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C361	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C365	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C366	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C368	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C369	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C375	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C376	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C378	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C379	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A6C381	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C382	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C385	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C386	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C388	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C389	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C395	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C396	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C411	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C415	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C425	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C431	283-0333-00		CAP.,FXD,CER DI:35PF,5%,1000V	72982	838-534 A 350>
A6C438	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C445	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C467	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C468	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C471	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C475	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C478	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C481	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C487	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C488	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C496	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C521	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C525	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C527	281-0819-00		CAP.,FXD,CER DI:33PF,5%,50V	72982	8035BC0G330
A6C536	283-0177-00		CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A6C537	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C538	290-0755-00		CAP.,FXD,ELCTLT:100UF,+50-10%,10V	55680	ULA1A01TEA
A6C539	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C545	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C549	290-0748-00		CAP.,FXD,ELCTLT:10UF,+50-10%,25V	T0900	SL25T10(T)TP
A6C550	290-0748-00		CAP.,FXD,ELCTLT:10UF,+50-10%,25V	T0900	SL25T10(T)TP
A6C591	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C597	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A6C638	290-0536-00		CAP.,FXD,ELCTLT:10UF,20%,25V	90201	TDC106M025FL
A6CR115	152-0141-02		SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A6CR535	152-0141-02		SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A6CR539	152-0141-02		SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A6J337	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A6J337	-----		(QUANTITY OF 2)		
A6J339	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A6J339	-----		(QUANTITY OF 2)		
A6J340	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A6J340	-----		(QUANTITY OF 2)		
A6J344	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A6J344	-----		(QUANTITY OF 2)		
A6J498	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A6J498	-----		(QUANTITY OF 3)		
A6J499	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A6J499	-----		(QUANTITY OF 3)		
A6L100	119-1427-00		XDCR,AUDIO:6V,30MA,1-4.2 KHZ	000JB	QMB-06
A6LR435	108-0735-00		COIL,RF:FIXED,560NH	80009	108-0735-00
A6Q110	151-0190-00		TRANSISTOR:SILICON,NPN	07263	S032677

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A6Q335	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A6Q425	151-0223-00			TRANSISTOR:SILICON,NPN	04713	SPS8026
A6Q435	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A6Q438	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A6Q539	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
A6R115	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R121	311-1562-00			RES.,VAR,NONWIR:2K OHM,20%,0.50W	73138	91-84-0
A6R125	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A6R134	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R140	315-0102-00	B050000		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A6R141	307-0542-00			RES,NTWK,FXD,FI:10K OHM,5%,0.125W	01121	106A103
A6R145	307-0542-00			RES,NTWK,FXD,FI:10K OHM,5%,0.125W	01121	106A103
A6R146	315-0393-00			RES.,FXD,CMPSN:39K OHM,5%,0.25W	01121	CB3935
A6R147	315-0393-00			RES.,FXD,CMPSN:39K OHM,5%,0.25W	01121	CB3935
A6R150	315-0203-00			RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A6R185	307-0540-00			RES,NTWK,FXD,FI:(5) 1K OHM,10%,0.7W	57924	4306R-101-102
A6R201	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A6R202	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A6R215	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R225	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A6R234	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R295	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A6R331	315-0150-00			RES.,FXD,CMPSN:15 OHM,5%,0.25W	01121	CB1505
A6R332	315-0221-00			RES.,FXD,CMPSN:220 OHM,5%,0.25W	01121	CB2215
A6R333	315-0122-00			RES.,FXD,CMPSN:1.2K OHM,5%,0.25W	01121	CB1225
A6R334	315-0150-00			RES.,FXD,CMPSN:15 OHM,5%,0.25W	01121	CB1505
A6R341	315-0203-00			RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A6R342	315-0203-00			RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A6R411	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A6R415	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R416	315-0562-00			RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A6R417	315-0562-00			RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A6R418	315-0562-00			RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A6R421	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A6R430	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A6R431	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A6R432	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A6R434	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A6R436	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A6R437	315-0472-00			RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A6R438	315-0101-00	B010100	B049999	RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R441	307-0540-00			RES,NTWK,FXD,FI:(5) 1K OHM,10%,0.7W	57924	4306R-101-102
A6R445	307-0446-00			RES,NTWK,FXD FI:10K OHM,20%,(9) RES	91637	MSP10A01-103M
A6R468	315-0101-00	B010100	B049999	RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R478	315-0101-00	B010100	B049999	RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R481	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R485	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R488	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R497	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R511	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A6R525	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A6R527	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A6R535	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A6R536	315-0513-00			RES.,FXD,CMPSN:51K OHM,5%,0.25W	01121	CB5135

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A6R539	315-0513-00		RES.,FXD,CMPSN:51K OHM,5%,0.25W	01121	CB5135
A6R540	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A6R555	307-0675-00		RES NTWK,FXD FI:9,1K OHM,2%,1.25W	01121	210A102
A6R581	307-0445-00		RES NTWK,FXD,FI:4.7K OHM,20%,(9) RES	91637	MSP10A01-472M
A6R597	307-0445-00		RES NTWK,FXD,FI:4.7K OHM,20%,(9) RES	91637	MSP10A01-472M
A6TP141	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A6TP151	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A6TP211	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A6TP351	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A6TP397	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A6TP420	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A6TP436	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A6TP468	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A6TP537	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A6U100	156-0798-02		MICROCIRCUIT,DI:DUAL 14 TO 1 LINE SEL/MUX	01295	SN74LS153
A6U105	156-0480-02		MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3
A6U115	156-0381-02		MICROCIRCUIT,DI:QUAD 2-INP EXCL OR GATE	01295	SN74LS86
A6U121	156-1455-00		MICROCIRCUIT,DI:PROGRAMMABLE CRT CONT	34649	P8275
A6U127	156-0479-02		MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A6U131	156-0798-02		MICROCIRCUIT,DI:DUAL 14 TO 1 LINE SEL/MUX	01295	SN74LS153
A6U137	156-1172-01		MICROCIRCUIT,DI:DUAL 4 BIT CNTR	01295	SN74LS393
A6U138	156-0479-02		MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A6U141	156-0994-02		MICROCIRCUIT,DI:8 INPUT DATA SEL/MUX	01295	SN74LS151NP3
A6U151	156-0480-02		MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3
A6U155	156-0464-02		MICROCIRCUIT,DI:DUAL 4 INP NAND GATE	01295	SN74LS20
A6U161	156-0480-02		MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3
A6U165	156-0479-02		MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A6U168	156-0388-03		MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A6U175	156-0385-02		MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A6U178	156-0388-03		MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A6U181	156-0382-02		MICROCIRCUIT,DI:QUAD 2-INP NAND GATE	01295	SN74LS00
A6U185	156-0388-03		MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A6U188	156-0321-02		MICROCIRCUIT,DI:TRIPLE 3 INP NAND GATE	01295	SN74S10
A6U195	156-0694-02		MICROCIRCUIT,DI:DCCR/3 LINE TO 8 LINE,SCRN	07263	74S138DCQR
A6U197	156-0180-04		MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A6U200	156-0798-02		MICROCIRCUIT,DI:DUAL 14 TO 1 LINE SEL/MUX	01295	SN74LS153
A6U205	156-0479-02		MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A6U211	156-0530-02		MICROCIRCUIT,DI:QUAD 2-INP MUX,SCRN	01295	SN74LS157P3
A6U215	160-0823-01		MICROCIRCUIT,DI:1024 X 8 PROM,PRGM	80009	160-0823-01
A6U227	156-0865-02		MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A6U231	156-1172-01		MICROCIRCUIT,DI:DUAL 4 BIT CNTR	01295	SN74LS393
A6U237	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A6U251	156-1202-00		MICROCIRCUIT,DI:PROGRAMMABLE DMA CONTROL- LER	51984	UPD8257C-5
A6U261	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U265	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U268	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U275	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U278	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U281	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U285	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U288	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U295	156-0718-03		MICROCIRCUIT,DI:TRIPLE 3-INP NOR GATE	01295	SN74LS27
A6U297	156-0381-02		MICROCIRCUIT,DI:QUAD 2-INP EXCL OR GATE	01295	SN74LS86
A6U300	156-0480-02		MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A6U305	156-0388-03		MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A6U311	156-0382-02		MICROCIRCUIT,DI:QUAD 2-INP NAND GATE	01295	SN74LS00
A6U315	156-1313-00		MICROCIRCUIT,DI:8 BIT SHIFT REGISTER,SCRN	01295	SN741S166
A6U321	156-1326-00		MICROCIRCUIT,DI:QUAD D TYPE FF,SCRN	80009	156-1326-00
A6U325	156-0385-02		MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A6U331	156-0948-02		MICROCIRCUIT,DI:QUAD D F-F,BURN-IN	01295	SN74S175J4
A6U337	156-0323-02		MICROCIRCUIT,DI:HEX INVERTER,BURN-IN	01295	SN74S04
A6U338	156-0383-02		MICROCIRCUIT,DI:QUAD 2-INP NOR GATE	01295	SN74LS02
A6U345	156-0469-02		MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A6U351	156-0983-00		MICROCIRCUIT,DI:MICROPROCESSOR EIGHT BIT	56708	Z 80 ACS
A6U365	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U368	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U375	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U378	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U381	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U385	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U388	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U395	156-0968-02		MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A6U397	156-0321-02		MICROCIRCUIT,DI:TRIPLE 3 INP NAND GATE	01295	SN74S10
A6U400	156-0388-03		MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A6U405	156-0479-02		MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A6U411	156-0385-02		MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A6U415	156-0392-03		MICROCIRCUIT,DI:QUAD LATCH W/CLEAR	01295	SN74S175NP3
A6U421	156-1313-00		MICROCIRCUIT,DI:8 BIT SHIFT REGISTER,SCRN	01295	SN741S166
A6U425	156-0784-02		MICROCIRCUIT,DI:SYNC 4 BIT BINARY COUNTER	27014	DM74LS163ANA+
A6U431	156-0205-02		MICROCIRCUIT,DI:QUAD 2-INP NOR GATE,SCRN	04713	MC10102PD/LD
A6U438	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A6U445	156-0955-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	04713	SN74LS241
A6U461	156-1065-01		MICROCIRCUIT,DI:OCTAL D TYPE TRANS LATCHES	34335	AM74LS373
A6U475	156-1065-01		MICROCIRCUIT,DI:OCTAL D TYPE TRANS LATCHES	34335	AM74LS373
A6U478	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A6U481	156-0125-02		MICROCIRCUIT,DI:QUAD 2-INP MUX,SCRN	01295	SN74157(NP3 OR J
A6U485	156-0125-02		MICROCIRCUIT,DI:QUAD 2-INP MUX,SCRN	01295	SN74157(NP3 OR J
A6U488	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A6U495	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A6U497	156-0478-02		MICROCIRCUIT,DI:DUAL 4 INP & GATE,BURN-IN	01295	SN74LS21NP3
A6U500	156-0731-02		MICROCIRCUIT,DI:DUAL J-K FF W/PRESET & CLR	01295	SN74LS76N3
A6U511	156-0469-02		MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A6U515	156-0784-02		MICROCIRCUIT,DI:SYNC 4 BIT BINARY COUNTER	27014	DM74LS163ANA+
A6U517	156-0718-03		MICROCIRCUIT,DI:TRIPLE 3-INP NOR GATE	01295	SN74LS27
A6U521	156-0784-02		MICROCIRCUIT,DI:SYNC 4 BIT BINARY COUNTER	27014	DM74LS163ANA+
A6U525	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A6U531	156-0180-04		MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A6U535	156-0948-02		MICROCIRCUIT,DI:QUAD D F-F,BURN-IN	01295	SN74S175J4
A6U537	156-0645-02		MICROCIRCUIT,DI:HEX INV ST NAND GATES,SCRN	01295	SN74LS14
A6U541	156-0392-03		MICROCIRCUIT,DI:QUAD LATCH W/CLEAR	01295	SN74S175NP3
A6U555	156-1111-02		MICROCIRCUIT,DI:OCTAL BUS TRANSCEIVERS	01295	SN74LS245JP3
A6U563	156-0469-02		MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A6U565	156-0469-02		MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A6U571	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A6U581	156-1111-02		MICROCIRCUIT,DI:OCTAL BUS TRANSCEIVERS	01295	SN74LS245JP3
A6U585	160-0826-00		MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0826-00
A6U591	160-0827-00		MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0827-00

**Replaceable Electrical Parts
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Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A6U597	160-1525-00	B010100	B010180	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1525-00
A6U597	160-1525-01	B010181	B010199	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1525-01
A6U597	160-1525-02	B010200	B010439	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1525-02
A6U597	160-1679-00	B010440	B010629	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-00
A6U597	160-1679-01	B010630	B020472	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-01
A6U597	160-1679-02	B020473	B029999	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-02
A6U597	160-1679-03	B030000	B039999	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-03
A6U597	160-1679-03	B040000		MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-03
A6U605	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A6W160	131-0566-00	B030000		BUS CONDUCTOR:DUMMY RES,2.375,22 AWG	57668	JWW-0200E0
A6W441	131-0566-00			BUS CONDUCTOR:DUMMY RES,2.375,22 AWG	57668	JWW-0200E0
A6Y432	158-0223-00			XTAL UNIT,QTZ:29.4912 MHZ,0.01%,SERIES	33096	HC-18/U

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A7	010-6452-01		PROBE,DATA ACQ:P6452,8-CHANNEL	80009	010-6452-01
A7S100	260-0735-01		SWITCH,PUSH:T,NO CONTACT,BLACK BTN	81073	39-3
A7S200	260-2081-00		SWITCH,SLIDE:SPDT,0.4A,20VDC	95146	TSS-11-DG-1-PC
A7A1	670-7265-00		CKT BOARD ASSY:DATA ACQUISITION PROBE	80009	670-7265-00
A7A1C138	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A7A1C139	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A7A1C202	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A7A1C204	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A7A1C238	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A7A1C331	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A7A1C338	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A7A1CR328	152-0725-00		SEMICONV DEVICE:SILICON,SCHOTTKY,20V,1.2PF	50434	5082-2810
A7A1F300	159-0195-00		FUSE,RADIAL LD:7A,125V,0.125 SEC	75915	256-007
A7A1J100	131-1811-00		TERM SET,PIN:10,0.025 SQ ON 0.15 CTR	22526	65595-110
A7A1J202	131-1812-00		TERM SET,PIN:10,0.025 SQ ON 0.15 CTR	22526	65603-110
A7A1R100	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R103	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R105	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R107	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R120	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R122	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R124	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R131	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R132	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R134	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R200	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R220	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R222	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R224	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R226	317-0150-00		RES.,FXD,CMPSN:15 OHM,5%,0.125W	01121	BB1505
A7A1R231	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R232	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R234	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R300	317-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.125W	01121	BB1015
A7A1R302	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R304	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R306	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R308	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R309	317-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.125W	01121	BB1515
A7A1R320	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R322	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R324	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R326	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R329	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R332	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R334	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1R336	317-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.125W	01121	BB5115
A7A1U130	156-0369-02		MICROCIRCUIT,DI:TRIPLE DIFF LINE RECEIVER	04713	SC22689P216
A7A1U230	156-0369-02		MICROCIRCUIT,DI:TRIPLE DIFF LINE RECEIVER	04713	SC22689P216
A7A1U330	156-0369-02		MICROCIRCUIT,DI:TRIPLE DIFF LINE RECEIVER	04713	SC22689P216
A7A1U430	156-0369-02		MICROCIRCUIT,DI:TRIPLE DIFF LINE RECEIVER	04713	SC22689P216
A7A1W140	175-3642-00		CA ASSY,SP,ELEC:34,28 AWG,79.13 L	22526	80278-001

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A7A1W340	195-3500-00		LEAD,ELEC:26 AWG,24.0 L,9-01	80009	195-3500-00
A7A1W340	-----		(QUANTITY OF 2)		
A7A1W340	195-3501-00		LEAD,ELEC:26 AWG,18.0 L,9-7	80009	195-3501-00
A7A1W340	-----		(QUANTITY OF 2)		
A7A1W440	195-3097-00		LEAD,ELEC:26 AWG,3.0 L,9-0	80009	195-3097-00

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Component No.	Tektronix Part No.	Serial/Model No.		Name & Description	Mfr Code	Mfr Part Number
		Eff	Dscont			
A10	670-6738-00	B010100	B010599	CKT BOARD ASSY:TRIGGER/TIME BASE (DAS 9109 ONLY)	80009	670-6738-00
A10	670-6738-01	B010600	B011414	CKT BOARD ASSY:TRIGGER/TIME BASE (DAS 9109 ONLY)	80009	670-6738-01
A10	670-6738-03	B011415	B019999	CKT BOARD ASSY:TRIGGER/TIME BASE (DAS 9109 ONLY)	80009	670-6738-03
A10	670-6738-01	B010100	B010495	CKT BOARD ASSY:TRIGGER/TIME BASE (DAS 9129 ONLY)	80009	670-6738-01
A10	670-6738-03	B010496	B019999	CKT BOARD ASSY:TRIGGER/TIME BASE (DAS 9129 ONLY)	80009	670-6738-01
A10	670-6738-04	B020000	B029999	CKT BOARD ASSY:TRIGGER/TIME BASE	80009	670-6738-04
A10	670-6738-05	B030000		CKT BOARD ASSY:TRIGGER/TIME BASE	80009	670-6738-05
A10C100	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C107	283-0330-00			CAP.,FXD,CER DI:100PF,5%,50V	51642	200-050-NP0-101J
A10C113	281-0773-00			CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A10C114	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C115	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C151	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C152	281-0762-00			CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A10C153	281-0762-00			CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A10C154	281-0762-00			CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A10C155	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C161	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C172	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C184	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C201	281-0811-00			CAP.,FXD,CER DI:10PF,10%,100V	96733	R2911
A10C202	281-0773-00			CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A10C208	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C209	283-0330-00			CAP.,FXD,CER DI:100PF,5%,50V	51642	200-050-NP0-101J
A10C210	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C211	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C212	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C214	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C221	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C231	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C235	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C241	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C245	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C265	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C275	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C284	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C303	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C304	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C315	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C316	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C319	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C331	281-0762-00			CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A10C332	281-0762-00			CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A10C333	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C341	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C355	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C375	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C381	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C391	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A10C395	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C396	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C425	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C427	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C429	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C431	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C435	281-0775-00	B010525		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C437	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C439	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C445	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C451	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C455	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C461	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C465	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C471	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C475	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C481	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C501	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C502	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C511	281-0773-00	B011415		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
	-----			(9109 ONLY)		
A10C511	281-0773-00	B010496		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
	-----			(9129 ONLY)		
A10C541	281-0792-00			CAP.,FXD,CER DI:82PF,10%,100V	12969	CGB820KEN
A10C542	281-0792-00			CAP.,FXD,CER DI:82PF,10%,100V	12969	CGB820KEN
A10C551	281-0770-00			CAP.,FXD,CER DI:0.001UF,20%,100V	04222	MA101C102MAA
A10C561	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A10C571	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C585	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C596	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C610	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10C630	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A10J195	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A10J195	-----			(QUANTITY OF 6)		
A10J200	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A10J200	-----			(QUANTITY OF 3)		
A10J400	131-2567-00	B010100	B010214	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A10J400	131-2797-00	B010215		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A10J600	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A10J600	-----			(QUANTITY OF 3)		
A10L101	108-0182-00			COIL,RF:0.3UH	80009	108-0182-00
A10Q116	151-0710-00			TRANSISTOR:SILICON,NPN	27014	2N6715/92 PU01A
A10Q211	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A10Q212	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A10Q310	151-0223-00			TRANSISTOR:SILICON,NPN	04713	SPS8026
A10Q311	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A10Q312	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A10Q431	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A10Q432	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A10Q538	151-0223-00			TRANSISTOR:SILICON,NPN	04713	SPS8026
A10Q539	151-0223-00			TRANSISTOR:SILICON,NPN	04713	SPS8026
A10R100	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R106	311-1257-00			RES.,VAR,NONWIR:5M OHM,20%,0.50W	32997	3386F-T04-505
A10R107	315-0475-00			RES.,FXD,CMPSN:4.7M OHM,5%,0.25W	01121	CB4755

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No.		Name & Description	Mfr Code	Mfr Part Number
		Eff	Dscont			
A10R110	311-1307-00			RES.,VAR,NONWIR:500 OHM,0.50W	32997	3299W-R27-501
A10R111	321-0166-00			RES.,FXD,FILM:523 OHM,1%,0.125W	91637	MFF1816G523R0F
A10R112	321-0931-03			RES.,FXD,FILM:1.11K OHM,0.25%,0.125W	91637	MFF1816D11100C
A10R113	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R114	315-0271-00	B010100	B010599	RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A10R114	315-0561-00	B010600		RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A10R115	321-0641-07			RES.,FXD,FILM:1.8K OHM,0.1%,0.125W	91637	MFF1816C18000B
A10R116	321-0754-07			RES.,FXD,FILM:900 OHM,0.1%,0.125W	91637	MFF1816C900R0B
A10R117	321-0318-00			RES.,FXD,FILM:20K OHM,1%,0.125W	91637	MFF1816G20001F
A10R118	315-0203-00			RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A10R121	315-0271-00	B010100	B010599	RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A10R121	315-0561-00	B010600		RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A10R124	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A10R152	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R153	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R154	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R161	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R172	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R173	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R174	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R176	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A10R201	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A10R202	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R203	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R204	321-0231-00			RES.,FXD,FILM:2.49K OHM,1%,0.125W	91637	MFF1816G24900F
A10R205	321-0289-00			RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A10R206	315-0104-00			RES.,FXD,CMPSN:100K OHM,5%,0.25W	01121	CB1045
A10R207	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A10R208	315-0104-00			RES.,FXD,CMPSN:100K OHM,5%,0.25W	01121	CB1045
A10R209	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A10R210	321-0272-07			RES.,FXD,FILM:6.65K OHM,0.1%,0.125W	91637	MFF1816C66500B
A10R213	315-0330-00			RES.,FXD,CMPSN:33 OHM,5%,0.25W	01121	CB3305
A10R214	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R215	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A10R221	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R225	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R235	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R236	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R241	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R242	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R251	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R302	321-0097-00	B011415		RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A10R302	-----			(DAS 9109 ONLY)		
A10R302	321-0097-00	B010496		RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A10R302	-----			(DAS 9129 ONLY)		
A10R303	321-0114-00	B011415		RES.,FXD,FILM:150 OHM,1%,0.125W	91637	MFF1816G150R0F
A10R303	-----			(DAS 9109 ONLY)		
A10R303	321-0114-00	B010496		RES.,FXD,FILM:150 OHM,1%,0.125W	91637	MFF1816G150R0F
A10R303	-----			(DAS 9129 ONLY)		
A10R304	321-0105-00	B011415		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R304	-----			(DAS 9109 ONLY)		
A10R304	321-0105-00	B010496		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R304	-----			(DAS 9129 ONLY)		

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A10R304	321-0105-00 -----	B011415	RES.,FXD,FILM:121 OHM,1%,0.125W (DAS 9109 ONLY)	91637	MFF1816G121R0F
A10R305	321-0105-00 -----	B010496	RES.,FXD,FILM:121 OHM,1%,0.125W (DAS 9129 ONLY)	91637	MFF1816G121R0F
A10R306	315-0151-00		RES.,FXD,CMPSN:150 OHM,5%,0.25W	01121	CB1515
A10R307	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A10R308	315-0271-00		RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A10R309	315-0271-00		RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A10R310	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R311	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R312	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R313	315-0330-00		RES.,FXD,CMPSN:33 OHM,5%,0.25W	01121	CB3305
A10R330	321-0185-00		RES.,FXD,FILM:825 OHM,1%,0.125W	91637	MFF1816G825R0F
A10R331	321-0138-00		RES.,FXD,FILM:267 OHM,1%,0.125W	91637	MFF1816G267R0F
A10R332	321-0122-00		RES.,FXD,FILM:182 OHM,1%,0.125W	91637	MFF1816G182R0F
A10R333	321-0239-00		RES.,FXD,FILM:3.01K OHM,1%,0.125W	91637	MFF1816G30100F
A10R334	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R335	321-0185-00		RES.,FXD,FILM:825 OHM,1%,0.125W	91637	MFF1816G825R0F
A10R336	321-0138-00		RES.,FXD,FILM:267 OHM,1%,0.125W	91637	MFF1816G267R0F
A10R351	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R376	321-0075-00		RES.,FXD,FILM:59 OHM,1%,0.125W	91637	MFF1816G59R00F
A10R377	321-0136-00		RES.,FXD,FILM:255 OHM,1%,0.125W	91637	MFF1816G255R0F
A10R379	321-0160-00		RES.,FXD,FILM:453 OHM,1%,0.125W	91637	MFF1816G453R0F
A10R380	321-0075-00		RES.,FXD,FILM:59 OHM,1%,0.125W	91637	MFF1816G59R00F
A10R383	307-0445-00		RES NTWK,FXD,FI:4.7K OHM,20%,(9) RES	91637	MSP10A01-472M
A10R400	315-0271-00		RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A10R401	315-0271-00		RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A10R402	321-0105-00		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R403	321-0097-00		RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A10R404	321-0105-00		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R405	321-0097-00		RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A10R406	321-0105-00		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R407	321-0097-00		RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A10R408	321-0097-00		RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A10R409	321-0105-00		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R410	321-0105-00		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R411	321-0114-00		RES.,FXD,FILM:150 OHM,1%,0.125W	91637	MFF1816G150R0F
A10R412	321-0105-00		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R413	321-0114-00		RES.,FXD,FILM:150 OHM,1%,0.125W	91637	MFF1816G150R0F
A10R414	321-0105-00		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R415	321-0114-00		RES.,FXD,FILM:150 OHM,1%,0.125W	91637	MFF1816G150R0F
A10R416	321-0114-00		RES.,FXD,FILM:150 OHM,1%,0.125W	91637	MFF1816G150R0F
A10R417	321-0105-00		RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R418	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R419	315-0271-00		RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A10R420	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R421	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R422	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R423	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R424	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R425	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R427	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R429	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R434	315-0512-00		RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A10R435	321-0033-00			RES.,FXD,FILM:21.5 OHM,1%,0.125W	91637	MFF1816G21R50F
A10R436	321-0195-00			RES.,FXD,FILM:1.05K OHM,1%,0.125W	91637	MFF1816G10500F
A10R438	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R440	315-0391-00			RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A10R441	315-0102-00	B010180		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R444	315-0103-00	B010181		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A10R455	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R474	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A10R475	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R476	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A10R481	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R485	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R491	315-0101-00	B010100	B010599	RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R500	321-0105-00			RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R501	321-0097-00			RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A10R502	321-0097-00			RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A10R503	321-0105-00			RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R504	321-0105-00			RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R505	321-0097-00			RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A10R506	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A10R508	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A10R509	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A10R510	321-0105-00			RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R511	321-0114-00	B010100	B010599	RES.,FXD,FILM:150 OHM,1%,0.125W	91637	MFF1816G150R0F
A10R511	315-0100-00	B010600		RES.,FXD,CMPSN:10 OHM,5%,0.25W	01121	CB1005
A10R512	321-0114-00			RES.,FXD,FILM:150 OHM,1%,0.125W	91637	MFF1816G150R0F
A10R513	321-0105-00			RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R514	321-0105-00			RES.,FXD,FILM:121 OHM,1%,0.125W	91637	MFF1816G121R0F
A10R515	321-0114-00			RES.,FXD,FILM:150 OHM,1%,0.125W	91637	MFF1816G150R0F
A10R516	315-0820-00			RES.,FXD,CMPSN:82 OHM,5%,0.25W	01121	CB8205
A10R517	315-0131-00			RES.,FXD,CMPSN:130 OHM,5%,0.25W	01121	CB1315
A10R518	315-0131-00			RES.,FXD,CMPSN:130 OHM,5%,0.25W	01121	CB1315
A10R519	315-0820-00			RES.,FXD,CMPSN:82 OHM,5%,0.25W	01121	CB8205
A10R520	321-0122-00			RES.,FXD,FILM:182 OHM,1%,0.125W	91637	MFF1816G182R0F
A10R523	321-0089-00			RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A10R524	321-0106-00			RES.,FXD,FILM:124 OHM,1%,0.125W	91637	MFF1816G124R0F
A10R525	321-0106-00			RES.,FXD,FILM:124 OHM,1%,0.125W	91637	MFF1816G124R0F
A10R526	321-0089-00			RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A10R528	321-0089-00			RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A10R529	321-0106-00			RES.,FXD,FILM:124 OHM,1%,0.125W	91637	MFF1816G124R0F
A10R530	315-0911-00			RES.,FXD,CMPSN:910 OHM,5%,0.25W	01121	CB9115
A10R531	315-0391-00			RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A10R532	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A10R533	315-0391-00			RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A10R534	315-0911-00			RES.,FXD,CMPSN:910 OHM,5%,0.25W	01121	CB9115
A10R535	315-0391-00			RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A10R536	315-0911-00			RES.,FXD,CMPSN:910 OHM,5%,0.25W	01121	CB9115
A10R537	315-0391-00			RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A10R538	315-0911-00			RES.,FXD,CMPSN:910 OHM,5%,0.25W	01121	CB9115
A10R539	315-0271-00			RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A10R540	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A10R541	315-0431-00			RES.,FXD,CMPSN:430 OHM,5%,0.25W	01121	CB4315
A10R542	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A10R543	315-0431-00			RES.,FXD,CMPSN:430 OHM,5%,0.25W	01121	CB4315

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A10R551	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A10R560	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A10R600	315-0100-00	B010600		RES.,FXD,CMPSN:10 OHM,5%,0.25W	01121	CB1005
A10R601	315-0100-00	B011415		RES.,FXD,CMPSN:10 OHM,5%,0.25W	01121	CB1005
	-----			(DAS 9109 ONLY)		
A10R601	315-0100-00	B010496		RES.,FXD,CMPSN:10 OHM,5%,0.25W	01121	CB1005
	-----			(DAS 9129 ONLY)		
A10TP105	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP110	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP191	131-1493-00	B010100	B010599	CONTACT,ELEC:TEST POINT STRAP	80009	131-1493-00
A10TP208	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP221	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP245	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP248	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP255	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP303	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP341	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP378	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP380	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP387	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP473	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP537	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP545	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP565	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP567	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10TP573	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A10U100	156-0205-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE,SCRN	04713	MC10102PD/LD
A10U108	156-0858-00			MICROCIRCUIT,DI:QUAD SPST ANALOG XMSN GATE	17856	DG201ACJ
A10U109	156-0105-00			MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	27014	LM301AN
A10U121	156-1255-01			MICROCIRCUIT,LI:D/A CONVERTER,BURN-IN	04713	DAC-08HQDS
A10U128	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A10U131	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A10U135	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A10U141	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A10U145	156-0118-03			MICROCIRCUIT,DI:1 DUAL J-K FF,BURN-IN	01295	SN74S112JP3
A10U151	156-0320-03			MICROCIRCUIT,DI:TRIPLE 3 INP NAND GATE	01295	SN74S111NP3
A10U155	156-0118-03			MICROCIRCUIT,DI:1 DUAL J-K FF,BURN-IN	01295	SN74S112JP3
A10U161	156-1183-00			MICROCIRCUIT,DI:PRESET BINARY LATCH/CNTR	80009	156-1183-00
A10U165	156-1183-00			MICROCIRCUIT,DI:PRESET BINARY LATCH/CNTR	80009	156-1183-00
A10U177	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A10U181	160-0832-00	B010100	B029999	MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0832-00
A10U181	160-0832-02	B030000		MICROCIRCUIT,DI:8192 X 8 EPROM,PROGRAMMED	80009	160-0832-02
A10U183	160-0931-00	B010100	B019999	MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0931-00
A10U183	160-0931-01	B020000	B029999	MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0931-00
A10U183	160-0931-03	B030000		MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0931-00
A10U206	156-0105-00			MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	27014	LM301AN
A10U215	156-0642-01			MICROCIRCUIT,DI:BI QUINARY CNTR,SCRN	04713	MC10138PD/LD
A10U221	156-0324-03			MICROCIRCUIT,DI:8 INP DATA SEL,SCRN	01295	SN74S151
A10U225	156-0883-02			MICROCIRCUIT,DI:100MHZ PRESETTABLE DECADE	27014	DM74S196JA+
A10U231	156-0324-03			MICROCIRCUIT,DI:8 INP DATA SEL,SCRN	01295	SN74S151
A10U235	156-0910-02			MICROCIRCUIT,DI:DUAL DECADE COUNTER	01295	SN74LS390
A10U241	156-0910-02			MICROCIRCUIT,DI:DUAL DECADE COUNTER	01295	SN74LS390
A10U245	156-0331-03			MICROCIRCUIT,DI:DUAL D TYPE POS EDGE TRIG	80009	156-0331-03
A10U248	156-0472-03			MICROCIRCUIT,DI:13 INPUT NAND GATE,SCRN	01295	SN74S133

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Component No.	Tektronix Part No.	Serial/Model No.		Name & Description	Mfr Code	Mfr Part Number
		Eff	Dscont			
A10U251	156-0324-03			MICROCIRCUIT,DI:8 INP DATA SEL,SCRN	01295	SN74S151
A10U255	156-1183-00			MICROCIRCUIT,DI:PRESET BINARY LATCH/CNTR	80009	156-1183-00
A10U261	156-1183-00			MICROCIRCUIT,DI:PRESET BINARY LATCH/CNTR	80009	156-1183-00
A10U265	156-0459-02			MICROCIRCUIT,DI:QUAD 2 INPUT & GATE,BURN	01295	SN74S08
A10U271	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A10U274	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A10U275	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A10U281	160-0928-00	B010100	B019999	MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0928-00
A10U281	160-0928-02	B020000	B029999	MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0928-02
A10U281	160-0928-04	B030000		MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0928-04
A10U283	160-0828-00			MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0828-00
A10U287	160-0829-00	B010100	B019999	MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0829-00
A10U287	160-0929-01	B020000		MICROCIRCUIT,DI:512 X 8 BIPOLAR,PRGM	80009	160-0929-01
A10U291	160-0930-00	B010100	B019999	MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0930-00
A10U291	160-0930-01	B020000		MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0930-01
A10U295	160-1841-00	B020000		MICROCIRCUIT,DI:8192 X 8 MROM,PROGRAMMED	04713	MCM68364-30/SCM9
A10U308	156-0369-03	B011415		MICROCIRCUIT,DI:TRIPLE LINE RECEIVER,SCRN (DAS 9109 ONLY)	04713	MC10216PD/LD
A10U308	156-0369-03	B010496		MICROCIRCUIT,DI:TRIPLE LINE RECEIVER,SCRN (DAS 9129 ONLY)	04713	MC10216PD/LD
A10U309	156-0687-01			MICROCIRCUIT,DI:QUAD EXCL OR CMPTR	04713	MC10113PD
A10U310	156-0308-00			MICROCIRCUIT,DI:QUAD DIFF LINE RECEIVER	04713	SC22689P115
A10U315	156-0230-02			MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A10U321	156-0324-03			MICROCIRCUIT,DI:8 INP DATA SEL,SCRN	01295	SN74S151
A10U325	156-0883-02			MICROCIRCUIT,DI:100MHZ PRESETTABLE DECADE	27014	DM74S196JA+
A10U335	156-0324-03			MICROCIRCUIT,DI:8 INP DATA SEL,SCRN	01295	SN74S151
A10U341	156-0180-04			MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A10U345	156-0629-01			MICROCIRCUIT,DI:30 MHZ PRESETTABLE BIN	01295	SN74LS197
A10U351	156-1183-00			MICROCIRCUIT,DI:PRESET BINARY LATCH/CNTR	80009	156-1183-00
A10U355	156-0472-03			MICROCIRCUIT,DI:13 INPUT NAND GATE,SCRN	01295	SN74S133
A10U361	156-0629-01			MICROCIRCUIT,DI:30 MHZ PRESETTABLE BIN	01295	SN74LS197
A10U365	156-0629-01			MICROCIRCUIT,DI:30 MHZ PRESETTABLE BIN	01295	SN74LS197
A10U371	156-0480-02			MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3
A10U373	156-0388-03	B010181		MICROCIRCUIT,DI:QUAD D FLIP-FLOP	07263	74LS74A
A10U375	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A10U378	156-0180-04			MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A10U381	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A10U385	160-1078-01	B010100	B029999	MICROCIRCUIT,DI:8192 X 8 MROM,PRGM	80009	160-1078-01
A10U385	160-1078-03	B030000		MICROCIRCUIT,DI:8192 X 8 MROM,PRGM	80009	160-1078-03
A10U391	160-0932-00			MICROCIRCUIT,DI:ROM CSTM MSK 256 X 8	80009	160-0932-00
A10U395	160-1039-00			MICROCIRCUIT,DI:8192 X 8 MROM,PRGM,SCRN	80009	160-1039-00
A10U410	156-0369-03			MICROCIRCUIT,DI:TRIPLE LINE RECEIVER,SCRN	04713	MC10216PD/LD
A10U415	156-0205-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE,SCRN	04713	MC10102PD/LD
A10U421	156-0205-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE,SCRN	04713	MC10102PD/LD
A10U425	156-0369-03			MICROCIRCUIT,DI:TRIPLE LINE RECEIVER,SCRN	04713	MC10216PD/LD
A10U435	156-0403-02			MICROCIRCUIT,DI:HEX INVERTER,SCRN	01295	SN74S05
A10U438	156-1058-01			MICROCIRCUIT,DI:OCTAL ST BFR W/3 STATE OUT	01295	SN74S240JP4
A10U443	156-0707-03			MICROCIRCUIT,DI:QUAD 2 INP EXCL OR GATE	07263	74S86
A10U446	156-0331-03			MICROCIRCUIT,DI:DUAL D TYPE POS EDGE TRIG	80009	156-0331-03
A10U451	156-0325-02			MICROCIRCUIT,DI:DUAL 4-1 LINE DATA,BURN-IN	01295	SN74S153JP3
A10U455	156-0331-03			MICROCIRCUIT,DI:DUAL D TYPE POS EDGE TRIG	80009	156-0331-03
A10U456	156-0180-04			MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A10U461	156-0304-02			MICROCIRCUIT,DI:DUAL 4 INP NAND GATE	01295	SN74S20
A10U465	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A10U471	156-0541-02			MICROCIRCUIT,DI:DUAL 2 TO 4 LINE DCDR	01295	SN74LS139NP3
A10U473	156-0118-03			MICROCIRCUIT,DI:1 DUAL J-K FF,BURN-IN	01295	SN74S112JP3
A10U475	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A10U478	156-0690-03			MICROCIRCUIT,DI:QUAD 2 INP NOR GATE,BURN IN	01295	SN74S02
A10U481	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A10U485	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A10U491	156-1026-02			MICROCIRCUIT,DI:4/1 LINE DECODER,BURN-IN	80009	156-1026-02
A10U495	156-0391-02			MICROCIRCUIT,DI:HEX LATCH W/CLEAR	01295	SN74LS174
A10U508	156-0645-02			MICROCIRCUIT,DI:HEX INV ST NAND GATES,SCRN	01295	SN74LS14
A10U518	156-0369-03			MICROCIRCUIT,DI:TRIPLE LINE RECEIVER,SCRN	04713	MC10216PD/LD
A10U525	156-0180-04			MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A10U543	156-0118-03			MICROCIRCUIT,DI:1 DUAL J-K FF,BURN-IN	01295	SN74S112JP3
A10U546	156-0690-03			MICROCIRCUIT,DI:QUAD 2 INP NOR GATE,BURN IN	01295	SN74S02
A10U595	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A10U596	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A10VR112	152-0461-00			SEMICONV DEVICE:ZENER,0.4W,6.2V,5%	04713	SZG25002K2
A10W175	131-0566-00			BUS CONDUCTOR:DUMMY RES,2.375,22 AWG	57668	JWW-0200E0
A10W478	131-0566-00			BUS CONDUCTOR:DUMMY RES,2.375,22 AWG	57668	JWW-0200E0
A10Y100	158-0106-00			XTAL UNIT,QTZ:100MHZ,+/-0.0025%,SERIES	13571	TEK158-0106-00

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Discont	Name & Description	Mfr Code	Mfr Part Number
A12	670-6742-00	B010100	B013054	CKT BOARD ASSY:32 CHAN DATA ACQUISITION (91A32 ONLY)	80009	670-6742-00
A12	-----					
A12	670-6742-01	B013055		CKT BOARD ASSY:32 CHAN DATA ACQUISITION (91A32 ONLY)	80009	670-6742-01
A12	-----					
A12C101	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C102	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C103	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C105	283-0330-00			CAP.,FXD,CER DI:100PF,5%,50V	51642	200-050-NP0-101J
A12C115	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C116	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C118	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C121	283-0330-00			CAP.,FXD,CER DI:100PF,5%,50V	51642	200-050-NP0-101J
A12C133	283-0330-00			CAP.,FXD,CER DI:100PF,5%,50V	51642	200-050-NP0-101J
A12C140	283-0330-00			CAP.,FXD,CER DI:100PF,5%,50V	51642	200-050-NP0-101J
A12C142	283-0330-00			CAP.,FXD,CER DI:100PF,5%,50V	51642	200-050-NP0-101J
A12C145	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A12C149	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C150	281-0762-00			CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A12C151	281-0773-00			CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A12C152	281-0773-00			CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A12C153	281-0765-00			CAP.,FXD,CER DI:100PF,5%,100V	51642	G1710-100NP0101J
A12C154	281-0167-00			CAP.,VAR,CER DI:9-45PF,200V	59660	538-011D9-45
A12C155	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C156	281-0765-00			CAP.,FXD,CER DI:100PF,5%,100V	51642	G1710-100NP0101J
A12C158	281-0167-00			CAP.,VAR,CER DI:9-45PF,200V	59660	538-011D9-45
A12C161	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C181	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C203	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C211	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C212	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C213	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C214	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C215	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C216	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C219	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C221	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C222	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C228	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C231	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C242	281-0762-00			CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A12C243	281-0762-00			CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A12C251	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C301	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C303	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C311	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C312	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C313	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C314	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C315	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C316	281-0799-00			CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C317	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C321	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C325	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C328	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A12C331	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C341	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C345	281-0762-00		CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A12C351	281-0167-00		CAP.,VAR,CER DI:9-45PF,200V	59660	538-011D9-45
A12C352	281-0762-00		CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A12C355	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C361	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C371	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C381	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C388	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C403	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C404	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C405	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C411	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C412	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C413	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C418	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C419	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C420	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C425	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C434	281-0762-00		CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A12C435	281-0167-00		CAP.,VAR,CER DI:9-45PF,200V	59660	538-011D9-45
A12C436	281-0762-00		CAP.,FXD,CER DI:27PF,20%,100V	04222	GC101A270M
A12C441	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C442	281-0791-00		CAP.,FXD,CER DI:270PF,10%,100V	04222	GC101C271K
A12C503	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C512	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C513	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C514	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C515	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C516	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C519	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C525	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C531	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C533	SELECTED				
A12C534	SELECTED				
A12C541	281-0791-00		CAP.,FXD,CER DI:270PF,10%,100V	04222	GC101C271K
A12C545	281-0775-00	B010181	CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C546	281-0775-00	B010181	CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C601	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C602	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C611	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C612	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C613	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C614	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C615	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C616	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C617	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C618	281-0799-00		CAP.,FXD CER DI:62PF,2%,100V	04222	MA101A620GAA
A12C619	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C625	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C631	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C646	281-0775-00	B010181	CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C651	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No.		Name & Description	Mfr Code	Mfr Part Number
		Eff	Dscont			
A12C655	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C661	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12C703	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A12CR153	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A12CR156	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A12CR352	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A12CR435	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A12CR648	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A12J101	131-2567-00	B010100	B010214	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A12J101	131-2797-00	B010215		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A12J103	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A12J103	-----			(QUANTITY OF 3)		
A12J241	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A12J241	-----			(QUANTITY OF 3)		
A12J243	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A12J243	-----			(QUANTITY OF 3)		
A12J301	131-2567-00	B010100	B010214	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A12J301	131-2797-00	B010215		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A12J441	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A12J441	-----			(QUANTITY OF 3)		
A12J445	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A12J445	-----			(QUANTITY OF 3)		
A12J501	131-2567-00	B010100	B010214	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A12J501	131-2797-00	B010215		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A12J701	131-2567-00	B010100	B010214	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A12J701	131-2797-00	B010215		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A12Q101	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q102	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q103	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q104	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q105	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q106	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q107	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q108	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q109	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q110	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q115	151-0710-00			TRANSISTOR:SILICON,NPN	27014	2N6715/92 PU01A
A12Q201	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q202	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q203	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q204	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q205	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q206	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q207	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q208	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q209	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q210	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q223	151-0710-00			TRANSISTOR:SILICON,NPN	27014	2N6715/92 PU01A
A12Q301	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q302	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q303	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q304	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q305	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q306	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscnt	Name & Description	Mfr Code	Mfr Part Number
A12Q307	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q308	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q309	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q310	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q401	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q402	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q403	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q404	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q405	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q406	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q407	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q408	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q409	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q410	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q411	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A12Q418	151-0710-00		TRANSISTOR:SILICON,NPN	27014	2N6715/92 PU01A
A12Q501	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q502	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q503	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q504	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q505	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q506	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q507	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q508	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q509	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q510	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q520	151-0710-00		TRANSISTOR:SILICON,NPN	27014	2N6715/92 PU01A
A12Q533	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q534	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q601	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q602	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q603	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q604	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q605	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q606	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q607	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q608	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q609	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q610	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q611	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q612	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q613	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q614	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q615	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q616	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q617	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12Q618	151-0221-00		TRANSISTOR:SILICON,PNP	04713	SPS246
A12R100	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R101	315-0104-00		RES.,FXD,CMPSN:100K OHM,5%,0.25W	01121	CB1045
A12R102	315-0104-00		RES.,FXD,CMPSN:100K OHM,5%,0.25W	01121	CB1045
A12R103	321-0289-00		RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A12R104	307-0695-00		RES NTWK,FXD FI:9,150 OHM,2%,0.2W EACH	01121	110A151
A12R105	321-0231-00		RES.,FXD,FILM:2.49K OHM,1%,0.125W	91637	MFF1816G24900F
A12R106	307-0832-00		RES NTWK,FXD,FI:9,120 OHM,2%,0.15W	01121	210A121

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A12R107	321-0289-00		RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A12R108	307-0489-00		RES,NTWK,FXD,FI:100 OHM,20%,1W	57924	4308R-101-101
A12R110	307-0739-00		RES NTWK,FXD,FI:10,680 OHM,2%,0.15W EACH	01121	110A681
A12R111	307-0695-00		RES NTWK,FXD,FI:9,150 OHM,2%,0.2W EACH	01121	110A151
A12R112	307-0592-00		RES,NTWK,FXD,FI:9,220 OHM,2%,2W	91637	MSP10A01-221G
A12R113	315-0475-00		RES.,FXD,CMPSN:4.7M OHM,5%,0.25W	01121	CB4755
A12R114	315-0391-00		RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A12R115	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R120	311-1257-00		RES.,VAR,NONWIR:5M OHM,20%,0.50W	32997	3386F-T04-505
A12R121	321-0318-00		RES.,FXD,FILM:20K OHM,1%,0.125W	91637	MFF1816G20001F
A12R127	315-0203-00		RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A12R128	315-0475-00		RES.,FXD,CMPSN:4.7M OHM,5%,0.25W	01121	CB4755
A12R131	311-1257-00		RES.,VAR,NONWIR:5M OHM,20%,0.50W	32997	3386F-T04-505
A12R132	321-0318-00		RES.,FXD,FILM:20K OHM,1%,0.125W	91637	MFF1816G20001F
A12R134	321-0272-07		RES.,FXD,FILM:6.65K OHM,0.1%,0.125W	91637	MFF1816C66500B
A12R135	321-0272-07		RES.,FXD,FILM:6.65K OHM,0.1%,0.125W	91637	MFF1816C66500B
A12R136	315-0203-00		RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A12R137	315-0475-00		RES.,FXD,CMPSN:4.7M OHM,5%,0.25W	01121	CB4755
A12R138	311-1257-00		RES.,VAR,NONWIR:5M OHM,20%,0.50W	32997	3386F-T04-505
A12R139	321-0318-00		RES.,FXD,FILM:20K OHM,1%,0.125W	91637	MFF1816G20001F
A12R140	321-0272-07		RES.,FXD,FILM:6.65K OHM,0.1%,0.125W	91637	MFF1816C66500B
A12R141	315-0203-00		RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A12R142	315-0475-00		RES.,FXD,CMPSN:4.7M OHM,5%,0.25W	01121	CB4755
A12R143	311-1257-00		RES.,VAR,NONWIR:5M OHM,20%,0.50W	32997	3386F-T04-505
A12R144	321-0272-07		RES.,FXD,FILM:6.65K OHM,0.1%,0.125W	91637	MFF1816C66500B
A12R145	315-0203-00		RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A12R146	321-0318-00		RES.,FXD,FILM:20K OHM,1%,0.125W	91637	MFF1816G20001F
A12R147	311-1307-00		RES.,VAR,NONWIR:500 OHM,0.50W	32997	3299W-R27-501
A12R148	321-0763-07		RES.,FXD,FILM:1.12K OHM,0.1%,0.125W	91637	MFF1816C11200B
A12R149	321-0754-07		RES.,FXD,FILM:900 OHM,0.1%,0.125W	91637	MFF1816C900R0B
A12R150	321-0641-07		RES.,FXD,FILM:1.8K OHM,0.1%,0.125W	91637	MFF1816C18000B
A12R151	321-0166-00		RES.,FXD,FILM:523 OHM,1%,0.125W	91637	MFF1816G523R0F
A12R153	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R156	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R159	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R208	307-0832-00		RES NTWK,FXD,FI:9,120 OHM,2%,0.15W	01121	210A121
A12R209	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R210	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R212	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R213	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R214	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R217	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R218	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R219	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R221	315-0391-00		RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A12R223	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R240	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R241	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R255	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R281	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R288	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R304	307-0695-00		RES NTWK,FXD,FI:9,150 OHM,2%,0.2W EACH	01121	110A151
A12R310	307-0739-00		RES NTWK,FXD,FI:10,680 OHM,2%,0.15W EACH	01121	110A681
A12R311	307-0695-00		RES NTWK,FXD,FI:9,150 OHM,2%,0.2W EACH	01121	110A151

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A12R312	307-0592-00		RES,NTWK,FXD FI:9,220 OHM,2%,2W	91637	MSP10A01-221G
A12R315	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R331	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R332	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R335	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R340	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R341	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R342	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R352	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R404	307-0489-00		RES,NTWK,FXD,FI:100 OHM,20%,1W	57924	4308R-101-101
A12R408	307-0832-00		RES NTWK,FXD,FI:9,120 OHM,2%,0.15W	01121	210A121
A12R409	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R414	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R415	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R416	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R417	315-0391-00		RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A12R418	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R419	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R435	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R451	315-0202-00		RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A12R452	315-0202-00		RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A12R463	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R464	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R465	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R472	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R473	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R475	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R478	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R479	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R481	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R485	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R488	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R504	307-0695-00		RES NTWK,FXD FI:9,150 OHM,2%,0.2W EACH	01121	110A151
A12R507	315-0101-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1015
A12R508	307-0489-00		RES,NTWK,FXD,FI:100 OHM,20%,1W	57924	4308R-101-101
A12R510	307-0739-00		RES NTWK,FXD,FI:10,680 OHM,2%,0.15W EACH	01121	110A681
A12R511	307-0695-00		RES NTWK,FXD FI:9,150 OHM,2%,0.2W EACH	01121	110A151
A12R512	307-0592-00		RES,NTWK,FXD FI:9,220 OHM,2%,2W	91637	MSP10A01-221G
A12R519	315-0391-00		RES.,FXD,CMPSN:390 OHM,5%,0.25W	01121	CB3915
A12R520	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R531	315-0271-00		RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A12R533	321-0042-00		RES.,FXD,FILM:26.7 OHM,1%,0.125W	91637	MFF1816G26R70F
A12R534	321-0042-00		RES.,FXD,FILM:26.7 OHM,1%,0.125W	91637	MFF1816G26R70F
A12R535	307-0542-00		RES,NTWK,FXD,FI:10K OHM,5%,0.125W	01121	106A103
A12R536	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R541	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R551	315-0202-00		RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A12R552	315-0202-00		RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A12R604	307-0695-00		RES NTWK,FXD FI:9,150 OHM,2%,0.2W EACH	01121	110A151
A12R606	307-0832-00		RES NTWK,FXD,FI:9,120 OHM,2%,0.15W	01121	210A121
A12R608	307-0489-00		RES,NTWK,FXD,FI:100 OHM,20%,1W	57924	4308R-101-101
A12R610	307-0739-00		RES NTWK,FXD,FI:10,680 OHM,2%,0.15W EACH	01121	110A681
A12R611	307-0695-00		RES NTWK,FXD FI:9,150 OHM,2%,0.2W EACH	01121	110A151
A12R612	307-0592-00		RES,NTWK,FXD FI:9,220 OHM,2%,2W	91637	MSP10A01-221G

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscnt	Name & Description	Mfr Code	Mfr Part Number
A12R633	307-0540-00		RES,NTWK,FXD,Fl:(5) 1K OHM,10%,0.7W	57924	4306R-101-102
A12R638	307-0598-00		RES NTWK,FXD Fl:7,330 OHM,2%,1.0W	91637	MSP08A01331G
A12R645	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A12R648	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R658	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A12R670	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R671	321-0185-00		RES.,FXD,FILM:825 OHM,1%,0.125W	91637	MFF1816G825R0F
A12R672	321-0138-00		RES.,FXD,FILM:267 OHM,1%,0.125W	91637	MFF1816G267R0F
A12R673	321-0122-00		RES.,FXD,FILM:182 OHM,1%,0.125W	91637	MFF1816G182R0F
A12R674	321-0185-00		RES.,FXD,FILM:825 OHM,1%,0.125W	91637	MFF1816G825R0F
A12R675	321-0138-00		RES.,FXD,FILM:267 OHM,1%,0.125W	91637	MFF1816G267R0F
A12R676	321-0122-00		RES.,FXD,FILM:182 OHM,1%,0.125W	91637	MFF1816G182R0F
A12R677	321-0185-00		RES.,FXD,FILM:825 OHM,1%,0.125W	91637	MFF1816G825R0F
A12R678	321-0122-00		RES.,FXD,FILM:182 OHM,1%,0.125W	91637	MFF1816G182R0F
A12R679	321-0138-00		RES.,FXD,FILM:267 OHM,1%,0.125W	91637	MFF1816G267R0F
A12R680	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12R703	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A12TP121	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP122	214-0579-00	B013055	TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP131	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP136	214-0579-00	B013055	TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP146	214-0579-00	B013055	TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP147	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP148	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP146	214-0579-00	B013055	TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP160	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP161	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP162	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP209	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP281	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP331	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP409	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP441	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP510	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP611	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP651	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12TP681	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A12U105	156-0106-00		MICROCIRCUIT,LI:MONOLITHIC,6-DIODE ARRAY	02735	CA3039
A12U111	156-0413-02		MICROCIRCUIT,DI:QUAD 2-INP SCHMITT TRIG	80009	156-0413-02
A12U115	156-0413-02		MICROCIRCUIT,DI:QUAD 2-INP SCHMITT TRIG	80009	156-0413-02
A12U121	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U122	156-0105-00		MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	27014	LM301AN
A12U125	156-0385-02		MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A12U128	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U131	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U133	156-0105-00		MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	27014	LM301AN
A12U134	156-0858-00		MICROCIRCUIT,DI:QUAD SPST ANALOG XMSN GATE	17856	DG201ACJ
A12U140	156-0105-00		MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	27014	LM301AN
A12U142	156-0105-00		MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	27014	LM301AN
A12U151	156-0459-02		MICROCIRCUIT,DI:QUAD 2 INPUT & GATE,BURN	01295	SN74S08
A12U152	156-1255-01		MICROCIRCUIT,LI:D/A CONVERTER,BURN-IN	04713	DAC-08HQDS
A12U153	156-0118-03		MICROCIRCUIT,DI:1 DUAL J-K FF,BURN-IN	01295	SN74S112JP3
A12U155	156-0331-03		MICROCIRCUIT,DI:DUAL D TYPE POS EDGE TRIG	80009	156-0331-03
A12U158	156-0765-03		MICROCIRCUIT,DI:SYN UP/DOWN BINARY COUNTER	80009	156-0765-03

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A12U161	156-0765-03			MICROCIRCUIT,DI:SYN UP/DOWN BINARY COUNTER	80009	156-0765-03
A12U165	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U168	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U171	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U175	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U178	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U181	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U185	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U188	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U215	156-0413-02			MICROCIRCUIT,DI:QUAD 2-INP SCHMITT TRIG	80009	156-0413-02
A12U221	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U225	156-0385-02			MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A12U228	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U231	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U233	156-0331-03			MICROCIRCUIT,DI:DUAL D TYPE POS EDGE TRIG	80009	156-0331-03
A12U241	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A12U245	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A12U251	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A12U255	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U261	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U265	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U268	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U271	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U275	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U278	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U281	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U285	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U288	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U311	156-0413-02			MICROCIRCUIT,DI:QUAD 2-INP SCHMITT TRIG	80009	156-0413-02
A12U315	156-0413-02			MICROCIRCUIT,DI:QUAD 2-INP SCHMITT TRIG	80009	156-0413-02
A12U321	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U325	156-0385-02			MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A12U328	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U331	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U335	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A12U341	156-1026-02			MICROCIRCUIT,DI:4/1 LINE DECODER,BURN-IN	80009	156-1026-02
A12U345	156-0478-02	B010100	B010374	MICROCIRCUIT,DI:DUAL 4 INP & GATE,BURN-IN	01295	SN74LS21NP3
A10U345	156-0297-02	B010375		MICROCIRCUIT,DI:DUAL 4-INP AND GATE,SCRN	07263	7421(PCQR OR DCQ)
A12U346	156-0385-02			MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A12U351	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A12U361	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A12U411	156-0180-04			MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A12U415	156-0180-04			MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A12U421	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U425	156-0385-02			MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A12U428	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U431	156-0738-04			MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U435	156-0323-02			MICROCIRCUIT,DI:HEX INVERTER,BURN-IN	01295	SN74S04
A12U441	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A12U451	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A12U465	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U468	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U471	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U475	156-1360-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A12U478	156-1360-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U481	156-1360-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U485	156-1360-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U488	156-1360-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM	80009	156-1360-01
A12U511	156-0413-02		MICROCIRCUIT,DI:QUAD 2-INP SCHMITT TRIG	80009	156-0413-02
A12U515	156-0413-02		MICROCIRCUIT,DI:QUAD 2-INP SCHMITT TRIG	80009	156-0413-02
A12U521	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U525	156-0385-02		MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A12U528	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U531	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U541	156-1393-00		MICROCIRCUIT,DI:4096 X 8 EPROM,PRGM	01295	SN74S38
A12U545	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U611	156-0413-02		MICROCIRCUIT,DI:QUAD 2-INP SCHMITT TRIG	80009	156-0413-02
A12U615	156-0413-02		MICROCIRCUIT,DI:QUAD 2-INP SCHMITT TRIG	80009	156-0413-02
A12U621	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U625	156-0385-02		MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A12U628	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U631	156-0738-04		MICROCIRCUIT,DI:HEX D FF W/CLEAR,BURN-IN	01295	SN74S174(JP4)
A12U635	156-0369-02		MICROCIRCUIT,DI:TRIPLE DIFF LINE RECEIVER	04713	SC22689P216
A12U638	156-0640-02		MICROCIRCUIT,DI:8 LINE MULTIPLEXER	04713	MC10164PD/LD
A12U641	156-1393-00		MICROCIRCUIT,DI:4096 X 8 EPROM,PRGM	01295	SN74S38
A12U645	156-0707-03		MICROCIRCUIT,DI:QUAD 2 INP EXCL OR GATE	07263	74S86
A12U646	156-0180-04		MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A12U651	156-0331-03		MICROCIRCUIT,DI:DUAL D TYPE POS EDGE TRIG	80009	156-0331-03
A12U655	156-0331-03		MICROCIRCUIT,DI:DUAL D TYPE POS EDGE TRIG	80009	156-0331-03
A12U658	156-0865-02		MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A12U661	156-0865-02		MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A12U665	156-0865-02		MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A12U668	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A12U669	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A12U671	156-1064-02		MICROCIRCUIT,DI:QUAD 2/1 LINE TRUE DATA	01295	SN74S157JP4
A12U675	156-0304-02		MICROCIRCUIT,DI:DUAL 4 INP NAND GATE	01295	SN74S20
A12U681	156-0304-02		MICROCIRCUIT,DI:DUAL 4 INP NAND GATE	01295	SN74S20
A12U685	156-0304-02		MICROCIRCUIT,DI:DUAL 4 INP NAND GATE	01295	SN74S20
A12U688	156-0304-02		MICROCIRCUIT,DI:DUAL 4 INP NAND GATE	01295	SN74S20
A12VR148	152-0461-00		SEMICOND DEVICE:ZENER,0.4W,6.2V,5%	04713	SZG25002K2

Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A13	670-6743-00	B010100	B011544	CKT BOARD ASSY:8 CHAN DATA ACQUISITION (91A08)	80009	670-6743-00
A13	-----					
A13	670-6743-01	B011545	B011760	CKT BOARD ASSY:8 CHAN DATA ACQUISITION (91A08)	80009	670-6743-01
A13	-----					
A13	670-6743-02	B011761	B019999	CKT BOARD ASSY:8 CHAN DATA ACQUISITION (91A08)	80009	670-6743-02
A13	-----					
A13	670-6743-04	B020000		CKT BOARD ASSY:8 CHAN DATA ACQUISITION (91A08)	80009	670-6743-04
A13	-----					
A13C101	281-0814-00			CAP.,FXD,CER DI:100PF,10%,100V	04222	GC101A101K
A13C112	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A13C115	281-0773-00			CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A13C116	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C128	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C131	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C136	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C142	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C149	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C178	281-0851-00			CAP.,FXD,CER DI:180PF,5%,100VDC	04222	GC10-1-A-181K
A13C184	283-0164-00	B011545		CAP.,FXD,CER DI:2.2UF,20%,25V	04222	SR40E225MAA
A13C187	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C190	290-0932-00	B010100	B011544	CAP.,FXD ELECT:390UF,+ 100-10%,15VDC	90201	VPR391N01E1A3J
A13C190	290-0773-00	B011545		CAP.,FXD,ELCTLT:1000UF,+50-10%,10V	56289	500D154
A13C194	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C199	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C203	281-0814-00			CAP.,FXD,CER DI:100PF,10%,100V	04222	GC101A101K
A13C204	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C211	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C212	281-0814-00			CAP.,FXD,CER DI:100PF,10%,100V	04222	GC101A101K
A13C232	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C236	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C239	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C258	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C267	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C273	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C291	283-0194-00			CAP.,FXD,CER DI:4.7UF,20%,50V	56289	5C37Z5U475M050B
A13C303	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C304	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C305	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C306	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C331	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C332	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C356	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C393	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C395	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C424	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C436	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C437	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C439	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C446	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C452	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C457	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C479	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C481	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C486	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA

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Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A13C511	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C514	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C515	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C519	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C533	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C546	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C562	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C566	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C591	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C601	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C602	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C618	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C628	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C632	281-0759-00			CAP.,FXD,CER DI:22PF,10%,100V	96733	R2735
A13C636	283-0194-00			CAP.,FXD,CER DI:4.7UF,20%,50V	56289	5C37Z5U475M050B
A13C637	290-0920-00			CAP.,FXD,ELCTL:33UF,+50-10%,35V	55680	ULB1V330TEAANA
A13C650	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C653	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C656	281-0811-00			CAP.,FXD,CER DI:10PF,10%,100V	96733	R2911
A13C657	281-0811-00			CAP.,FXD,CER DI:10PF,10%,100V	96733	R2911
A13C665	281-0811-00			CAP.,FXD,CER DI:10PF,10%,100V	96733	R2911
A13C669	281-0811-00			CAP.,FXD,CER DI:10PF,10%,100V	96733	R2911
A13C670	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C675	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C681	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C686	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C687	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C689	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C696	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C701	281-0773-00			CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A13C704	283-0164-00			CAP.,FXD,CER DI:2.2UF,20%,25V	04222	SR402E225MAA
A13C708	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A13C709	283-0353-00			CAP.,FXD,CER DI:0.1UF,10%,50V	04222	12105C104KA2075
A13CR291	152-0582-00			SEMICONV DEVICE:SILICON,20V,3A	04713	1N5820
A13CR458	152-0066-00			SEMICONV DEVICE:SILICON,400V,750MA	14433	LG4016
A13CR516	152-0066-00			SEMICONV DEVICE:SILICON,400V,750MA	14433	LG4016
A13CR630	152-0536-00			SEMICONV DEVICE:SILICON,HOT CARRIER,4V	80009	152-0536-00
A13CR686	152-0066-00			SEMICONV DEVICE:SILICON,400V,750MA	14433	LG4016
A13DL215	119-1088-00	B010100	B011544	DELAY LINE:4NS,100 OHM	01961	PE-20943
A13DL215	119-1488-00	B011545		DELAY LINE,ELEC:8NS,100 OHM	01961	23084
A13DL219	119-1088-00	B010100	B011544	DELAY LINE:4NS,100 OHM	01961	PE-20943
A13DL219	119-1488-00	B011545		DELAY LINE,ELEC:8NS,100 OHM	01961	23084
A13DL223	119-1088-00	B010100	B011544	DELAY LINE:4NS,100 OHM	01961	PE-20943
A13DL223	119-1488-00	B011545		DELAY LINE,ELEC:8NS,100 OHM	01961	23084
A13DL227	119-1088-00	B010100	B011544	DELAY LINE:4NS,100 OHM	01961	PE-20943
A13DL227	119-1488-00	B011545		DELAY LINE,ELEC:8NS,100 OHM	01961	23084
A13DL314	119-1088-00	B010100	B011544	DELAY LINE:4NS,100 OHM	01961	PE-20943
A13DL314	119-1488-00	B011545		DELAY LINE,ELEC:8NS,100 OHM	01961	23084
A13DL319	119-1088-00	B010100	B011544	DELAY LINE:4NS,100 OHM	01961	PE-20943
A13DL319	119-1488-00	B011545		DELAY LINE,ELEC:8NS,100 OHM	01961	23084
A13DL323	119-1088-00	B010100	B011544	DELAY LINE:4NS,100 OHM	01961	PE-20943
A13DL323	119-1488-00	B011545		DELAY LINE,ELEC:8NS,100 OHM	01961	23084
A13DL327	119-1088-00	B010100	B011544	DELAY LINE:4NS,100 OHM	01961	PE-20943
A13DL327	119-1488-00	B011545		DELAY LINE,ELEC:8NS,100 OHM	01961	23084

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A13DL418	119-1088-00	B010100	B011544	DELAY LINE:4NS,100 OHM	01961	PE-20943
A13DL418	119-1488-00	B011545		DELAY LINE,ELEC:8NS,100 OHM	01961	23084
A13J208	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A13J208	-----			(QUANTITY OF 2)		
A13J300	131-0265-00			CONN,RCPT,ELEC:MINTR,CKT BD MTD,FEM,RTANG	98291	51-053-0000
A13J500	131-2567-00	B010100	B010219	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A13J500	131-2797-00	B010220		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A13J545	131-0608-00	B010100	B010434	TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A13J545	-----			(QUANTITY OF 3)		
A13J545	131-1934-00	B010435		TERM. SET,PIN:1 X 36,0.1 CTR,0.9 L	22526	65539-001
A13J545	-----			(QUANTITY OF 3)		
A13J615	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A13J615	-----			(QUANTITY OF 2)		
A13L192	108-0336-00			COIL,RF:100UH	80009	108-0336-00
A13L290	108-0336-00			COIL,RF:100UH	80009	108-0336-00
A13Q138	151-0188-00	B011545		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A13Q151	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A13Q152	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A13Q295	151-0352-00			TRANSISTOR:SILICON,NPN	03508	X44C282
A13Q297	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A13Q298	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
A13Q571	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A13Q572	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A13Q601	151-0447-00			TRANSISTOR:SILICON,NPN	04713	SRF502-1
A13Q602	151-0447-00			TRANSISTOR:SILICON,NPN	04713	SRF502-1
A13Q608	151-0427-00			TRANSISTOR:SILICON,NPN	80009	151-0427-00
A13Q616	151-0427-00			TRANSISTOR:SILICON,NPN	80009	151-0427-00
A13Q623	151-0427-00			TRANSISTOR:SILICON,NPN	80009	151-0427-00
A13Q631	151-0223-00			TRANSISTOR:SILICON,NPN	04713	SPS8026
A13Q632	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A13Q644	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A13Q645	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A13Q649	151-0223-00			TRANSISTOR:SILICON,NPN	04713	SPS8026
A13R101	311-1399-00			RES.,VAR,NONWIR:5M OHM,20%,0.50W	73138	72-90-0
A13R102	321-0289-07			RES.,FXD,FILM:10K OHM,0.1%,0.125W	91637	MFF1816C10001B
A13R103	321-0986-07			RES.,FXD,FILM:25K OHM,0.1%,0.125W	91637	MFF1816C25001B
A13R104	321-1133-02			RES.,FXD,FILM:240 OHM,0.5%,0.125W	91637	MFF1816D240R0D
A13R105	311-1936-00			RES.,VAR,NONWIR:CKT BD,50 OHM,20%,0.5W	73138	72XR50-232A
A13R106	321-0171-00			RES.,FXD,FILM:590 OHM,1%,0.125W	91637	MFF1816G590R0F
A13R107	321-0222-07			RES.,FXD,FILM:2K OHM,0.1%,0.125W	91637	MFF1816C20000B
A13R108	321-0144-00			RES.,FXD,FILM:309 OHM,1%,0.125W	91637	MFF1816G309R0F
A13R109	321-0812-07	B010100	B010434	RES.,FXD,FILM:455 OHM,0.1%,0.125W	91637	MFF1816C455R0B
A13R109	321-0729-06	B010435		RES.,FXD,FILM:786 OHM,0.25%,0.125W	91637	MFF1816C786R0C
A13R110	311-1307-00			RES.,VAR,NONWIR:500 OHM,0.50W	32997	3299W-R27-501
A13R111	321-0998-07			RES.,FXD,FILM:1.915K OHM,0.1%,0.125W	24546	NE55E19150B
A13R112	321-1722-07	B010100	B010434	RES.,FXD,FILM:3.39K OHM,0.1%,0.125W	24546	NE55E3391B
A13R112	321-0666-07	B010435		RES.,FXD,FILM:3.04K OHM,0.1%,0.125W	91637	MFF1816C30400B
A13R113	321-0318-00			RES.,FXD,FILM:20K OHM,1%,0.125W	91637	MFF1816G20001F
A13R120	307-0675-00			RES NTWK,FXD FI:9,1K OHM,2%,1.25W	01121	210A102
A13R123	307-0675-00			RES NTWK,FXD FI:9,1K OHM,2%,1.25W	01121	210A102
A13R126	307-0675-00			RES NTWK,FXD FI:9,1K OHM,2%,1.25W	01121	210A102
A13R128	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R131	315-0242-00	B011761		RES.,FXD,CMPSN:2.4K OHM,5%,0.25W	01121	CB2425
A13R135	315-0221-00	B011545		RES.,FXD,CMPSN:220 OHM,5%,0.25W	01121	CB2215

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A13R136	315-0432-00	B011545		RES.,FXD,CMPSN:4.3K OHM,5%,0.25W	01121	CB4325
A13R139	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R145	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R149	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R150	315-0330-00			RES.,FXD,CMPSN:33 OHM,5%,0.25W	01121	CB3305
A13R158	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R167	307-0675-00			RES NTWK,FXD FI:9.1K OHM,2%,1.25W	01121	210A102
A13R179	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R182	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A13R184	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R186	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R191	308-0136-00			RES.,FXD,WW:0.05 OHM,10%,5W	80009	308-0136-00
A13R195	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R196	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A13R197	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R198	315-0180-00			RES.,FXD,CMPSN:18 OHM,5%,0.25W	01121	CB1805
A13R201	321-0986-07			RES.,FXD,FILM:25K OHM,0.1%,0.125W	91637	MFF1816C25001B
A13R202	321-0318-07			RES.,FXD,FILM:20K OHM,0.1%,0.125W	24546	NE55E2002B
A13R203	321-0272-07			RES.,FXD,FILM:6.65K OHM,0.1%,0.125W	91637	MFF1816C66500B
A13R204	315-0475-00	B010100	B010434	RES.,FXD,CMPSN:4.7M OHM,5%,0.25W	01121	CB4755
A13R204	315-0305-00	B010435		RES.,FXD,CMPSN:3M OHM,5%,0.25W	01121	CB3055
A13R205	315-0335-00			RES.,FXD,CMPSN:3.3M OHM,5%,0.25W	01121	CB3355
A13R207	315-0104-00			RES.,FXD,CMPSN:100K OHM,5%,0.25W	01121	CB1045
A13R208	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A13R209	315-0104-00			RES.,FXD,CMPSN:100K OHM,5%,0.25W	01121	CB1045
A13R210	321-0289-07			RES.,FXD,FILM:10K OHM,0.1%,0.125W	91637	MFF1816C10001B
A13R211	321-0289-00			RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A13R212	321-0231-00			RES.,FXD,FILM:2.49K OHM,1%,0.125W	91637	MFF1816G24900F
A13R214	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R215	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R216	315-0361-00			RES.,FXD,CMPSN:360 OHM,5%,0.25W	01121	CB3615
A13R217	315-0620-00			RES.,FXD,CMPSN:62 OHM,5%,0.25W	01121	CB6205
A13R218	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R219	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R220	315-0361-00			RES.,FXD,CMPSN:360 OHM,5%,0.25W	01121	CB3615
A13R221	315-0620-00			RES.,FXD,CMPSN:62 OHM,5%,0.25W	01121	CB6205
A13R222	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R223	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R224	315-0361-00			RES.,FXD,CMPSN:360 OHM,5%,0.25W	01121	CB3615
A13R225	315-0620-00			RES.,FXD,CMPSN:62 OHM,5%,0.25W	01121	CB6205
A13R226	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R227	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R228	315-0361-00			RES.,FXD,CMPSN:360 OHM,5%,0.25W	01121	CB3615
A13R229	315-0620-00			RES.,FXD,CMPSN:62 OHM,5%,0.25W	01121	CB6205
A13R230	307-0545-00			RES NTWK,FXD,FI:9.75 OHM,5%,0.15W	32997	4310R-101-750
A13R231	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R233	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R257	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A13R268	307-0546-00			RES NTWK,FXD FI:5.75 OHM,5%,0.15W	91637	MSP06A01750J
A13R273	307-0546-00			RES NTWK,FXD FI:5.75 OHM,5%,0.15W	91637	MSP06A01750J
A13R278	307-0546-00			RES NTWK,FXD FI:5.75 OHM,5%,0.15W	91637	MSP06A01750J
A13R282	307-0546-00			RES NTWK,FXD FI:5.75 OHM,5%,0.15W	91637	MSP06A01750J
A13R283	307-0545-00			RES NTWK,FXD,FI:9.75 OHM,5%,0.15W	32997	4310R-101-750
A13R285	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A13R286	307-0546-00			RES NTWK,FXD FI:5,75 OHM,5%,0.15W	91637	MSP06A01750J
A13R307	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R308	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R312	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R313	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R314	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R315	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R318	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R319	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R320	315-0361-00			RES.,FXD,CMPSN:360 OHM,5%,0.25W	01121	CB3615
A13R321	315-0620-00			RES.,FXD,CMPSN:62 OHM,5%,0.25W	01121	CB6205
A13R322	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R323	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R324	315-0361-00			RES.,FXD,CMPSN:360 OHM,5%,0.25W	01121	CB3615
A13R325	315-0620-00			RES.,FXD,CMPSN:62 OHM,5%,0.25W	01121	CB6205
A13R326	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R327	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R328	315-0361-00			RES.,FXD,CMPSN:360 OHM,5%,0.25W	01121	CB3615
A13R329	315-0620-00			RES.,FXD,CMPSN:62 OHM,5%,0.25W	01121	CB6205
A13R330	307-0545-00			RES NTWK,FXD,FI:9,75 OHM,5%,0.15W	32997	4310R-101-750
A13R334	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R335	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R357	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A13R392	315-0122-00			RES.,FXD,CMPSN:1.2K OHM,5%,0.25W	01121	CB1225
A13R396	315-0124-00			RES.,FXD,CMPSN:120K OHM,5%,0.25W	01121	CB1245
A13R397	321-0237-00			RES.,FXD,FILM:2.87K OHM,1%,0.125W	91637	MFF1816G28700F
A13R398	321-0222-00			RES.,FXD,FILM:2K OHM,1%,0.125W	91637	MFF1816G20000F
A13R399	321-0097-00			RES.,FXD,FILM:100 OHM,1%,0.125W	91637	MFF1816G100R0F
A13R411	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R412	315-0361-00			RES.,FXD,CMPSN:360 OHM,5%,0.25W	01121	CB3615
A13R414	315-0620-00			RES.,FXD,CMPSN:62 OHM,5%,0.25W	01121	CB6205
A13R415	315-0620-00			RES.,FXD,CMPSN:62 OHM,5%,0.25W	01121	CB6205
A13R416	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R417	315-0361-00			RES.,FXD,CMPSN:360 OHM,5%,0.25W	01121	CB3615
A13R418	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R419	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A13R420	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A13R421	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R422	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R425	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A13R428	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A13R429	307-0792-00			RES NTWK,FXD,FI:7,82 OHM,2%,0.15W	11236	750-81-R82
A13R430	315-0750-00	B011545		RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R431	315-0750-00	B010100	B011544	RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R432	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R434	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R436	315-0102-00	B011545		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R437	307-0675-00	B010100	B011544	RES NTWK,FXD FI:9,1K OHM,2%,1.25W	01121	210A1025
A13R438	315-0102-00	B011545		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R442	307-0546-00			RES NTWK,FXD FI:5,75 OHM,5%,0.15W	91637	MSP06A01750J
A13R449	315-0562-00			RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A13R450	307-0541-00			RES,NTWK,THK FI:(7)1K OHM,10%,1W	91637	MSP08A01-102G
A13R456	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R458	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No.		Name & Description	Mfr Code	Mfr Part Number
		Eff	Dscont			
A13R461	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R468	307-0546-00			RES NTWK,FXD FI:5,75 OHM,5%,0.15W	91637	MSP06A01750J
A13R473	307-0546-00			RES NTWK,FXD FI:5,75 OHM,5%,0.15W	91637	MSP06A01750J
A13R478	307-0546-00			RES NTWK,FXD FI:5,75 OHM,5%,0.15W	91637	MSP06A01750J
A13R482	307-0546-00			RES NTWK,FXD FI:5,75 OHM,5%,0.15W	91637	MSP06A01750J
A13R483	307-0545-00			RES NTWK,FXD,FI:9,75 OHM,5%,0.15W	32997	4310R-101-750
A13R485	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R487	307-0546-00			RES NTWK,FXD FI:5,75 OHM,5%,0.15W	91637	MSP06A01750J
A13R491	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R492	315-0272-00			RES.,FXD,CMPSN:2.7K OHM,5%,0.25W	01121	CB2725
A13R493	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R494	315-0272-00			RES.,FXD,CMPSN:2.7K OHM,5%,0.25W	01121	CB2725
A13R496	307-0675-00			RES NTWK,FXD FI:9,1K OHM,2%,1.25W	01121	210A102
A13R508	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R509	307-0540-00	B010100	B011544	RES,NTWK,FXD,FI:(5) 1K OHM,10%,0.7W	57924	4306R-101-102
A13R510	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R511	315-0750-00	B010100	B011544	RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R513	307-0501-00			RES,NTWK,FXD,FI:THICK FILM,(5) 50 OHM,5%	91637	MSP06A01-500J
A13R514	307-0546-00			RES NTWK,FXD FI:5,75 OHM,5%,0.15W	91637	MSP06A01750J
A13R516	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A13R522	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R523	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R526	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R527	315-0102-00	B020000		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R528	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A13R532	315-0181-00			RES.,FXD,CMPSN:180 OHM,5%,0.25W	01121	CB1815
A13R533	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A13R534	315-0821-00			RES.,FXD,CMPSN:820 OHM,5%,0.25W	01121	CB8215
A13R536	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R537	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A13R538	315-0271-00			RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A13R539	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R540	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R541	315-0821-00			RES.,FXD,CMPSN:820 OHM,5%,0.25W	01121	CB8215
A13R542	315-0271-00			RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A13R543	315-0181-00			RES.,FXD,CMPSN:180 OHM,5%,0.25W	01121	CB1815
A13R545	307-0811-00	B010100	B011544	RES NTWK,FXD,FI:	01121	316T110
A13R545	315-0102-00	B011545		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R546	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R548	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R561	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R565	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R570	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A13R571	315-0330-00			RES.,FXD,CMPSN:33 OHM,5%,0.25W	01121	CB3305
A13R573	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R574	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R578	307-0541-00			RES,NTWK,THK FI:(7)1K OHM,10%,1W	91637	MSP08A01-102G
A13R584	307-0541-00			RES,NTWK,THK FI:(7)1K OHM,10%,1W	91637	MSP08A01-102G
A13R601	321-0158-00			RES.,FXD,FILM:432 OHM,1%,0.125W	91637	MFF1816G432R0F
A13R602	315-0471-00			RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A13R603	315-0471-00			RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A13R604	317-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.125W	01121	BB5105
A13R605	317-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.125W	01121	BB5105
A13R615	315-0681-00			RES.,FXD,CMPSN:680 OHM,5%,0.25W	01121	CB6815

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A13R616	315-0241-00	B010100	B019999	RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A13R616	315-0181-00	B020000		RES.,FXD,CMPSN:180 OHM,5%,0.25W	01121	CB1815
A13R617	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R618	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R619	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A13R627	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R628	307-0493-00	B010100	B011544	RES,NTWK,FXD,FI:(7)50 OHM,5%,0.125W	32997	4308R-101-500
A13R628	307-0492-00	B011545		RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A13R629	307-0546-00	B011545		RES NTWK,FXD FI:5,75 OHM,5%,0.15W	91637	MSP06A01750J
A13R631	315-0201-00			RES.,FXD,CMPSN:200 OHM,5%,0.25W	01121	CB2015
A13R632	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R633	315-0471-00			RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A13R634	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A13R637	315-0100-00			RES.,FXD,CMPSN:10 OHM,5%,0.25W	01121	CB1005
A13R639	315-0432-00			RES.,FXD,CMPSN:4.3K OHM,5%,0.25W	01121	CB4325
A13R641	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A13R642	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R643	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A13R645	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R646	315-0151-00			RES.,FXD,CMPSN:150 OHM,5%,0.25W	01121	CB1515
A13R647	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A13R648	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R650	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R658	311-1564-00			RES.,VAR,NONWIR:TRMR,500 OHM,0.5W	73138	91-86-0
A13R659	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A13R660	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R661	311-1564-00			RES.,VAR,NONWIR:TRMR,500 OHM,0.5W	73138	91-86-0
A13R662	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R663	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R664	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R665	311-1564-00			RES.,VAR,NONWIR:TRMR,500 OHM,0.5W	73138	91-86-0
A13R666	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R667	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R668	311-1564-00			RES.,VAR,NONWIR:TRMR,500 OHM,0.5W	73138	91-86-0
A13R669	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A13R670	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R671	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R672	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A13R678	307-0719-00			RES NTWK,FXD,FI:9,1.5K OHM,1%,0.15W EACH	32997	4310R101152F
A13R681	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A13R683	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A13R684	307-0719-00			RES NTWK,FXD,FI:9,1.5K OHM,1%,0.15W EACH	32997	4310R101152F
A13R701	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A13R702	321-0751-06			RES.,FXD,FILM:50 OHM,0.25%,0.125W	91637	MFF1816C50R00C
A13R703	317-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.125W	01121	BB5105
A13R704	317-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.125W	01121	BB5105
A13R705	321-0112-00			RES.,FXD,FILM:143 OHM,1%,0.125W	91637	MFF1816G143R0F
A13R706	321-0086-00			RES.,FXD,FILM:76.8 OHM,1%,0.125W	91637	MFF1816G76R80F
A13R707	321-0086-00			RES.,FXD,FILM:76.8 OHM,1%,0.125W	91637	MFF1816G76R80F
A13R708	321-0112-00			RES.,FXD,FILM:143 OHM,1%,0.125W	91637	MFF1816G143R0F
A13R709	315-0471-00			RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A13TP103	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP106	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP111	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A13TP113	214-0579-00	B011545		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP115	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP148	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP190	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP201	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP204	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP208	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP218	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP221	214-0579-00	B011545		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP225	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP228	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP281	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP285	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP318	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP321	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP325	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP328	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP378	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP381	214-0579-00	B011545		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP418	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP481	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP485	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP495	214-0579-00	B011545		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP501	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP511	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP514	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP515	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP548	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13TP678	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A13U101	156-0105-00			MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	27014	LM301AN
A13U115	156-0858-00			MICROCIRCUIT,DI:QUAD SPST ANALOG XMSN GATE	17856	DG201ACJ
A13U118	156-1555-00			MICROCIRCUIT,LI:D/A CONVERTER	34335	AM6080PC
A13U121	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A13U125	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A13U128	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A13U131	156-0865-02	B010100	B011544	MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A13U131	156-1327-00	B011545		MICROCIRCUIT,DI:3 STATE OCTAL D FF,SCRN	27014	MM74C374
A13U135	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A13U141	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A13U145	156-0412-02			MICROCIRCUIT,DI:SYN 4 BIT UP/DOWN CNTR	01295	SN74LS193N3
A13U148	156-1080-01			MICROCIRCUIT,DI:HEX BUFFERS U/OC HV	27014	DM7407
A13U151	156-0412-02			MICROCIRCUIT,DI:SYN 4 BIT UP/DOWN CNTR	01295	SN74LS193N3
A13U155	156-0412-02			MICROCIRCUIT,DI:SYN 4 BIT UP/DOWN CNTR	01295	SN74LS193N3
A13U158	156-1080-01			MICROCIRCUIT,DI:HEX BUFFERS U/OC HV	27014	DM7407
A13U161	156-0308-02			MICROCIRCUIT,DI:QUAD LINE RECEIVER	04713	MC10115L
A13U165	156-0308-02			MICROCIRCUIT,DI:QUAD LINE RECEIVER	04713	MC10115L
A13U168	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A13U171	156-1026-02			MICROCIRCUIT,DI:4/1 LINE DECODER,BURN-IN	80009	156-1026-02
A13U175	156-0480-02			MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3
A13U178	156-0383-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE	01295	SN74LS02
A13U181	156-0721-02			MICROCIRCUIT,DI:QUAD 2-IN NAND SCHMITT TRI	04713	SN74LS132NDS
A13U185	156-0382-02			MICROCIRCUIT,DI:QUAD 2-INP NAND GATE	01295	SN74LS00
A13U201	156-0105-00			MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	27014	LM301AN
A13U211	156-0105-00			MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	27014	LM301AN

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Component No.	Tektronix Part No.	Serial/Model No.		Name & Description	Mfr Code	Mfr Part Number
		Eff	Dscont			
A13U218	155-0215-47	B010100	B011544	MICROCIRCUIT,DI:LOGIC ANALYZER INPUT	80009	155-0215-47
A13U218	155-0215-00	B011545		MICROCIRCUIT,DI:LOGIC ANALYZER INPUT,16 DIP	80009	155-0215-00
A13U221	155-0215-47	B010100	B011544	MICROCIRCUIT,DI:LOGIC ANALYZER INPUT	80009	155-0215-47
A13U221	155-0215-00	B011545		MICROCIRCUIT,DI:LOGIC ANALYZER INPUT,16 DIP	80009	155-0215-00
A13U225	155-0215-47	B010100	B011544	MICROCIRCUIT,DI:LOGIC ANALYZER INPUT	80009	155-0215-47
A13U225	155-0215-00	B011545		MICROCIRCUIT,DI:LOGIC ANALYZER INPUT,16 DIP	80009	155-0215-00
A13U228	155-0215-47	B010100	B011544	MICROCIRCUIT,DI:LOGIC ANALYZER INPUT	80009	155-0215-47
A13U228	155-0215-00	B011545		MICROCIRCUIT,DI:LOGIC ANALYZER INPUT,16 DIP	80009	155-0215-00
A13U231	156-0743-01			MICROCIRCUIT,DI:HEX D MAS SLAVE FF W/RESET	04713	MC10186PD/LD
A13U235	156-0743-01			MICROCIRCUIT,DI:HEX D MAS SLAVE FF W/RESET	04713	MC10186PD/LD
A13U238	156-0743-01			MICROCIRCUIT,DI:HEX D MAS SLAVE FF W/RESET	04713	MC10186PD/LD
A13U241	156-0743-01			MICROCIRCUIT,DI:HEX D MAS SLAVE FF W/RESET	04713	MC10186PD/LD
A13U245	156-0543-01			MICROCIRCUIT,DI:HEX BUFFER,SCREENED	18324	10188(NB)
A13U248	156-0543-01			MICROCIRCUIT,DI:HEX BUFFER,SCREENED	18324	10188(NB)
A13U251	156-0543-01			MICROCIRCUIT,DI:HEX BUFFER,SCREENED	18324	10188(NB)
A13U255	156-1038-01			MICROCIRCUIT,DI:4 BIT BINARY COUNTER	80009	156-1038-01
A13U258	156-1038-01			MICROCIRCUIT,DI:4 BIT BINARY COUNTER	80009	156-1038-01
A13U265	156-0633-02			MICROCIRCUIT,DI:HEX D MAST-SLV FF,SCRN	04713	MC10176PD/LD
A13U268	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U271	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U278	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U281	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U285	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U298	156-1225-00			MICROCIRCUIT,LI:DUAL COMPARATOR,8 DIP	27014	LM393N
A13U318	155-0215-47	B010100	B011544	MICROCIRCUIT,DI:LOGIC ANALYZER INPUT	80009	155-0215-47
A13U318	155-0215-00	B011545		MICROCIRCUIT,DI:LOGIC ANALYZER INPUT,16 DIP	80009	155-0215-00
A13U321	155-0215-47	B010100	B011544	MICROCIRCUIT,DI:LOGIC ANALYZER INPUT	80009	155-0215-47
A13U321	155-0215-00	B011545		MICROCIRCUIT,DI:LOGIC ANALYZER INPUT,16 DIP	80009	155-0215-00
A13U325	155-0215-47	B010100	B011544	MICROCIRCUIT,DI:LOGIC ANALYZER INPUT	80009	155-0215-47
A13U325	155-0215-00	B011545		MICROCIRCUIT,DI:LOGIC ANALYZER INPUT,16 DIP	80009	155-0215-00
A13U328	155-0215-47	B010100	B011544	MICROCIRCUIT,DI:LOGIC ANALYZER INPUT	80009	155-0215-47
A13U328	155-0215-00	B011545		MICROCIRCUIT,DI:LOGIC ANALYZER INPUT,16 DIP	80009	155-0215-00
A13U331	156-0743-01			MICROCIRCUIT,DI:HEX D MAS SLAVE FF W/RESET	04713	MC10186PD/LD
A13U335	156-0743-01			MICROCIRCUIT,DI:HEX D MAS SLAVE FF W/RESET	04713	MC10186PD/LD
A13U338	156-0743-01			MICROCIRCUIT,DI:HEX D MAS SLAVE FF W/RESET	04713	MC10186PD/LD
A13U341	156-0743-01			MICROCIRCUIT,DI:HEX D MAS SLAVE FF W/RESET	04713	MC10186PD/LD
A13U345	156-0543-01			MICROCIRCUIT,DI:HEX BUFFER,SCREENED	18324	10188(NB)
A13U348	156-0543-01			MICROCIRCUIT,DI:HEX BUFFER,SCREENED	18324	10188(NB)
A13U351	156-0543-01			MICROCIRCUIT,DI:HEX BUFFER,SCREENED	18324	10188(NB)
A13U355	156-0543-01			MICROCIRCUIT,DI:HEX BUFFER,SCREENED	18324	10188(NB)
A13U415	156-1031-00			MICROCIRCUIT,DI:TRIPLE D FLIP FLOP	07263	F100131FC
A13U418	156-0307-00			MICROCIRCUIT,LI:QUAD DIFF LINE RECEIVER	80009	156-0307-00
A13U421	156-0880-02			MICROCIRCUIT,DI:DUAL D MASTER SLAVE FF	04713	MC10231PD/LD
A13U425	156-0880-02			MICROCIRCUIT,DI:DUAL D MASTER SLAVE FF	04713	MC10231PD/LD
A13U428	156-1038-01			MICROCIRCUIT,DI:4 BIT BINARY COUNTER	80009	156-1038-01
A13U431	156-0759-02			MICROCIRCUIT,DI:QUAD 2-INP OR GATE,SCRN	04713	MC10103PD/LD
A13U435	156-0205-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE,SCRN	04713	MC10102PD/LD
A13U438	156-0458-01			MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A13U441	156-0880-02			MICROCIRCUIT,DI:DUAL D MASTER SLAVE FF	04713	MC10231PD/LD
A13U445	156-0880-02			MICROCIRCUIT,DI:DUAL D MASTER SLAVE FF	04713	MC10231PD/LD
A13U451	156-0385-02			MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A13U455	156-0458-01			MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A13U461	156-0411-02			MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A13U465	156-0633-02			MICROCIRCUIT,DI:HEX D MAST-SLV FF,SCRN	04713	MC10176PD/LD

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A13U468	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U471	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U478	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U481	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U485	156-1297-00			MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A13U488	156-0411-02			MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A13U491	156-0411-02			MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A13U495	156-0411-02			MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A13U511	156-1032-00			MICROCIRCUIT,DI:QUINT 2 OR/NOR	07263	F100102FC
A13U515	156-0688-01			MICROCIRCUIT,DI:DUAL J-K MASTER SLAVE FF	04713	MC10135PD/LD
A13U518	156-1031-00			MICROCIRCUIT,DI:TRIPLE D FLIP FLOP	07263	F100131FC
A13U521	156-0880-02			MICROCIRCUIT,DI:DUAL D MASTER SLAVE FF	04713	MC10231PD/LD
A13U525	156-1500-00			MICROCIRCUIT,DI:QUINT EXCL OR/NOR GATE	02763	F100107FC
A13U528	156-1031-00			MICROCIRCUIT,DI:TRIPLE D FLIP FLOP	07263	F100131FC
A13U541	156-0323-02			MICROCIRCUIT,DI:HEX INVERTER,BURN-IN	01295	SN74S04
A13U551	156-0180-04			MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A13U555	156-0411-02			MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A13U558	156-0369-02			MICROCIRCUIT,DI:TRIPLE DIFF LINE RECEIVER	04713	SC22689P216
A13U561	156-1031-00			MICROCIRCUIT,DI:TRIPLE D FLIP FLOP	07263	F100131FC
A13U568	156-0369-02			MICROCIRCUIT,DI:TRIPLE DIFF LINE RECEIVER	04713	SC22689P216
A13U570	156-0369-03			MICROCIRCUIT,DI:TRIPLE LINE RECEIVER,SCRN	04713	MC10216PD/LD
A13U575	156-0403-02			MICROCIRCUIT,DI:HEX INVERTER,SCRN	01295	SN74S05
A13U578	156-0412-02			MICROCIRCUIT,DI:SYN 4 BIT UP/DOWN CNTR	01295	SN74LS193N3
A13U581	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A13U585	156-1021-01			MICROCIRCUIT,DI:HEX & GATE,SCRN	04713	MC10197PD/LD
A13U588	156-1044-01			MICROCIRCUIT,DI:4 BIT SYNC BIN CNTR,SCRN	07263	F93S16DCQR
A13U591	156-1172-01			MICROCIRCUIT,DI:DUAL 4 BIT CNTR	01295	SN74LS393
A13U595	156-1172-01			MICROCIRCUIT,DI:DUAL 4 BIT CNTR	01295	SN74LS393
A13U605	156-1557-00			MICROCIRCUIT,DI:ECL,DUAL 8-INP MUXER	07263	F100163FC
A13U615	156-1032-00			MICROCIRCUIT,DI:QUINT 2 OR/NOR	07263	F100102FC
A13U621	156-1032-00			MICROCIRCUIT,DI:QUINT 2 OR/NOR	07263	F100102FC
A13U625	156-1032-00			MICROCIRCUIT,DI:QUINT 2 OR/NOR	07263	F100102FC
A13U628	156-0880-02			MICROCIRCUIT,DI:DUAL D MASTER SLAVE FF	04713	MC10231PD/LD
A13U651	156-0479-02			MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A13U655	156-0230-02			MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A13U671	156-0914-02			MICROCIRCUIT,DI:OCT ST BFR W/3 STATE OUT	01295	SN74LS240
A13U675	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A13U678	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A13U681	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A13U685	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A13U688	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A13U691	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A13U695	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A13U701	156-1344-00			MICROCIRCUIT,LI:COMPARATOR	52648	SP9685CM
A13VR106	152-0461-00			SEMICONV DEVICE:ZENER,0.4W,6.2V,5%	04713	SZG25002K2
A13W160	131-0566-00	B020000		BUS CONDUCTOR:DUMMY RES,2.375,22 AWG	57668	JWW-0200E0

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A14	670-6739-00			CKT BOARD ASSY:PATTERN GENERATOR (91P16)	80009	670-6739-00
A14	-----					
A14C101	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C102	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C103	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C107	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C117	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C152	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C160	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C166	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C167	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C187	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C196	281-0814-00			CAP.,FXD,CER DI:100PF,10%,100V	04222	GC101A101K
A14C197	281-0234-00			CAP.,VAR,PLSTC:5.5-65PF,100V	80031	2810C5R565UJ02F
A14C201	283-0028-00			CAP.,FXD,CER DI:0.0022UF,20%,50V	59660	0805585Y5S0222M
A14C203	283-0028-00			CAP.,FXD,CER DI:0.0022UF,20%,50V	59660	0805585Y5S0222M
A14C204	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C214	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C227	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C231	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C233	281-0814-00	B010100	B010249	CAP.,FXD,CER DI:100PF,10%,100V	04222	GC101A101K
A14C233	281-0809-00	B010250		CAP.,FXD,CER DI:200PF,5%,100V	96733	R2915
A14C234	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C235	283-0115-00			CAP.,FXD,CER DI:47PF,5%,200V	59660	805-519-C0G0470J
A14C244	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C250	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C254	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C288	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C294	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C296	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A14C304	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C305	283-0028-00			CAP.,FXD,CER DI:0.0022UF,20%,50V	59660	0805585Y5S0222M
A14C316	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C340	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C354	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C362	281-0759-00			CAP.,FXD,CER DI:22PF,10%,100V	96733	R2735
A14C366	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C375	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C382	290-0932-00			CAP.,FXD ELECT:390UF,+100-10%,15VDC	90201	VPR391N01E1A3J
A14C404	283-0028-00			CAP.,FXD,CER DI:0.0022UF,20%,50V	59660	0805585Y5S0222M
A14C412	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C417	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C431	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C434	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C443	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C451	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C481	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C491	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C498	290-0932-00			CAP.,FXD ELECT:390UF,+100-10%,15VDC	90201	VPR391N01E1A3J
A14C504	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C510	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C520	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C524	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C532	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Discont	Name & Description	Mfr Code	Mfr Part Number
A14C543	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C553	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C560	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C562	281-0798-00			CAP.,FXD,CER DI:51PF,1%,100V	96733	R2928
A14C566	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C584	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C598	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C600	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C602	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C603	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C604	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C605	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C609	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C630	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C635	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A14C650	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A14C656	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C666	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C680	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C684	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A14C696	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C697	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A14C720	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C725	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C730	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A14C731	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A14C750	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14C756	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A14CR496	152-0582-00			SEMICONV DEVICE:SILICON,20V,3A	04713	1N5820
A14DS198	150-1061-00			LT EMITTING DIO:RED,660NM,50MA MAX	50434	HLMP-1301
A14F696	159-0153-00			FUSE,WIRE LEAD:1.5A,125V,FAST BLOW	71400	GFA 1-1/2
A14J200	131-2567-00	B010100	B010209	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A14J200	131-2797-00	B010210		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A14J400	131-2567-00	B010100	B010209	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A14J400	131-2797-00	B010210		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A14L294	108-0742-00			COIL,RF:83UH,TOROIDAL	80009	108-0742-00
A14L494	108-0728-00			COIL,RF:116UF	80009	108-0728-00
A14L695	108-0742-00			COIL,RF:83UH,TOROIDAL	80009	108-0742-00
A14Q196	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
A14Q197	151-0302-00			TRANSISTOR:SILICON,NPN	07263	S038487
A14Q398	151-0625-00			TRANSISTOR:SILICON,PNP	03508	D45H11
A14R105	321-0108-00			RES.,FXD,FILM:130 OHM,1%,0.125W	91637	MFF1816G130R0F
A14R106	321-0089-00			RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A14R110	307-0738-00			RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A14R124	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R130	307-0818-00			RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A14R134	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R136	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R140	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R143	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R161	307-0539-00			RES NTWK,THK FI:(7)510 OHM,10%,1W	01121	208A511
A14R164	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R166	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R173	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A14R180	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R192	315-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.25W	01121	CB3315
A14R193	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A14R194	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R197	315-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.25W	01121	CB3315
A14R201	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A14R203	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A14R205	307-0738-00		RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A14R210	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R212	321-0089-00		RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A14R213	321-0108-00		RES.,FXD,FILM:130 OHM,1%,0.125W	91637	MFF1816G130R0F
A14R215	315-0472-00		RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A14R216	307-1096-00		RES NTWK,FXD,FI:7.2 OHM,2%,1W	57924	4308R-101-202
A14R217	307-0595-00		RES NTWK,FXD FI:7.5.6K OHM,2%,1.0W	32997	4308R-101-562
A14R218	315-0472-00		RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A14R219	315-0512-00		RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A14R220	315-0512-00		RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A14R223	315-0271-00		RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A14R232	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R233	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A14R240	307-0818-00		RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A14R242	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R252	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R271	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R275	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R287	307-0539-00		RES NTWK,THK FI:(7)510 OHM,10%,1W	01121	208A511
A14R288	321-0108-00		RES.,FXD,FILM:130 OHM,1%,0.125W	91637	MFF1816G130R0F
A14R290	321-0089-00		RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A14R291	321-0260-00		RES.,FXD,FILM:4.99K OHM,1%,0.125W	91637	MFF1816G49900F
A14R292	321-0108-00		RES.,FXD,FILM:130 OHM,1%,0.125W	91637	MFF1816G130R0F
A14R293	321-0122-00		RES.,FXD,FILM:182 OHM,1%,0.125W	91637	MFF1816G182R0F
A14R294	321-0089-00		RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A14R295	303-0101-00		RES.,FXD,CMPSN:100 OHM,5%,1W	01121	GB1015
A14R296	315-0132-00		RES.,FXD,CMPSN:1.3K OHM,5%,0.25W	01121	CB1325
A14R297	315-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.25W	01121	CB3315
A14R298	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R299	315-0201-00		RES.,FXD,CMPSN:200 OHM,5%,0.25W	01121	CB2015
A14R305	307-0738-00		RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A14R312	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R317	307-0818-00		RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A14R327	307-0818-00		RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A14R334	307-0818-00		RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A14R351	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R360	311-1562-00		RES.,VAR,NONWIR:2K OHM,20%,0.50W	73138	91-84-0
A14R363	315-0271-00		RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A14R371	307-0445-00		RES NTWK,FXD,FI:4.7K OHM,20%,(9) RES	91637	MSP10A01-472M
A14R394	308-0678-00		RES.,FXD,WW:0.1 OHM,5%,2W	75042	BWH-R1000J
A14R404	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A14R405	307-0738-00		RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A14R416	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R455	307-0818-00		RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A14R456	307-0818-00		RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A14R457	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R466	315-0511-00		RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115

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Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A14R471	307-0818-00			RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A14R490	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A14R494	315-0243-00			RES.,FXD,CMPSN:24K OHM,5%,0.25W	01121	CB2435
A14R496	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A14R504	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A14R505	307-0738-00			RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A14R512	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R516	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R526	321-0089-00			RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A14R527	321-0108-00			RES.,FXD,FILM:130 OHM,1%,0.125W	91637	MFF1816G130R0F
A14R528	321-0089-00			RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A14R529	321-0108-00			RES.,FXD,FILM:130 OHM,1%,0.125W	91637	MFF1816G130R0F
A14R531	307-0818-00			RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A14R550	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A14R564	315-0271-00			RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A14R565	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A14R571	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A14R580	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A14R583	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A14R595	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A14R597	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A14R612	321-0089-00			RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A14R614	321-0108-00			RES.,FXD,FILM:130 OHM,1%,0.125W	91637	MFF1816G130R0F
A14R620	321-0089-00			RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A14R621	321-0108-00			RES.,FXD,FILM:130 OHM,1%,0.125W	91637	MFF1816G130R0F
A14R652	315-0331-00			RES.,FXD,CMPSN:330 OHM,5%,0.25W	01121	CB3315
A14R653	315-0182-00			RES.,FXD,CMPSN:1.8K OHM,5%,0.25W	01121	CB1825
A14R663	311-1562-00			RES.,VAR,NONWIR:2K OHM,20%,0.50W	73138	91-84-0
A14R667	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A14R678	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A14R681	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A14R695	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A14R696	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A14R697	315-0681-00			RES.,FXD,CMPSN:680 OHM,5%,0.25W	01121	CB6815
A14R710	321-0089-00			RES.,FXD,FILM:82.5 OHM,1%,0.125W	91637	MFF1816G82R50F
A14R712	321-0108-00			RES.,FXD,FILM:130 OHM,1%,0.125W	91637	MFF1816G130R0F
A14TP194	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP205	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP211	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP230	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP265	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP266	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP294	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP336	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP363	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP604	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP635	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14TP680	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A14U107	156-0633-01			MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U110	156-0182-02			MICROCIRCUIT,DI:TRIPLE 2-3-2 INPUT GATE	04713	MC10105PD/LD
A14U115	156-1592-00			MICROCIRCUIT,DI:4-3-3 NOR BUS DRIVERS	07263	F10123DC
A14U117	156-0205-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE,SCRN	04713	MC10102PD/LD
A14U121	156-1592-00			MICROCIRCUIT,DI:4-3-3 NOR BUS DRIVERS	07263	F10123DC
A14U125	156-0230-02			MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A14U131	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A14U135	156-0458-01		MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A14U137	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U141	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U145	156-0847-01		MICROCIRCUIT,DI:64 BIT REGISTER FILE,SCRN	07263	10145ADCQR
A14U151	156-0847-01		MICROCIRCUIT,DI:64 BIT REGISTER FILE,SCRN	07263	10145ADCQR
A14U153	156-0761-01		MICROCIRCUIT,DI:1024 X 1 RAM,CHECKED	04713	MCM10146L
A14U165	156-0761-01		MICROCIRCUIT,DI:1024 X 1 RAM,CHECKED	04713	MCM10146L
A14U167	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U171	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U175	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U185	156-0182-02		MICROCIRCUIT,DI:TRIPLE 2-3-2 INPUT GATE	04713	MC10105PD/LD
A14U198	156-1225-00		MICROCIRCUIT,LI:DUAL COMPARATOR,8 DIP	27014	LM393N
A14U215	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A14U217	156-0182-02		MICROCIRCUIT,DI:TRIPLE 2-3-2 INPUT GATE	04713	MC10105PD/LD
A14U221	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A14U225	156-0541-02		MICROCIRCUIT,DI:DUAL 2 TO 4 LINE DCDR	01295	SN74LS139NP3
A14U235	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A14U237	156-0458-01		MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A14U241	156-0458-01		MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A14U245	156-0633-01		MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U251	156-0847-01		MICROCIRCUIT,DI:64 BIT REGISTER FILE,SCRN	07263	10145ADCQR
A14U261	156-0295-02		MICROCIRCUIT,DI:TRIPLE 2-INP EXCL OR NOR	04713	MC10107PD/LD
A14U265	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A14U267	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A14U271	156-0458-01		MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A14U275	156-0458-01		MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A14U281	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A14U285	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A14U305	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A14U310	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A14U315	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U321	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A14U325	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A14U327	156-0637-01		MICROCIRCUIT,DI:DUAL 4 TO 1 MUX	04713	MC10174PD/LD
A14U331	156-0637-01		MICROCIRCUIT,DI:DUAL 4 TO 1 MUX	04713	MC10174PD/LD
A14U335	156-0637-01		MICROCIRCUIT,DI:DUAL 4 TO 1 MUX	04713	MC10174PD/LD
A14U337	156-0637-01		MICROCIRCUIT,DI:DUAL 4 TO 1 MUX	04713	MC10174PD/LD
A14U341	156-0759-02		MICROCIRCUIT,DI:QUAD 2-INP OR GATE,SCRN	04713	MC10103PD/LD
A14U345	156-0633-01		MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U351	156-0847-01		MICROCIRCUIT,DI:64 BIT REGISTER FILE,SCRN	07263	10145ADCQR
A14U353	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U365	156-0458-01		MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A14U367	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A14U371	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A14U405	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A14U410	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A14U415	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U421	156-1297-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM,BURN-IN	80009	156-1297-01
A14U425	156-1297-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM,BURN-IN	80009	156-1297-01
A14U427	156-1297-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM,BURN-IN	80009	156-1297-01
A14U431	156-1297-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM,BURN-IN	80009	156-1297-01
A14U435	156-1297-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM,BURN-IN	80009	156-1297-01
A14U441	156-1297-01		MICROCIRCUIT,DI:256 X 4 STATIC RAM,BURN-IN	80009	156-1297-01

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A14U445	156-0230-02			MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A14U451	156-0633-01			MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U453	156-0633-01			MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U461	156-0205-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE,SCRN	04713	MC10102PD/LD
A14U465	156-0759-02			MICROCIRCUIT,DI:QUAD 2-INP OR GATE,SCRN	04713	MC10103PD/LD
A14U467	156-0633-01			MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U471	156-0633-01			MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U481	160-0831-00			MICROCIRCUIT,DI:8192 X 8 MROM,PRGM,SCRN	80009	160-0831-00
A14U485	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A14U495	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A14U505	156-0631-02			MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A14U510	156-0411-02			MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A14U515	156-0641-01			MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U521	156-1297-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM,BURN-IN	80009	156-1297-01
A14U525	156-1297-01			MICROCIRCUIT,DI:256 X 4 STATIC RAM,BURN-IN	80009	156-1297-01
A14U531	156-0633-01			MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U535	156-0633-01			MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U541	156-0633-01			MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A14U545	156-0458-01			MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A14U551	156-0458-01			MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A14U565	156-0230-02			MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A14U567	156-0205-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE,SCRN	04713	MC10102PD/LD
A14U581	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A14U585	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A14U605	156-0631-02			MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A14U610	156-0411-02			MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A14U615	156-0641-01			MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A14U617	156-0637-01			MICROCIRCUIT,DI:DUAL 4 TO 1 MUX	04713	MC10174PD/LD
A14U627	156-0252-02			MICROCIRCUIT,DI:TRIPLE 4-3-3 INP NOR GATE	04713	MC10106PD/LD
A14U631	156-0252-02			MICROCIRCUIT,DI:TRIPLE 4-3-3 INP NOR GATE	04713	MC10106PD/LD
A14U635	156-0252-02			MICROCIRCUIT,DI:TRIPLE 4-3-3 INP NOR GATE	04713	MC10106PD/LD
A14U645	156-0687-01			MICROCIRCUIT,DI:QUAD EXCL OR CMPTR	04713	MC10113PD
A14U651	156-0687-01			MICROCIRCUIT,DI:QUAD EXCL OR CMPTR	04713	MC10113PD
A14U661	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A14U665	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A14U671	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A14U681	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A14U685	156-1026-02			MICROCIRCUIT,DI:4/1 LINE DECODER,BURN-IN	80009	156-1026-02

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Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A15	010-6455-01			PROBE,WORD GEN:P6455,TTL/MOS	80009	010-6455-01
A15S1	260-0735-01			SWITCH,PUSH:T,NO CONTACT,BLACK BTN	81073	39-3
A15S2	260-2081-00			SWITCH,SLIDE:SPDT,0.4A,20VDC	95146	TSS-11-DG-1-PC
A15A1	670-7266-01			CKT BOARD ASSY:TTL/MOS PATTERN GEN PROBE	80009	670-7266-01
A15A1C100	283-0204-00			CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A15A1C104	283-0204-00			CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A15A1C114	283-0204-00			CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A15A1C115	283-0204-00			CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A15A1C118	290-0847-00			CAP.,FXD,ELCTLT:47UF,+50-10%,10 V	54473	ECE-B1AV470S
A15A1C200	283-0204-00			CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A15A1C214	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A15A1C215	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A15A1C218	290-0847-00			CAP.,FXD,ELCTLT:47UF,+50-10%,10 V	54473	ECE-B1AV470S
A15A1C219	283-0024-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	72982	8121N083Z5U0104Z
A15A1C319	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A15A1CR104	152-0307-00			SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A15A1CR105	152-0501-00			SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A15A1CR106	152-0307-00			SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A15A1CR107	152-0501-00			SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A15A1CR110	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A15A1CR111	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A15A1CR112	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A15A1CR114	152-0581-00			SEMICONV DEVICE:SILICON,20V,1A	04713	1N5817
A15A1CR204	152-0307-00			SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A15A1CR205	152-0501-00			SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A15A1CR206	152-0307-00			SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A15A1CR207	152-0501-00			SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A15A1CR210	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A15A1CR211	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A15A1CR212	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A15A1CR213	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A15A1CR306	152-0307-00			SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A15A1CR307	152-0501-00			SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A15A1CR310	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A15A1F115	159-0195-00			FUSE,RADIAL LD:7A,125V,0.125 SEC	75915	256-007
A15A1J100	131-2746-00			TERM,SET PIN:2 MALE,RIGHT ANGLE	22526	67171-102
A15A1J102	131-2757-00			CONN,RCPT,ELEC:HEADER,10 CONT	22526	67170-110
A15A1J200	131-2746-00			TERM,SET PIN:2 MALE,RIGHT ANGLE	22526	67171-102
A15A1J300	131-2746-00			TERM,SET PIN:2 MALE,RIGHT ANGLE	22526	67171-102
A15A1Q114	151-0220-00			TRANSISTOR:SILICON,PNP	07263	S036228
A15A1Q214	151-0220-00			TRANSISTOR:SILICON,PNP	07263	S036228
A15A1Q316	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A15A1Q318	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A15A1R112	317-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.125W	01121	BB1025
A15A1R213	317-0100-00			RES.,FXD,CMPSN:10 OHM,5%,0.125W	01121	BB1005
A15A1R215	317-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.125W	01121	BB5615
A15A1R216	317-0201-00			RES.,FXD,CMPSN:200 OHM,5%,0.125W	01121	BB2015
A15A1R310	317-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.125W	01121	BB1025
A15A1R314	317-0201-00			RES.,FXD,CMPSN:200 OHM,5%,0.125W	01121	BB2015
A15A1R315	317-0121-00			RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A15A1U104	155-0229-00			MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00
A15A1U105	155-0229-00			MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A15A1U106	155-0229-00		MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00
A15A1U107	155-0229-00		MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00
A15A1U204	155-0229-00		MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00
A15A1U205	155-0229-00		MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00
A15A1U206	155-0229-00		MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00
A15A1U207	155-0229-00		MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00
A15A1U306	155-0229-00		MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00
A15A1U307	155-0229-00		MICROCIRCUIT,DI:WORD GENERATOR	80009	155-0229-00
A15A1W119	195-3100-00		LEAD,ELEC:26 AWG,3.0 L,9-2	80009	195-3100-00
A15A1W119	-----		(QUANTITY OF 1)		
A15A1W119	195-3099-00		LEAD,ELEC:26 AWG,3.0 L,9-1	80009	195-3099-00
A15A1W119	-----		(QUANTITY OF 2)		
A15A1W120	175-3642-00		CA ASSY,SP,ELEC:34,28 AWG,79.13 L	22526	80278-001
A15A1W311	195-3097-00		LEAD,ELEC:26 AWG,3.0 L,9-0	80009	195-3097-00
A15A1W311	-----		(QUANTITY OF 1)		
A15A1W311	195-3097-00		LEAD,ELEC:26 AWG,3.0 L,9-0	80009	195-3097-00
A15A1W311	-----		(QUANTITY OF 2)		
A15A1W319	195-3101-00		LEAD,ELEC:26 AWG,3.0 L,9-3	80009	195-3101-00
A15A1W319	-----		(QUANTITY OF 1)		

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A16	010-6456-01		PROBE,PAT GEN:P6456,ECL	80009	010-6456-01
A16S1	260-0735-01		SWITCH,PUSH:T,NO CONTACT,BLACK BTN	81073	39-3
A16S2	260-2081-00		SWITCH,SLIDE:SPDT,0.4A,20VDC	95146	TSS-11-DG-1-PC
A16A1	670-7267-01		CKT BOARD ASSY:ECL PATTERN GEN PROBE	80009	670-7267-01
A16A1C100	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A16A1C121	283-0024-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	72982	8121N083Z5U0104Z
A16A1C134	283-0177-00		CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A16A1C146	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A16A1C244	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A16A1C300	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A16A1C318	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A16A1C328	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A16A1C344	283-0204-00		CAP.,FXD,CER DI:0.01UF,20%,50V	96733	R2676
A16A1CR102	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A16A1CR103	152-0501-00		SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A16A1CR104	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A16A1CR105	152-0501-00		SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A16A1CR116	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1CR117	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1CR200	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A16A1CR201	152-0501-00		SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A16A1CR202	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A16A1CR215	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1CR216	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1CR221	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1CR223	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1CR300	152-0501-00		SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A16A1CR301	152-0307-00		SEMICONV DEVICE:SILICON,300V,0.13A	04713	SSD1150
A16A1CR302	152-0501-00		SEMICONV DEVICE:SILICON,70V,200MA	04713	SSD2405
A16A1CR318	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1CR319	152-0581-00		SEMICONV DEVICE:SILICON,20V,1A	04713	1N5817
A16A1CR323	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1CR324	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1CR326	152-0322-00		SEMICONV DEVICE:SILICON,15V,HOT CARRIER	50434	5082-2672
A16A1DS110	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1DS111	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1DS112	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1DS113	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1DS210	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1DS212	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1DS214	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1DS310	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1DS312	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1DS314	150-0057-01		LAMP,INCAND:5V,0.115A,WIRE LD,SEL	76854	17AS15
A16A1F112	159-0195-00		FUSE,RADIAL LD:7A,125V,0.125 SEC	75915	256-007
A16A1J100	131-2746-00		TERM,SET PIN:2 MALE,RIGHT ANGLE	22526	67171-102
A16A1J102	131-2757-00		CONN,RCPT,ELEC:HEADER,10 CONT	22526	67170-110
A16A1J200	131-2746-00		TERM,SET PIN:2 MALE,RIGHT ANGLE	22526	67171-102
A16A1J300	131-2746-00		TERM,SET PIN:2 MALE,RIGHT ANGLE	22526	67171-102
A16A1L112	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00
A16A1L113	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00
A16A1L211	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscnt	Name & Description	Mfr Code	Mfr Part Number
A16A1L213	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00
A16A1L215	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00
A16A1L217	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00
A16A1L314	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00
A16A1L315	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00
A16A1L316	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00
A16A1L319	108-0543-00		COIL,RF:FIXED,1.1UH	80009	108-0543-00
A16A1Q106	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q107	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q108	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q109	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q126	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q127	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q128	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q129	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q131	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q132	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q133	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q136	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q137	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q138	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q139	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q205	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q206	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q207	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q208	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q228	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q229	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q231	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q232	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q233	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q236	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q237	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q238	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q305	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q306	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q307	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q327	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q328	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q329	151-0223-00		TRANSISTOR:SILICON,NPN	04713	SPS8026
A16A1Q331	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q332	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q333	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q334	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q336	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q337	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1Q338	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A16A1R112	307-0486-00		RES,NTWK,THK FI:100 OHM,20%,1.125W	91637	MSP10A01-101J
A16A1R114	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R115	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R122	317-0100-00		RES.,FXD,CMPSN:10 OHM,5%,0.125W	01121	BB1005
A16A1R123	307-0737-00		RES NTWK,FXD,FI:10,6.2K OHM,2%,0.19 EA	91637	CSP11G01622G
A16A1R125	307-0738-00		RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A16A1R135	307-0738-00		RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G

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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A16A1R141	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R142	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R143	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R144	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R214	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R215	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R218	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R225	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R241	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R242	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R311	317-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.125W	01121	BB1015
A16A1R313	317-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.125W	01121	BB1015
A16A1R316	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R317	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R321	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R325	317-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.125W	01121	BB3315
A16A1R341	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R342	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R343	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R345	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1R346	317-0121-00		RES.,FXD,CMPSN:120 OHM,5%,0.125W	01121	BB1215
A16A1W141	195-3100-00		LEAD,ELEC:26 AWG,3.0 L,9-2	80009	195-3100-00
A16A1W144	195-3099-00		LEAD,ELEC:26 AWG,3.0 L,9-1	80009	195-3099-00
A16A1W147	175-3642-00		CA ASSY,SP,ELEC:34,28 AWG,79.13 L	22526	80278-001
A16A1W335	195-3097-00		LEAD,ELEC:26 AWG,3.0 L,9-0	80009	195-3097-00
A16A1W336	195-3097-00		LEAD,ELEC:26 AWG,3.0 L,9-0	80009	195-3097-00
A16A1W347	195-3101-00		LEAD,ELEC:26 AWG,3.0 L,9-3	80009	195-3101-00
A16A1A1	670-7360-00		CKT BOARD ASSY:PATTERN GEN LEAD SET	80009	670-7360-00
A16A1A1R100	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405
A16A1A1R102	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405
A16A1A1R104	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405
A16A1A1R106	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405
A16A1A1R108	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405
A16A1A1R111	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405
A16A1A1R113	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405
A16A1A1R115	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405
A16A1A1R117	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405
A16A1A1R119	317-0240-00		RES.,FXD,CMPSN:24 OHM,5%,0.125W	01121	BB2405

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Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A17	670-6740-00			CKT BOARD ASSY:32 CHAN PATT GEN EXPANSION	80009	670-6740-00
A17	-----			(91P32)		
A17C101	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C102	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C104	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C105	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C109	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C116	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C127	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C138	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C144	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C149	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C158	281-0234-00			CAP.,VAR,PLSTC:5.5-65PF,100V	80031	2810C5R565UJ02F
A17C160	281-0765-00			CAP.,FXD,CER DI:100PF,5%,100V	51642	G1710-100NP0101J
A17C164	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C301	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C302	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C303	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C306	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C313	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C333	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C343	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C349	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C357	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C363	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C403	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C409	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C418	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C427	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C438	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C447	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C459	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C501	283-0024-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	72982	8121N083Z5U0104Z
A17C502	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C503	283-0024-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	72982	8121N083Z5U0104Z
A17C505	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C509	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C516	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C523	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C533	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C539	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C547	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C601	283-0024-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	72982	8121N083Z5U0104Z
A17C602	283-0024-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	72982	8121N083Z5U0104Z
A17C603	283-0024-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	72982	8121N083Z5U0104Z
A17C605	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C609	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C613	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C625	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C633	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C635	281-0826-00			CAP.,FXD,CER DI:2200PF,5%,100V	12969	CGB222KEX
A17C636	281-0826-00			CAP.,FXD,CER DI:2200PF,5%,100V	12969	CGB222KEX
A17C637	281-0826-00			CAP.,FXD,CER DI:2200PF,5%,100V	12969	CGB222KEX
A17C638	281-0826-00			CAP.,FXD,CER DI:2200PF,5%,100V	12969	CGB222KEX

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A17C639	281-0826-00			CAP.,FXD,CER DI:2200PF,5%,100V	12969	CGB222KEX
A17C640	281-0826-00			CAP.,FXD,CER DI:2200PF,5%,100V	12969	CGB222KEX
A17C641	281-0826-00			CAP.,FXD,CER DI:2200PF,5%,100V	12969	CGB222KEX
A17C642	281-0826-00			CAP.,FXD,CER DI:2200PF,5%,100V	12969	CGB222KEX
A17C646	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A17C725	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A17C728	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A17C738	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A17C741	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A17C742	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A17J100	131-2567-00	B010100	B010119	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A17J100	131-2797-00	B010120		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A17J300	131-2567-00	B010100	B010119	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A17J300	131-2797-00	B010120		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A17J500	131-2567-00	B010100	B010119	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A17J500	131-2797-00	B010120		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A17J600	131-2567-00	B010100	B010119	CONN,RCPT,ELEC:CKT BD,17/34 CONT,RT ANGLE	22526	65461-006
A17J600	131-2797-00	B010120		CONN,RCPT,ELEC:RTANG HEADER,2 X 17,0.1 CTR	22526	65461-033
A17R100	307-0738-00			RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A17R101	307-0738-00			RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A17R103	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17R107	315-0202-00			RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A17R108	315-0562-00			RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A17R138	307-0818-00			RES NTWK,FXD,FI:8,81&8,130 OHM,2%,0.17W EA	91637	MSP10A05-810131G
A17R140	307-0539-00			RES NTWK,THK FI:(7)510 OHM,10%,1W	01121	208A511
A17R143	315-0820-00			RES.,FXD,CMPSN:82 OHM,5%,0.25W	01121	CB8205
A17R144	315-0131-00			RES.,FXD,CMPSN:130 OHM,5%,0.25W	01121	CB1315
A17R147	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17R152	307-0539-00			RES NTWK,THK FI:(7)510 OHM,10%,1W	01121	208A511
A17R153	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A17R154	315-0331-00			RES.,FXD,CMPSN:330 OHM,5%,0.25W	01121	CB3315
A17R158	307-0539-00			RES NTWK,THK FI:(7)510 OHM,10%,1W	01121	208A511
A17R159	315-0331-00			RES.,FXD,CMPSN:330 OHM,5%,0.25W	01121	CB3315
A17R165	315-0820-00			RES.,FXD,CMPSN:82 OHM,5%,0.25W	01121	CB8205
A17R166	315-0131-00			RES.,FXD,CMPSN:130 OHM,5%,0.25W	01121	CB1315
A17R207	315-0202-00			RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A17R208	315-0562-00			RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A17R300	307-0738-00			RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A17R301	307-0738-00			RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A17R303	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17R307	315-0820-00			RES.,FXD,CMPSN:82 OHM,5%,0.25W	01121	CB8205
A17R308	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A17R311	315-0131-00			RES.,FXD,CMPSN:130 OHM,5%,0.25W	01121	CB1315
A17R314	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17R319	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17R335	307-0811-00			RES NTWK,FXD,FI:	01121	316T110
A17R347	307-0539-00			RES NTWK,THK FI:(7)510 OHM,10%,1W	01121	208A511
A17R352	307-0539-00			RES NTWK,THK FI:(7)510 OHM,10%,1W	01121	208A511
A17R369	307-0503-00			RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17R370	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A17R400	307-0738-00			RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A17R401	307-0738-00			RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A17R433	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A17R434	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A17R435	307-0811-00		RES NTWK,FXD,FI:	01121	316T110
A17R453	307-0526-00		RES NTWK,THK FI:5,510 OHM,10%,0.125W	57924	4306R-101-511J
A17R460	315-0131-00		RES.,FXD,CMPSN:130 OHM,5%,0.25W	01121	CB1315
A17R461	315-0820-00		RES.,FXD,CMPSN:82 OHM,5%,0.25W	01121	CB8205
A17R500	307-0738-00		RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A17R503	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17R507	315-0202-00		RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A17R508	315-0562-00		RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A17R514	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17R518	315-0820-00		RES.,FXD,CMPSN:82 OHM,5%,0.25W	01121	CB8205
A17R519	315-0131-00		RES.,FXD,CMPSN:130 OHM,5%,0.25W	01121	CB1315
A17R534	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A17R535	307-0811-00		RES NTWK,FXD,FI:	01121	316T110
A17R544	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A17R548	307-0811-00		RES NTWK,FXD,FI:	01121	316T110
A17R553	307-0526-00		RES NTWK,THK FI:5,510 OHM,10%,0.125W	57924	4306R-101-511J
A17R600	307-0738-00		RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A17R601	307-0738-00		RES NTWK,FXD,FI:10,270 OHM,2%,0.19 EACH	91637	CSC11A-1-271G
A17R603	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17R607	315-0562-00		RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A17R608	315-0202-00		RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A17R633	307-0675-00		RES NTWK,FXD FI:9,1K OHM,2%,1.25W	01121	210A102
A17R635	307-0445-00		RES NTWK,FXD,FI:4.7K OHM,20%.(9) RES	91637	MSP10A01-472M
A17R642	315-0512-00		RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A17R649	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A17R717	307-0503-00		RES NTWK,THK FI:(9)510 OHM,20%,0.125W	91637	MSP10A01-511G
A17TP100	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP108	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP138	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP142	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP150	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP349	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP353	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP400	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP463	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP535	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP550	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP600	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17TP605	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A17U101	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U105	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U108	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A17U111	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A17U115	156-0633-01		MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A17U125	156-1297-00		MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A17U131	156-1297-00		MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A17U135	156-1297-00		MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A17U141	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A17U145	156-0458-01		MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A17U148	156-0458-01		MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A17U151	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A17U155	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A17U158	156-0182-00		MICROCIRCUIT,DI:TRIPLE 2-3-2 INPUT GATE	04713	MC10105P/L
A17U161	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A17U301	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U305	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U308	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A17U311	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A17U315	156-0633-01		MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A17U318	156-0633-01		MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A17U325	156-1297-00		MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A17U331	156-1297-00		MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A17U338	156-0759-02		MICROCIRCUIT,DI:QUAD 2-INP OR GATE,SCRN	04713	MC10103PD/LD
A17U341	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A17U345	156-0458-01		MICROCIRCUIT,DI:QUAD AND GATE 2 INP,SCRN	04713	MC10104PD/LD
A17U348	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A17U351	156-0230-02		MICROCIRCUIT,DI:DUAL D-TYPE M/S,FF,SCRN	04713	MC10131LD
A17U355	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A17U358	156-0761-01		MICROCIRCUIT,DI:1024 X 1 RAM,CHECKED	04713	MCM10146L
A17U361	156-0761-01		MICROCIRCUIT,DI:1024 X 1 RAM,CHECKED	04713	MCM10146L
A17U365	156-0761-01		MICROCIRCUIT,DI:1024 X 1 RAM,CHECKED	04713	MCM10146L
A17U368	156-0761-01		MICROCIRCUIT,DI:1024 X 1 RAM,CHECKED	04713	MCM10146L
A17U401	156-0631-01		MICROCIRCUIT,DI:QUAD 2-INP OR/NOR GATE	04713	MC10101L
A17U405	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U408	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U415	156-0633-01		MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A17U425	156-1297-00		MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A17U431	156-1297-00		MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A17U438	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A17U441	156-0469-02		MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A17U445	156-0469-02		MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A17U448	156-0469-02		MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A17U451	156-0295-02		MICROCIRCUIT,DI:TRIPLE 2-INP EXCL OR NOR	04713	MC10107PD/LD
A17U455	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A17U458	156-0641-01		MICROCIRCUIT,DI:UNIV HEX CNTR,SCRN	04713	MC10136PD/LD
A17U501	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U505	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U508	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A17U511	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A17U515	156-0633-01		MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A17U525	156-1297-00		MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A17U531	156-1297-00		MICROCIRCUIT,DI:256 X 4 STATIC RAM	000IG	MB7072E
A17U541	156-0383-02		MICROCIRCUIT,DI:QUAD 2-INP NOR GATE	01295	SN74LS02
A17U551	156-0295-02		MICROCIRCUIT,DI:TRIPLE 2-INP EXCL OR NOR	04713	MC10107PD/LD
A17U601	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U605	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U608	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A17U611	156-0411-02		MICROCIRCUIT,LI:QUAD COMPARATOR,SEL	04713	LM339JDS
A17U615	156-0633-01		MICROCIRCUIT,DI:HEX D MASTER SLAVE FF	04713	MC10176LD
A17U618	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U621	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U628	156-0631-02		MICROCIRCUIT,DI:QUAD 2 INPUT OR/NOR GATE	04713	MC10101(PD OR LD
A17U635	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A17U638	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A17U641	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A17U645	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A17U648	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A18	119-1311-00		TAPE DRIVE OPTION 01	80009	119-1311-00
A18A1	670-6752-00		CKT BOARD ASSY:DATA	80009	670-6752-00
A18A1C477	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A1C478	290-0755-00		CAP.,FXD,ELCTL:100UF,+50-10%,10V	55680	ULA1A01TEA
A18A1C507	285-1049-00		CAP.,FXD,PLSTC:0.01UF,1%,200V	14752	230B1C103F
A18A1C511	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A1C512	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A1C531	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A1C561	290-0804-00		CAP.,FXD,ELCTL:10UF,+50-10%,25V	55680	ULA1E100TEA
A18A1C611	283-0698-00		CAP.,FXD,MICA D:390PF,1%,500V	09023	CD15FD391F03
A18A1C613	285-1049-00		CAP.,FXD,PLSTC:0.01UF,1%,200V	14752	230B1C103F
A18A1C625	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A1C711	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A1C830	281-0770-00		CAP.,FXD,CER DI:0.001UF,20%,100V	04222	MA101C102MAA
A18A1C831	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A1C835	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A1C875	290-0804-00		CAP.,FXD,ELCTL:10UF,+50-10%,25V	55680	ULA1E100TEA
A18A1C876	290-0804-00		CAP.,FXD,ELCTL:10UF,+50-10%,25V	55680	ULA1E100TEA
A18A1CR421	152-0141-02		SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A18A1CR631	156-1450-00		MICROCIRCUIT,LI:DIODE ARRAY	02735	CA3141E
A18A1J400	131-0589-00		TERMINAL,PIN:0.46 L X 0.025 SQ	22526	48283-029
A18A1J400	-----		(QUANTITY OF 10)		
A18A1J415	131-0589-00		TERMINAL,PIN:0.46 L X 0.025 SQ	22526	48283-029
A18A1J415	-----		(QUANTITY OF 3)		
A18A1J420	131-0589-00		TERMINAL,PIN:0.46 L X 0.025 SQ	22526	48283-029
A18A1J420	-----		(QUANTITY OF 8)		
A18A1J440	131-0589-00		TERMINAL,PIN:0.46 L X 0.025 SQ	22526	48283-029
A18A1J440	-----		(QUANTITY OF 5)		
A18A1J450	131-0589-00		TERMINAL,PIN:0.46 L X 0.025 SQ	22526	48283-029
A18A1J450	-----		(QUANTITY OF 10)		
A18A1J470	131-0589-00		TERMINAL,PIN:0.46 L X 0.025 SQ	22526	48283-029
A18A1J470	-----		(QUANTITY OF 10)		
A18A1J505	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1J505	-----		(QUANTITY OF 3)		
A18A1Q665	151-0190-00		TRANSISTOR:SILICON,NPN	07263	S032677
A18A1Q666	151-0188-00		TRANSISTOR:SILICON,PNP	04713	SPS6868K
A18A1Q765	151-0190-00		TRANSISTOR:SILICON,NPN	07263	S032677
A18A1R461	315-0220-00		RES.,FXD,CMPSN:22 OHM,5%,0.25W	01121	CB2205
A18A1R462	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A1R505	315-0100-00		RES.,FXD,CMPSN:10 OHM,5%,0.25W	01121	CB1005
A18A1R509	315-0332-00		RES.,FXD,CMPSN:3.3K OHM,5%,0.25W	01121	CB3325
A18A1R607	321-0346-00		RES.,FXD,FILM:39.2K OHM,1%,0.125W	91637	MFF1816G39201F
A18A1R612	321-0381-00		RES.,FXD,FILM:90.9K OHM,1%,0.125W	91637	MFF1816G90901F
A18A1R615	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A1R621	321-0393-00		RES.,FXD,FILM:121K OHM,1%,0.125W	91637	MFF1816G12102F
A18A1R622	321-0393-00		RES.,FXD,FILM:121K OHM,1%,0.125W	91637	MFF1816G12102F
A18A1R623	321-0393-00		RES.,FXD,FILM:121K OHM,1%,0.125W	91637	MFF1816G12102F
A18A1R624	321-0393-00		RES.,FXD,FILM:121K OHM,1%,0.125W	91637	MFF1816G12102F
A18A1R625	321-0289-00		RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A18A1R626	321-0216-00		RES.,FXD,FILM:1.74K OHM,1%,0.125W	91637	MFF1816G17400F
A18A1R627	321-0289-00		RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A18A1R628	321-0216-00		RES.,FXD,FILM:1.74K OHM,1%,0.125W	91637	MFF1816G17400F

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A18A1R675	315-0220-00		RES.,FXD,CMPSN:22 OHM,5%,0.25W	01121	CB2205
A18A1R705	315-0332-00		RES.,FXD,CMPSN:3.3K OHM,5%,0.25W	01121	CB3325
A18A1R706	315-0272-00		RES.,FXD,CMPSN:2.7K OHM,5%,0.25W	01121	CB2725
A18A1R707	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A1R712	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A1R713	315-0622-00		RES.,FXD,CMPSN:6.2K OHM,5%,0.25W	01121	CB6225
A18A1R714	315-0154-00		RES.,FXD,CMPSN:150K OHM,5%,0.25W	01121	CB1545
A18A1R715	321-0272-00		RES.,FXD,FILM:6.65K OHM,1%,0.125W	91637	MFF1816G66500F
A18A1R716	321-0272-00		RES.,FXD,FILM:6.65K OHM,1%,0.125W	91637	MFF1816G66500F
A18A1R725	321-0289-00		RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A18A1R726	321-0216-00		RES.,FXD,FILM:1.74K OHM,1%,0.125W	91637	MFF1816G17400F
A18A1R727	321-0289-00		RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A18A1R728	321-0216-00		RES.,FXD,FILM:1.74K OHM,1%,0.125W	91637	MFF1816G17400F
A18A1R729	321-0289-00		RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A18A1R730	321-0274-00		RES.,FXD,FILM:6.98K OHM,1%,0.125W	91637	MFF1816G69800F
A18A1R731	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A1R732	315-0333-00		RES.,FXD,CMPSN:33K OHM,5%,0.25W	01121	CB3335
A18A1R766	315-0472-00		RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A18A1R776	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A18A1R811	321-0460-00		RES.,FXD,FILM:604K OHM,1%,0.125W	91637	MFF1816G60402F
A18A1R812	321-0354-00		RES.,FXD,FILM:47.5K OHM,1%,0.125W	91637	MFF1816G47501F
A18A1R813	321-0460-00		RES.,FXD,FILM:604K OHM,1%,0.125W	91637	MFF1816G60402F
A18A1R821	321-0320-00		RES.,FXD,FILM:21K OHM,1%,0.125W	91637	MFF1816G21001F
A18A1R822	321-0289-00		RES.,FXD,FILM:10K OHM,1%,0.125W	91637	MFF1816G10001F
A18A1R823	321-0391-00		RES.,FXD,FILM:115K OHM,1%,0.125K	91637	MFF1816G11502F
A18A1R824	315-0821-00		RES.,FXD,CMPSN:820 OHM,5%,0.25W	01121	CB8215
A18A1R826	315-0300-00		RES.,FXD,CMPSN:30 OHM,5%,0.25W	01121	CB3005
A18A1R827	315-0512-00		RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A18A1R828	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A1R831	311-1235-00		RES.,VAR, NONWIR:100K OHM,20%,0.50W	32997	3386F-T04-104
A18A1R833	315-0472-00		RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A18A1R834	315-0152-00		RES.,FXD,CMPSN:1.5K OHM,5%,0.25W	01121	CB1525
A18A1R835	307-0706-00		RES NTWK,FXD,FI:4.10K OHM,2%,0.2W	01121	208B103
A18A1R875	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A1TP1	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1TP2	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1TP3	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1TP4	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1TP5	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1TP6	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1TP7	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1TP8	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1TP9	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1TP10	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A1U611	156-1284-00		MICROCIRCUIT,LI:DUAL OPER AMPL/COMP	04713	MC3405P
A18A1U615	156-0644-03		MICROCIRCUIT,DI:QUAD BILATERAL SW,BURN-IN	80009	156-0644-03
A18A1U641	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A18A1U651	156-1111-02		MICROCIRCUIT,DI:OCTAL BUS TRANSCEIVERS	01295	SN74LS245JP3
A18A1U661	155-0247-00		MICROCIRCUIT,DI:TAPE CONTROLLER	80009	155-0247-00
A18A1U721	156-0495-00		MICROCIRCUIT,LI:OPNL AMPL	27014	LM324N
A18A1U805	156-0143-02		MICROCIRCUIT,DI:RETRIG ONE SHOT,W/CLEAR	80009	156-0143-02
A18A1U815	156-0385-02		MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A18A1U841	156-0479-02		MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A18A1U851	156-0153-02		MICROCIRCUIT,DI:HEX INVERTER BUFFER	27014	DM8006
A18A1W570	-----		(PART OF A18A1)		

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscnt	Name & Description	Mfr Code	Mfr Part Number
A18A2	670-6753-00		CKT BOARD ASSY:SERVO	80009	670-6753-00
A18A2C101	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C116	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C128	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C130	290-0755-00		CAP.,FXD,ELCTLT:100UF,+50-10%,10V	55680	ULA1A01TEA
A18A2C201	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C205	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C225	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C231	283-0672-00		CAP.,FXD,MICA D:200PF,1%,500V	00853	D155F2010F0
A18A2C235	290-0725-00		CAP.,FXD,ELCTLT:100UF,+75-10%,50V	56289	30D107G050DH9
A18A2C255	290-0939-00		CAP.,FXD,ELCTLT:10UF,+100-10%,100V	56289	672D106H100CG2C
A18A2C301	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C328	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C331	283-0672-00		CAP.,FXD,MICA D:200PF,1%,500V	00853	D155F2010F0
A18A2C342	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C344	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2C358	283-0421-00		CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A2CR140	152-0400-00		SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A18A2CR228	152-0141-02		SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A18A2CR241	152-0141-02		SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A18A2J131	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A2J131	-----		(QUANTITY OF 10)		
A18A2J132	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A2J132	-----		(QUANTITY OF 3)		
A18A2J311	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A2J311	-----		(QUANTITY OF 9)		
A18A2J351	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A2J351	-----		(QUANTITY OF 5)		
A18A2J367	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A2J367	-----		(QUANTITY OF 2)		
A18A2L150	108-1053-00		COIL,RF:FIXED,1MH	80009	108-1053-00
A18A2L347	108-0422-00		COIL,RF:FIXED,82UH	80009	108-0422-00
A18A2Q161	151-0190-00		TRANSISTOR:SILICON,NPN	07263	S032677
A18A2Q165	151-0657-00		TRANSISTOR:SILICON,PNP	04713	SJE1973
A18A2Q260	151-0657-00		TRANSISTOR:SILICON,PNP	04713	SJE1973
A18A2Q265	151-0657-00		TRANSISTOR:SILICON,PNP	04713	SJE1973
A18A2Q352	151-0190-00		TRANSISTOR:SILICON,NPN	07263	S032677
A18A2Q354	151-0190-00		TRANSISTOR:SILICON,NPN	07263	S032677
A18A2Q360	151-0656-00		TRANSISTOR:SILICON,NPN	04713	SJE1972
A18A2Q365	151-0656-00		TRANSISTOR:SILICON,NPN	04713	SJE1972
A18A2R111	307-0445-00		RES NTWK,FXD,FI:4.7K OHM,20%,(9) RES	91637	MSP10A01-472M
A18A2R135	301-0272-00		RES.,FXD,CMPSN:2.7K OHM,5%,0.50W	01121	EB2725
A18A2R220	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A18A2R225	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A2R240	315-0472-00		RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A18A2R244	315-0821-00		RES.,FXD,CMPSN:820 OHM,5%,0.25W	01121	CB8215
A18A2R246	315-0472-00		RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A18A2R250	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A18A2R320	315-0103-00		RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A2R325	307-0706-00		RES NTWK,FXD,FI:4,10K OHM,2%,0.2W	01121	208B103
A18A2R334	321-0147-00		RES.,FXD,FILM:332 OHM,1%,0.125W	91637	MFF1816G332R0F
A18A2R335	321-0147-00		RES.,FXD,FILM:332 OHM,1%,0.125W	91637	MFF1816G332R0F
A18A2R340	315-0243-00		RES.,FXD,CMPSN:24K OHM,5%,0.25W	01121	CB2435
A18A2R346	315-0243-00		RES.,FXD,CMPSN:24K OHM,5%,0.25W	01121	CB2435

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A18A2R348	315-0242-00		RES.,FXD,CMPSN:2.4K OHM,5%,0.25W	01121	CB2425
A18A2R350	315-0242-00		RES.,FXD,CMPSN:2.4K OHM,5%,0.25W	01121	CB2425
A18A2R355	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A18A2R357	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A18A2U105	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A18A2U115	156-0679-01		MICROCIRCUIT,DI:4 BIT BINARY ADDER,BURN-IN	04713	SN74LS283NDS
A18A2U201	156-0679-01		MICROCIRCUIT,DI:4 BIT BINARY ADDER,BURN-IN	04713	SN74LS283NDS
A18A2U211	160-0796-00		MICROCIRCUIT,DI:MICROCOMPUTER	34576	R6500/1A
A18A2U221	156-0388-03		MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A18A2U301	156-1172-01		MICROCIRCUIT,DI:DUAL 4 BIT CNTR	01295	SN74LS393
A18A2U321	156-0058-02		MICROCIRCUIT,DI:HEX INVRTR,SCREENED	01295	SN7404
A18A2U325	156-1225-01		MICROCIRCUIT,LI:DUAL COMPATOR,SCREENED	27014	LM393N/AT
A18A2W301	-----		(NOT A REPLACEABLE PART OF A18A2)		
A18A2W310	-----		(NOT A REPLACEABLE PART OF A18A2)		
A18A2Y333	158-0224-00		XTAL UNIT,QTZ:4.0MHZ,0.1%	34630	OBD
A18A2Y333	-----		(XTAL UNIT REQUIRES FOAM ADHESIVE)		

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A18A3	650-0254-00			TAPE TRANSPORT:	80009	650-0254-00
A18A3A1050	119-1410-00			HEAD,RCDG,MAG T:W/CHASSIS	11983	DCA21P007N-35C16
A18A3B1050	147-0054-02			MOTOR,DC:7600 RPM,12V W/CONNECTOR	80009	147-0054-02
A18A3DS2	152-0621-00			SEMICONV DEVICE:LED,GAAS,1.5MW	80009	152-0621-00
A18A3S1	131-2541-01			CONTACT,ELEC:COPPER-BERYLLIUM,PLATED	80009	131-2541-01
A18A3S2	131-2541-01			CONTACT,ELEC:COPPER-BERYLLIUM,PLATED	80009	131-2541-01
A18A3A1	670-6755-00			CKT BOARD ASSY:SENSOR	80009	670-6755-00
A18A3A1J11	131-0589-00			TERMINAL,PIN:0.46 L X 0.025 SQ	22526	48283-029
A18A3A1J11	-----			(QUANTITY OF 3)		
A18A3A1R11	315-0161-00			RES.,FXD,CMPSN:160 OHM,5%,0.25W	01121	CB1615
A18A3A1U11	156-1440-00			MICROCIRCUIT,SW:OPTICAL INTERRUPTER	09019	H22A5
A18A3A2	670-6754-00	B010100	B010557	CKT BOARD ASSY:CARTRIDGE STATUS	80009	670-6754-00
A18A3A2	670-6754-01	B010558		CKT BOARD ASSY:CRTRIDGE STATUS	80009	670-6754-01
A18A3A2C1	283-0421-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A3A2C3	283-0421-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A3A2C11	283-0421-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A3A2C30	283-0421-00			CAP.,FXD,CER DI:0.1UF,+80-20%,50V	04222	DG015E104Z
A18A3A2J1	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A3A2J1	-----			(QUANTITY OF 3)		
A18A3A2J2	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A3A2J2	-----			(QUANTITY OF 8)		
A18A3A2Q1	151-0628-00			TRANSISTOR:SILICON,NPN	80009	151-0628-00
A18A3A2R4	315-0161-00			RES.,FXD,CMPSN:160 OHM,5%,0.25W	01121	CB1615
A18A3A2R5	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A18A3A2R6	315-0106-00			RES.,FXD,CMPSN:10M OHM,5%,0.25W	01121	CB1065
A18A3A2R8	315-0333-00			RES.,FXD,CMPSN:33K OHM,5%,0.25W	01121	CB3335
A18A3A2R9	315-0123-00			RES.,FXD,CMPSN:12K OHM,5%,0.25W	01121	CB1235
A18A3A2R10	315-0202-00			RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A18A3A2R13	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A18A3A2R14	315-0332-00			RES.,FXD,CMPSN:3.3K OHM,5%,0.25W	01121	CB3325
A18A3A2R16	315-0822-00			RES.,FXD,CMPSN:8.2K OHM,5%,0.25W	01121	CB8225
A18A3A2R18	315-0332-00			RES.,FXD,CMPSN:3.3K OHM,5%,0.25W	01121	CB3325
A18A3A2R19	315-0473-00			RES.,FXD,CMPSN:47K OHM,5%,0.25W	01121	CB4735
A18A3A2R20	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A3A2R22	315-0162-00			RES.,FXD,CMPSN:1.6K OHM,5%,0.25W	01121	CB1625
A18A3A2R24	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A3A2R26	315-0222-00			RES.,FXD,CMPSN:2.2K OHM,5%,0.25W	01121	CB2225
A18A3A2R28	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A18A3A2TP1	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A3A2TP9	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A18A3A2TP29	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A19A1	670-6750-00	B010100	B019999	CKT BOARD ASSY:/I/O OPTION	80009	670-6750-00
A19A1	670-6750-01	B020000		CKT BOARD ASSY:/I/O OPTION	80009	670-6750-01
A19A1C122	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C128	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C141	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C145	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C147	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C150	283-0680-00			CAP.,FXD,MICA D:330PF,1%,500V	00853	D155F331F0
A19A1C151	283-0680-00			CAP.,FXD,MICA D:330PF,1%,500V	00853	D155F331F0
A19A1C152	283-0680-00			CAP.,FXD,MICA D:330PF,1%,500V	00853	D155F331F0
A19A1C153	283-0680-00			CAP.,FXD,MICA D:330PF,1%,500V	00853	D155F331F0
A19A1C154	283-0680-00			CAP.,FXD,MICA D:330PF,1%,500V	00853	D155F331F0
A19A1C155	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A19A1C156	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A19A1C231	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C237	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C255	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C324	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C325	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C328	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A19A1C351	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C433	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C447	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C542	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1C555	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A1J121	131-1425-00			TERM SET,PIN:(36) 0.025 SQ RTANG,0.15L	22526	65521-136
A19A1J121	-----			(QUANTITY OF 1)		
A19A1J121	131-1426-00			TERM SET,PIN:(36) 0.025 SQ RTANG,0.25L	22526	65524-136
A19A1J121	-----			(QUANTITY OF 1)		
A19A1J440	131-0993-00	B020000		BUS,CONDUCTOR:2 WIRE BLACK	00779	850100-01
A19A1J440	-----			(QUANTITY OF 2)		
A19A1Q139	151-0221-00			TRANSISTOR:SILICON,PNP	04713	SPS246
A19A1R122	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A19A1R125	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A19A1R126	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A19A1R129	307-0675-00			RES NTWK,FXD FI:9,1K OHM,2%,1.25W	01121	210A102
A19A1R137	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A19A1R139	321-0143-00			RES.,FXD,FILM:301 OHM,1%,0.125W	91637	MFF1816G301R0F
A19A1R140	321-0193-00			RES.,FXD,FILM:1K OHM,1%,0.125W	91637	MFF1816G10000F
A19A1R141	321-0117-00			RES.,FXD,FILM:162 OHM,1%,0.125W	91637	MFF1816G162R0F
A19A1R142	321-0117-00			RES.,FXD,FILM:162 OHM,1%,0.125W	91637	MFF1816G162R0F
A19A1R143	321-0201-00			RES.,FXD,FILM:1.21K OHM,1%,0.125W	91637	MFF1816G12100F
A19A1R146	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A19A1R147	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A19A1R151	317-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.125W	01121	BB1035
A19A1R157	323-0150-00			RES.,FXD,FILM:357 OHM,1%,0.50W	91637	MFF1226G357R0F
A19A1R221	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A19A1R222	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A19A1R223	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A19A1R224	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A19A1R325	307-0103-00			RES.,FXD,CMPSN:2.7 OHM,5%,0.25W	01121	CB27G5
A19A1R548	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A19A1R554	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A19A1R557	307-0445-00			RES NTWK,FXD,FI:4.7K OHM,20%,(9) RES	91637	MSP10A01-472M

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A19A1TP122	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A19A1TP339	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A19A1U127	156-1133-01		MICROCKT,INTFC:QUAD 3-STATE XCVR,CHK	80009	156-1133-01
A19A1U131	156-1133-01		MICROCKT,INTFC:QUAD 3-STATE XCVR,CHK	80009	156-1133-01
A19A1U135	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A19A1U145	156-0730-02		MICROCIRCUIT,DI:QUAD 2-INP NOR BFR,BURN-IN	01295	SN74LS33
A19A1U151	156-0878-01		MICROCIRCUIT,DI:QUAD LINE RCVR,SCRN	80009	156-0878-01
A19A1U155	156-0879-01		MICROCIRCUIT,DI:QUAD LINE DRIVER,SCRN	80009	156-0879-01
A19A1U227	156-1133-01		MICROCKT,INTFC:QUAD 3-STATE XCVR,CHK	80009	156-1133-01
A19A1U231	156-1133-01		MICROCKT,INTFC:QUAD 3-STATE XCVR,CHK	80009	156-1133-01
A19A1U235	156-0955-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	04713	SN74LS241
A19A1U242	156-1444-01		MICROCIRCUIT,DI:NMOS,GPIB ADAPTER	01295	TMS9914NL
A19A1U246	156-1111-02		MICROCIRCUIT,DI:OCTAL BUS TRANSCEIVERS	01295	SN74LS245JP3
A19A1U251	156-0877-04		MICROCIRCUIT,DI:USART	34335	AM8251A
A19A1U328	156-0479-02		MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A19A1U331	156-0391-02		MICROCIRCUIT,DI:HEX LATCH W/CLEAR	01295	SN74LS174
A19A1U335	156-0541-02		MICROCIRCUIT,DI:DUAL 2 TO 4 LINE DCDR	01295	SN74LS139NP3
A19A1U346	156-0541-02		MICROCIRCUIT,DI:DUAL 2 TO 4 LINE DCDR	01295	SN74LS139NP3
A19A1U347	156-0481-02		MICROCIRCUIT,DI:TRIPLE 3 INP & GATE	27014	DM74LS11NA+
A19A1U351	156-0382-02		MICROCIRCUIT,DI:QUAD 2-INP NAND GATE	01295	SN74LS00
A19A1U431	156-0382-02		MICROCIRCUIT,DI:QUAD 2-INP NAND GATE	01295	SN74LS00
A19A1U440	160-1842-00	B020000	MICROCIRCUIT,DI:2048 X 8 EPROM,PRGM	80009	160-1842-00
A19A1U451	160-0830-00		MICROCIRCUIT,DI:8192 X 8 MROM,PRGM	80009	160-0830-00
A19A1U455	160-1077-00		MICROCIRCUIT,DI:8192 X 8 MROM,PRGM	80009	160-1077-00
A19A1U545	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A19A1U551	156-0956-02		MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A19A2	670-6751-00	B010100	B019999	CKT BOARD ASSY:I/O CONNECTOR	80009	670-6751-00
A19A2	-----			(DAS9109 OPTION 02)		
A19A2	670-7391-00	B020000		CKT BOARD ASSY:I/O CONNECTOR	80009	670-7391-00
A19A2	-----			(DAS9109 OPTION 02)		
A19A2	670-7391-00			CKT BOARD ASSY:I/O CONNECTOR	80009	670-7391-00
A19A2	-----			(DAS9129 OPTION 02)		
A19A2C301	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A2C301	-----			(LOCATED ON BACK OF CKT BOARD)		
A19A2C322	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A19A2C322	-----			(LOCATED ON BACK OF CKT BOARD)		
A19A2DS201	150-1061-00			LT EMITTING DIO:RED,660NM,50MA MAX	50434	HLMP-1301
A19A2DS202	150-1061-00			LT EMITTING DIO:RED,660NM,50MA MAX	50434	HLMP-1301
A19A2DS203	150-1061-00			LT EMITTING DIO:RED,660NM,50MA MAX	50434	HLMP-1301
A19A2DS204	150-1061-00			LT EMITTING DIO:RED,660NM,50MA MAX	50434	HLMP-1301
A19A2J130	131-1097-00			CONNECTOR,RCPT.:BNC,FEMALE,CKT BOARD MT	24931	28JR220-2
A19A2S120	260-1721-00			SWITCH,ROCKER:8,SPST,125MA,30VDC	00779	435166-5
A19A2W121	175-3643-00			CA ASSY,SP,ELEC:40,28 AWG,14.5 L	000EO	OBD
A25A1	670-7190-00			CKT BOARD ASSY:CAPACITOR BRACKET	80009	670-7190-00
A25A1	-----			(DAS9109 ONLY)		
A25A1C315	283-0208-00			CAP.,FXD,CER DI:0.22UF,10%,200V	72982	8151N230 C 224K
A25A1C1031	290-0813-00			CAP.,FXD,ELCTLT:2000UF,-10+75%,200V	56289	36DX9463
A25A1C3010	290-0813-00			CAP.,FXD,ELCTLT:2000UF,-10+75%,200V	56289	36DX9463
A25A1DS320	150-0035-00			LAMP,GLOW:90V,0.3MA,AID-T,WIRE LD	000LI	JH005/3011JA
A25A1F120	159-0014-00			FUSE,CARTRIDGE:3AG,5A,250V,FAST-BLOW	71400	MTH5
A25A1F209	159-0014-00			FUSE,CARTRIDGE:3AG,5A,250V,FAST-BLOW	71400	MTH5
A25A1J200	131-1849-00			TERM, QIK DISC:0.187 X 0.25 TAB,90 DEG	13150	1215
A25A1R115	308-0313-00			RES.,FXD,WW:20K OHM,1%,3W	91637	RS2B-B20001F
A25A1R308	308-0313-00			RES.,FXD,WW:20K OHM,1%,3W	91637	RS2B-B20001F
A25A1R322	315-0475-00			RES.,FXD,CMPSN:4.7M OHM,5%,0.25W	01121	CB4755

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A30A1	670-7295-00	B010100	B010149	CKT BOARD ASSY:DEFLECTION (DAS9129 ONLY)	80009	670-7295-00
A30A1	-----					
A30A1	670-7295-01	B010150	B020489	CKT BOARD ASSY:DEFLECTION (DAS9129 ONLY)	80009	670-7295-01
A30A1	-----					
A30A1	670-7295-02	B020490		CKT BOARD ASSY:DEFLECTION (DAS9129 ONLY)	80009	670-7295-01
A30A1	-----					
A30A1C115	283-0114-00			CAP.,FXD,CER DI:0.0015UF,5%,200V	59660	805534Y5DO152J
A30A1C135	290-0745-00	B010100	B010149	CAP.,FXD,ELCTLT:22UF,+50-10%,25V	54473	ECE-A25V22L
A30A1C137	285-0894-00			CAP.,FXD,PLSTC:5UF,5%,50V	56289	LP66A1A505J002
A30A1C142	290-0745-00			CAP.,FXD,ELCTLT:22UF,+50-10%,25V	54473	ECE-A25V22L
A30A1C211	283-0003-00			CAP.,FXD,CER DI:0.01UF,+80-20%,150V	59821	2DDH66J103Z
A30A1C238	285-0809-00			CAP.,FXD,PLSTC:1UF,10%,50V	56289	LP66A1A105K
A30A1C319	290-0767-00			CAP.,FXD,ELCTLT:4.7UF,+75-10%,160V	56289	5020228
A30A1C340	285-1031-00			CAP.,FXD,PLSTC:0.56UF,10%,50V	84411	TEK116-56492
A30A1C344	283-0263-00			CAP.,FXD,CER DI:0.0022UF,20%,3000V	59660	828556Y5R0222M
A30A1C412	290-0962-00			CAP.,FXD,ELCTLT:27UF,+100-10%,150VDC	56289	672D276H150GE2C
A30A1C424	290-0942-00			CAP.,FXD,ELCTLT:100UF,+100-10%,25V	56289	672D107H025CG2C
A30A1C523	290-0770-00			CAP.,FXD,ELCTLT:100UF,+50-10%,25V	56289	502D230
A30A1C530	285-1161-00			CAP.,FXD,PLSTC:0.0027UF,5%,1600V	56289	715P272516LA3
A30A1C534	285-1161-00			CAP.,FXD,PLSTC:0.0027UF,5%,1600V	56289	715P272516LA3
A30A1C549	283-0199-00			CAP.,FXD,CER DI:25PF,10%,4000V	60705	564CAA402EJ250KA
A30A1C605	290-0770-00			CAP.,FXD,ELCTLT:100UF,+50-10%,25V	56289	502D230
A30A1C614	283-0027-00			CAP.,FXD,CER DI:0.02UF,20%,50V	56289	1C20X5R203M050B
A30A1CR112	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR113	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR210	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A30A1CR211	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A30A1CR212	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A30A1CR214	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR215	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR216	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR217	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR218	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR219	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR320	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR322	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR334	152-0752-00			SEMICONV DEVICE:RECT,SI,1A,1600V,MED REC	04713	MR1-1600
A30A1CR338	152-0674-00			SEMICONV DEVICE:SILICON,800V,1.0A	14936	RGP10K-009
A30A1CR339	152-0674-00			SEMICONV DEVICE:SILICON,800V,1.0A	14936	RGP10K-009
A30A1CR435	152-0674-00			SEMICONV DEVICE:SILICON,800V,1.0A	14936	RGP10K-009
A30A1CR436	152-0674-00			SEMICONV DEVICE:SILICON,800V,1.0A	14936	RGP10K-009
A30A1CR437	152-0674-00			SEMICONV DEVICE:SILICON,800V,1.0A	14936	RGP10K-009
A30A1CR438	152-0674-00			SEMICONV DEVICE:SILICON,800V,1.0A	14936	RGP10K-009
A30A1CR511	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A30A1CR512	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A30A1CR513	152-0581-00			SEMICONV DEVICE:SILICON,20V,1A	04713	1N5817
A30A1CR522	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A30A1CR611	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1CR612	152-0333-00			SEMICONV DEVICE:SILICON,55V,200MA	07263	FDH-6012
A30A1J100	131-2788-00			CONN,RCPT,ELEC:HEADER,1 X 5,0156 CTR	27264	09-70-1051
A30A1J600	131-2265-00			TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A30A1J615	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD (QUANTITY OF 4)	22526	47357
A30A1J615	-----					
A30A1J635	131-2750-00			CONN,RCPT,ELEC:HEADER,1 X 6 MALE,8MM	51984	73793006

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DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A30A1J645	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A30A1J645	-----			(QUANTITY OF 3)		
A30A1J650	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A30A1J650	-----			(QUANTITY OF 7)		
A30A1L255	114-0412-00			COIL,RF:VARIABLE,0.15MH TO 1.1MH	80009	114-0412-00
A30A1Q132	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A30A1Q134	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A30A1Q232	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
A30A1Q235	151-0625-00			TRANSISTOR:SILICON,PNP	03508	D45H11
A30A1Q330	151-0426-00			TRANSISTOR:SILICON,NPN	03508	X44H242
A30A1Q443	151-0449-00			TRANSISTOR:SILICON,NPN	25403	BU208A
A30A1Q507	151-0331-00			TRANSISTOR:SILICON,NPN	03508	X40C115
A30A1Q517	151-0302-00			TRANSISTOR:SILICON,NPN	07263	S038487
A30A1Q639	151-0625-00			TRANSISTOR:SILICON,PNP	03508	D45H11
A30A1R114	315-0471-00			RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A30A1R115	315-0562-00			RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A30A1R120	315-0471-00			RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A30A1R122	315-0163-00			RES.,FXD,CMPSN:16K OHM,5%,0.25W	01121	CB1635
A30A1R123	315-0562-00			RES.,FXD,CMPSN:5.6K OHM,5%,0.25W	01121	CB5625
A30A1R124	315-0682-00			RES.,FXD,CMPSN:6.8K OHM,5%,0.25W	01121	CB6825
A30A1R125	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A30A1R146	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A30A1R147	315-0471-00	B010100	B010149	RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A30A1R147	131-0566-00	B010150		BUS CONDUCTOR:DUMMY RES,2.375,22 AWG	57668	JWW-0200E0
A30A1R148	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A30A1R149	315-0183-00			RES.,FXD,CMPSN:18K OHM,5%,0.25W	01121	CB1835
A30A1R170	311-1245-00			RES.,VAR,NONWIR:10K OHM,10%,0.50W	73138	72-28-0
A30A1R175	311-1198-00	B010100	B010149	RES.,VAR,NONWIR:20K OHM,20%,0.5W	73138	72-29-0
A30A1R175	315-0201-00	B010150		RES.,FXD,CMPSN:200 OHM,5%,0.25W	01121	CB2015
A30A1R210	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A30A1R211	315-0222-00			RES.,FXD,CMPSN:2.2K OHM,5%,0.25W	01121	CB2225
A30A1R213	315-0203-00			RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A30A1R214	315-0304-00			RES.,FXD,CMPSN:300K OHM,5%,0.25W	01121	CB3045
A30A1R215	315-0822-00			RES.,FXD,CMPSN:8.2K OHM,5%,0.25W	01121	CB8225
A30A1R219	315-0331-00			RES.,FXD,CMPSN:330 OHM,5%,0.25W	01121	CB3315
A30A1R220	315-0271-00			RES.,FXD,CMPSN:270 OHM,5%,0.25W	01121	CB2715
A30A1R222	315-0121-00			RES.,FXD,CMPSN:120 OHM,5%,0.25W	01121	CB1215
A30A1R223	315-0152-00			RES.,FXD,CMPSN:1.5K OHM,5%,0.25W	01121	CB1525
A30A1R224	315-0152-00			RES.,FXD,CMPSN:1.5K OHM,5%,0.25W	01121	CB1525
A30A1R225	315-0680-00			RES.,FXD,CMPSN:68 OHM,5%,0.25W	01121	CB6805
A30A1R227	315-0221-00			RES.,FXD,CMPSN:220 OHM,5%,0.25W	01121	CB2215
A30A1R228	315-0151-00			RES.,FXD,CMPSN:150 OHM,5%,0.25W	01121	CB1515
A30A1R229	315-0752-00			RES.,FXD,CMPSN:7.5K OHM,5%,0.25W	01121	CB7525
A30A1R270	311-1646-00			RES.,VAR,NONWIR:TRMR,2M OHM,0.5W	01121	E4A205
A30A1R310	308-0441-00			RES.,FXD,WW:3 OHM,5%,3W	91637	CW2B-3R00J
A30A1R345	315-0225-00			RES.,FXD,CMPSN:2.2M OHM,5%,0.25W	01121	CB2255
A30A1R422	305-0120-00			RES.,FXD,CMPSN:12 OHM,5%,2W	01121	HB1205
A30A1R510	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A30A1R511	315-0684-00			RES.,FXD,CMPSN:680K OHM,5%,0.25W	01121	CB6845
A30A1R520	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A30A1R521	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A30A1R610	301-0431-00			RES.,FXD,CMPSN:430 OHM,5%,0.50W	01121	EB4315
A30A1R640	308-0838-00			RES.,FXD,WW:12.0 OHM,1%,5.0W	05347	CS6-12R0F
A30A1R649	301-0221-00			RES.,FXD,CMPSN:220 OHM,5%,0.50W	01121	EB2215

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A30A1T460	120-1425-00			XFMR,PWR,STU:FLYBACK	51406	FBT MSH-S477
A30A1TP175	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A1TP259	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A1TP262	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A1TP265	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A1TP268	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A1TP270	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A1TP272	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A1TP275	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A1U116	156-1607-00			MICROCIRCUIT,LI:DUAL OPNL AMPL	01295	MC1558P
A30A1U508	156-0302-02			MICROCIRCUIT,DI:DUAL 2-INP NAND DRVR,SCRN	01295	SN75452(PP3 OR J
A30A1VR320	152-0217-00	B010150		SEMICONV DEVICE:ZENER,0.4W,8.2V,5%	04713	SZG20
A30A1VR510	152-0120-00			SEMICONV DEVICE:ZENER,1W,10V,5%	04713	SZ1619
A30A1VR641	152-0647-00			SEMICONV DEVICE:ZENER,0.4W,6.8V,5%	04713	SZG35014K3RL

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A30A2	670-7292-00		CKT BOARD ASSY:COLOR "Z" AXIS	80009	670-7292-00
A30A2	-----		(DAS9129 ONLY)		
A30A2C130	290-0767-00		CAP.,FXD,ELCTLT:4.7UF,+75-10%,160V	56289	5020228
A30A2C200	290-0962-00		CAP.,FXD,ELCTLT:27UF,+100-10%,150VDC	56289	672D276H150GE2C
A30A2C210	290-0919-00		CAP.,FXD,ELCTLT:470UF,+50-10%,35V	T0510	ECEA1BB471SC
A30A2C220	290-0919-00		CAP.,FXD,ELCTLT:470UF,+50-10%,35V	T0510	ECEA1BB471SC
A30A2C221	290-0745-00		CAP.,FXD,ELCTLT:22UF,+50-10%,25V	54473	ECE-A25V22L
A30A2C300	290-0804-00		CAP.,FXD,ELCTLT:10UF,+50-10%,25V	55680	ULA1E100TEA
A30A2C321	283-0000-00		CAP.,FXD,CER DI:0.001UF,+100-0%,500V	59660	831610Y5U0102P
A30A2C324	283-0000-00		CAP.,FXD,CER DI:0.001UF,+100-0%,500V	59660	831610Y5U0102P
A30A2C330	281-0619-00		CAP.,FXD,CER DI:1.2PF,+/-0.1PF,200V	59660	374 018 C0K0129B
A30A2C400	290-0800-00		CAP.,FXD,ELCTLT:250UF,+100-10%,20V	56289	672D257H0200M5C
A30A2C403	283-0268-00		CAP.,FXD,CER DI:0.015UF,10%,50V	56289	1C20X7R153K050B
A30A2C430	281-0619-00		CAP.,FXD,CER DI:1.2PF,+/-0.1PF,200V	59660	374 018 C0K0129B
A30A2C440	281-0619-00		CAP.,FXD,CER DI:1.2PF,+/-0.1PF,200V	59660	374 018 C0K0129B
A30A2C508	285-0894-00		CAP.,FXD,PLSTC:5UF,5%,50V	56289	LP66A1A505J002
A30A2C510	290-0745-00		CAP.,FXD,ELCTLT:22UF,+50-10%,25V	54473	ECE-A25V22L
A30A2C513	281-0775-00		CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A30A2C515	290-0745-00		CAP.,FXD,ELCTLT:22UF,+50-10%,25V	54473	ECE-A25V22L
A30A2C530	281-0773-00		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A30A2C535	281-0773-00		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A30A2C540	281-0773-00		CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A30A2C611	283-0268-00		CAP.,FXD,CER DI:0.015UF,10%,50V	56289	1C20X7R153K050B
A30A2C618	283-0114-00		CAP.,FXD,CER DI:0.0015UF,5%,200V	59660	805534Y5D0152J
A30A2C619	290-0745-00		CAP.,FXD,ELCTLT:22UF,+50-10%,25V	54473	ECE-A25V22L
A30A2C630	283-0159-00		CAP.,FXD,CER DI:18PF,5%,50V	51642	T150-050NP0180J
A30A2C634	283-0159-00		CAP.,FXD,CER DI:18PF,5%,50V	51642	T150-050NP0180J
A30A2C636	290-0771-00		CAP.,FXD,ELCTLT:220UF,+50-10%,10VDC	56289	502D231
A30A2C650	283-0159-00		CAP.,FXD,CER DI:18PF,5%,50V	51642	T150-050NP0180J
A30A2CR300	152-0141-02		SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A30A2CR325	152-0400-00		SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A30A2CR421	152-0400-00		SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A30A2CR423	152-0400-00		SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A30A2CR424	152-0400-00		SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A30A2CR426	152-0400-00		SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A30A2CR427	152-0400-00		SEMICONV DEVICE:SILICON,400V,1A	80009	152-0400-00
A30A2CR501	152-0141-02		SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A30A2L100	108-1139-00		COIL,RF:FIXED,7MH	80009	108-1139-00
A30A2L111	108-1113-00		COIL,RF:FIXED,1.2MH	80009	108-1113-00
A30A2L121	108-1114-00		COIL,RF:FIXED,600MH	80009	108-1114-00
A30A2L221	108-0245-00		COIL,RF:3.9UH	76493	B6310-1
A30A2L330	108-1120-00		COIL,RF:FIXED,33UH	80009	108-1120-00
A30A2L430	108-1120-00		COIL,RF:FIXED,33UH	80009	108-1120-00
A30A2L440	108-1120-00		COIL,RF:FIXED,33UH	80009	108-1120-00
A30A2L655	108-0245-00		COIL,RF:3.9UH	76493	B6310-1
A30A2P100	131-2787-00		CONN,RCPT,ELEC:HEADER,RTANGLE	27264	09-62-3051
A30A2P320	131-0608-00		TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A30A2P600	131-2264-00		CONN,RCPT,ELEC:CKT BD,10 CONTACT,R ANGLE	80009	131-2264-00
A30A2Q400	151-0188-00		TRANSISTOR:SILICON,NPN	04713	SPS6868K
A30A2Q410	151-0426-00		TRANSISTOR:SILICON,NPN	03508	X44H242
A30A2Q420	151-0426-00		TRANSISTOR:SILICON,NPN	03508	X44H242
A30A2Q440	151-0124-00		TRANSISTOR:SILICON,NPN,SEL FROM 2N3501	04713	SM8138
A30A2Q530	151-0124-00		TRANSISTOR:SILICON,NPN,SEL FROM 2N3501	04713	SM8138
A30A2Q540	151-0124-00		TRANSISTOR:SILICON,NPN,SEL FROM 2N3501	04713	SM8138

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A30A2R120	301-0183-00		RES.,FXD,CMPSN:18K OHM,5%,0.50W	01121	EB1835
A30A2R121	315-0120-00		RES.,FXD,CMPSN:12 OHM,5%,0.25W	01121	CB1205
A30A2R130	311-1562-00		RES.,VAR,NONWIR:2K OHM,20%,0.50W	73138	91-84-0
A30A2R140	311-1562-00		RES.,VAR,NONWIR:2K OHM,20%,0.50W	73138	91-84-0
A30A2R150	311-1562-00		RES.,VAR,NONWIR:2K OHM,20%,0.50W	73138	91-84-0
A30A2R230	308-0809-00		RES.,FXD,WW:1.5K OHM,2%,10W	91637	NS10-B15000G
A30A2R240	308-0809-00		RES.,FXD,WW:1.5K OHM,2%,10W	91637	NS10-B15000G
A30A2R250	308-0809-00		RES.,FXD,WW:1.5K OHM,2%,10W	91637	NS10-B15000G
A30A2R300	315-0134-00		RES.,FXD,CMPSN:130K OHM,5%,0.25W	01121	CB1345
A30A2R305	315-0473-00		RES.,FXD,CMPSN:47K OHM,5%,0.25W	01121	CB4735
A30A2R321	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A30A2R324	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A30A2R404	315-0470-00		RES.,FXD,CMPSN:47 OHM,5%,0.25W	01121	CB4705
A30A2R442	315-0821-00		RES.,FXD,CMPSN:820 OHM,5%,0.25W	01121	CB8215
A30A2R443	315-0821-00		RES.,FXD,CMPSN:820 OHM,5%,0.25W	01121	CB8215
A30A2R444	315-0821-00		RES.,FXD,CMPSN:820 OHM,5%,0.25W	01121	CB8215
A30A2R500	315-0125-00		RES.,FXD,CMPSN:1.2M OHM,5%,0.25W	01121	CB1255
A30A2R501	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A30A2R510	308-0680-00		RES.,FXD,WW:0.045 OHM,10%,3W	91637	RS2B-R0450K
A30A2R511	315-0622-00		RES.,FXD,CMPSN:6.2K OHM,5%,0.25W	01121	CB6225
A30A2R512	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A30A2R513	315-0392-00		RES.,FXD,CMPSN:3.9K OHM,5%,0.25W	01121	CB3925
A30A2R520	301-0330-00		RES.,FXD,CMPSN:33 OHM,5%,0.50W	01121	EB3305
A30A2R525	301-0330-00		RES.,FXD,CMPSN:33 OHM,5%,0.50W	01121	EB3305
A30A2R600	315-0221-00		RES.,FXD,CMPSN:220 OHM,5%,0.25W	01121	CB2215
A30A2R610	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A30A2R611	315-0300-00		RES.,FXD,CMPSN:30 OHM,5%,0.25W	01121	CB3005
A30A2R614	315-0333-00		RES.,FXD,CMPSN:33K OHM,5%,0.25W	01121	CB3335
A30A2R615	315-0202-00		RES.,FXD,CMPSN:2K OHM,5%,0.25W	01121	CB2025
A30A2R618	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A30A2R630	301-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.50W	01121	EB3315
A30A2R631	315-0681-00		RES.,FXD,CMPSN:680 OHM,5%,0.25W	01121	CB6815
A30A2R632	301-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.50W	01121	EB3315
A30A2R636	315-0681-00		RES.,FXD,CMPSN:680 OHM,5%,0.25W	01121	CB6815
A30A2R640	315-0221-00		RES.,FXD,CMPSN:220 OHM,5%,0.25W	01121	CB2215
A30A2R642	315-0120-00		RES.,FXD,CMPSN:12 OHM,5%,0.25W	01121	CB1205
A30A2R645	315-0222-00		RES.,FXD,CMPSN:2.2K OHM,5%,0.25W	01121	CB2225
A30A2R650	315-0221-00		RES.,FXD,CMPSN:220 OHM,5%,0.25W	01121	CB2215
A30A2R652	301-0331-00		RES.,FXD,CMPSN:330 OHM,5%,0.50W	01121	EB3315
A30A2R653	315-0681-00		RES.,FXD,CMPSN:680 OHM,5%,0.25W	01121	CB6815
A30A2T300	120-1422-00		TRANSFORMER,RF:POWER CONVERTER	80009	120-1422-00
A30A2TP100	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP105	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP111	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP114	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP116	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP118	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP120	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP122	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP126	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP130	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP230	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP240	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A30A2TP250	214-0579-00		TERM,TEST POINT:BRS CD PL	80009	214-0579-00

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A30A2U410	156-0402-00		MICROCIRCUIT,LI:TIMER	27014	LM555CN
A30A2U510	156-1585-00		MICROCIRCUIT,LI:REGULATING PULSE	34333	SG10083/3526J
A30A2U520	156-1275-02		MICROCIRCUIT,DI:5-BIT SHIFT REGISTERS,SCRN	01295	SN74LS96
A30A2U635	156-0302-02		MICROCIRCUIT,DI:DUAL 2-INP NAND DRVR,SCRN	01295	SN75452(PP3 OR J
A30A2U645	156-0302-02		MICROCIRCUIT,DI:DUAL 2-INP NAND DRVR,SCRN	01295	SN75452(PP3 OR J
A30A2VR126	152-0120-00		SEMICONV DEVICE:ZENER,1W,10V,5%	04713	SZ1619

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A30A3	670-7293-00			CKT BOARD ASSY:CRT SOCKET	80009	670-7293-00
A30A3	-----			(DAS9129 ONLY)		
A30A3C303	283-0002-00			CAP.,FXD,CER DI:0.01UF,+80-20%,500V	59821	SDDH69L103Z
A30A3C304	283-0263-00			CAP.,FXD,CER DI:0.0022UF,20%,3000V	59660	828556Y5R0222M
A30A3E305	119-0181-00			ARSR,ELEC SURGE:230V,GAS FILLED	74276	CG230L
A30A3E306	119-0287-00			ARSR,ELEC SURGE:800+/-200VDC	25088	B2-B800
A30A3E310	119-0181-00			ARSR,ELEC SURGE:230V,GAS FILLED	74276	CG230L
A30A3E311	119-0181-00			ARSR,ELEC SURGE:230V,GAS FILLED	74276	CG230L
A30A3E320	119-0181-00			ARSR,ELEC SURGE:230V,GAS FILLED	74276	CG230L
A30A3J301	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A30A3J320	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A30A3R301	301-0104-00			RES.,FXD,CMPSN:100K OHM,5%,0.5W	01121	EB1045
A30A3R303	301-0111-00			RES.,FXD,CMPSN:110 OHM,5%,0.50W	01121	EB1115
A30A3R305	301-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.50W	01121	EB1035
A30A3R315	301-0111-00			RES.,FXD,CMPSN:110 OHM,5%,0.50W	01121	EB1115
A30A3R318	301-0111-00			RES.,FXD,CMPSN:110 OHM,5%,0.50W	01121	EB1115
A30A3R320	301-0111-00			RES.,FXD,CMPSN:110 OHM,5%,0.50W	01121	EB1115

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix	Serial/Model No.		Name & Description	Mfr	Mfr Part Number
	Part No.	Eff	Dscont		Code	
A31	670-7294-00	B010100	B020274	CKT BOARD ASSY:MAIN INTERCONNECT (DAS9129 ONLY)	80009	670-7294-00
A31	-----					
A31	670-7294-01	B020275	B050249	CKT BOARD ASSY:MAIN INTERCONNECT (DAS9129 ONLY)	80009	670-7294-01
A31	-----					
A31	670-7294-02	B050250		CKT BOARD ASSY:MAIN INTERCONNECT (DAS9129 ONLY)	80009	670-7294-02
A31	-----					
A31	670-7294-00	B010100	B020299	CKT BOARD ASSY:MAIN INTERCONNECT (DAS9109 ONLY)	80009	670-7294-00
A31	-----					
A31	670-7294-01	B020300	B050249	CKT BOARD ASSY:MAIN INTERCONNECT (DAS9109 ONLY)	80009	670-7294-01
A31	-----					
A31	670-7294-02	B050250		CKT BOARD ASSY:MAIN INTERCONNECT (DAS9109 ONLY)	80009	670-7294-02
A31	-----					
A31	670-7294-01			CKT BOARD ASSY:MAIN INTERCONNECT (DAS9119 ONLY)	80009	670-7294-01
A31	-----					
A31C10	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C11	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C12	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C14	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C15	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C20	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A31C30	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A31C50	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A31C61	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C70	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C73	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C80	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A31C81	281-0773-00			CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A31C82	281-0773-00			CAP.,FXD,CER DI:0.01UF,10%,100V	04222	MA201C103KAA
A31C101	290-0831-00			CAP.,FXD,ELCTLT:470UF,+50-10%,50V	55680	ULB1E471TFANNA
A31C204	283-0164-00			CAP.,FXD,CER DI:2.2UF,20%,25V	04222	SR402E225MAA
A31C206	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C207	281-0812-00	B020300		CAP.,FXD,CER DI:1000PF,10%,100V (DAS9109 ONLY)	04222	MA101C102KAA
A31C207	-----					
A31C207	281-0812-00	B020275		CAP.,FXD,CER DI:1000PF,10%,100V (DAS9129 ONLY)	04222	MA101C102KAA
A31C207	-----					
A31C301	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C303	290-0919-00			CAP.,FXD,ELCTLT:470UF,+50-10%,35V	T0510	ECEA1BB471SC
A31C304	290-0755-00			CAP.,FXD,ELCTLT:100UF,+50-10%,10V	55680	ULA1A01TEA
A31C305	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A31C420	290-0932-00			CAP.,FXD ELECT:390UF,+ 100-10%,15VDC	90201	VPR391N01E1A3J
A31C436	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A31CR120	152-0769-00	B010100	B050249	SEMICONV DEVICE:RECT BRIDGE,SI,400V	05828	KBPC804
A31CR120	152-0826-00	B050250		SEMICONV,DVC,DI: ZENER,SI,6.9V	04713	P6KE6.8A
A31CR202	152-0585-00			SEMICONV DEVICE:SILICON,BRIDGE,200V,1A	80009	152-0585-00
A31E115	119-0181-00	B010100	B050249	ARSR,ELEC SURGE:230V,GAS FILLED	74276	CG230L
A31E115	307-0449-00	B050250		RES,V SENSITIVE:		
A31E119	119-0181-00			ARSR,ELEC SURGE:230V,GAS FILLED	74276	CG230L
A31J00	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J01	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J10	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J11	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J20	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J21	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J30	131-2029-00			CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A31J31	131-2029-00		CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J40	131-2029-00		CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J41	131-2029-00		CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J50	131-2029-00		CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J51	131-2029-00		CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J60	131-2029-00		CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J61	131-2029-00		CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J70	131-2029-00		CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J71	131-2029-00		CONN,RCPT,ELEC:EDGE CARD,2 X 36,0.1 CTR	00779	532093-1
A31J72	131-1003-00		CONN,RCPT,ELEC:CKT BD MT,3 PRONG	80009	131-1003-00
A31J75	131-1003-00		CONN,RCPT,ELEC:CKT BD MT,3 PRONG	80009	131-1003-00
A31J80	131-1343-00		TERM. SET,PIN:36-0.525 L X 0.025 SQ	22526	65501-136
A31J80	-----		(QUANTITY OF 2)		
A31J101	131-2265-00		TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A31J105	131-2803-00		CONN,RCPT,ELEC:HEADER,1 X 4,0.25	00779	350430-1
A31J125	131-2621-00		CONN,RCPT,ELEC:HEADER,1 X 5,0.25 CTR	00779	640900-1
A31J131	131-2570-00		CONN,RCPT,ELEC:CKT BD,50/100 CONT,FEM	00779	532094-1
A31J201	131-2265-00		TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A31J211	131-2664-00		CONN,RCPT,ELEC:HEADER,1 X 10,0.156 SP	99801	09-70-1101-3
A31J212	131-2265-00		TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A31J221	131-2664-00		CONN,RCPT,ELEC:HEADER,1 X 10,0.156 SP	99801	09-70-1101-3
A31J311	131-2265-00		TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A31J312	131-2664-00		CONN,RCPT,ELEC:HEADER,1 X 10,0.156 SP	99801	09-70-1101-3
A31J321	131-2265-00		TERM,FEEDTHRU:10 PIN,INSULATED	80009	131-2265-00
A31J401	131-2664-00		CONN,RCPT,ELEC:HEADER,1 X 10,0.156 SP	99801	09-70-1101-3
A31J410	131-2804-00		CONN,RCPT,ELEC:HEADER,1 X 2,0.25 CENTERS	00779	350428-1
A31J419	131-2801-00		CONN,RCPT,ELEC:HEADER,1 X 2,0.25 CENTERS	00779	350786-1
A31J421	131-1343-00		TERM. SET,PIN:36-0.525 L X 0.025 SQ	22526	65501-136
A31J421	-----		(QUANTITY OF 3)		
A31J422	131-2238-00		CONN,RCPT,ELEC:CKT BD,2 X 20,MALE	000GS	OBD
A31J422	-----		(QUANTITY OF 20)		
A31J425	131-1343-00		TERM. SET,PIN:36-0.525 L X 0.025 SQ	22526	65501-136
A31J425	-----		(QUANTITY OF 5)		
A31J427	131-2238-00		CONN,RCPT,ELEC:CKT BD,2 X 20,MALE	000GS	OBD
A31J427	-----		(QUANTITY OF 20)		
A31J429	131-2786-00		CONN,RCPT,ELEC:HEADER,2 X 8,16 MALE	22526	65863-015
A31J432	131-1343-00		TERM. SET,PIN:36-0.525 L X 0.025 SQ	22526	65501-136
A31J432	-----		(QUANTITY OF 2)		
A31L126	108-1122-00		COIL,RF:FIXED,450UH	80009	108-1122-00
A31L127	108-1122-00		COIL,RF:FIXED,450UH	80009	108-1122-00
A31L420	108-0336-00		COIL,RF:100UH	80009	108-0336-00
A31Q202	151-0464-00		TRANSISTOR:SILICON,NPN	04713	SJE412
A31Q205	151-0429-00		TRANSISTOR:SILICON,PNP	04713	SJE957
A31R10	307-0492-00		RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A31R11	307-0594-00		RES NTWK,FXD FI:7.220 OHM,2%,1.0W	91637	CSC08A01101221G
A31R12	307-0492-00		RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A31R13	315-0510-00		RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A31R14	307-0492-00		RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A31R15	307-0492-00		RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A31R16	315-0510-00		RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A31R17	307-0492-00		RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A31R18	307-0486-00		RES,NTWK,THK FI:100 OHM,20%,1.125W	91637	MSP10A01-101J
A31R19	315-0510-00		RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A31R29	307-0492-00		RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff Dscont	Name & Description	Mfr Code	Mfr Part Number
A31R61	307-0492-00		RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A31R71	307-0492-00		RES.NTWK,FXD FI:(3)50 OHM,5%,0.125W	91637	CSCO4C01-500J
A31R72	307-0594-00		RES NTWK,FXD FI:7,220 OHM,2%,1.0W	91637	CSC08A01101221G
A31R74	307-0486-00		RES,NTWK,THK FI:100 OHM,20%,1.125W	91637	MSP10A01-101J
A31R76	315-0510-00		RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A31R203	315-0102-00		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A31R205	321-0222-00		RES.,FXD,FILM:2K OHM,1%,0.125W	91637	MFF1816G20000F
A31R206	315-0101-00		RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A31R301	315-0122-00		RES.,FXD,CMPSN:1.2K OHM,5%,0.25W	01121	CB1225
A31R305	321-0239-07		RES.,FXD,FILM:3.01K OHM,0.1%,0.125W	91637	MFF1816C30100B
A31R432	315-0471-00		RES.,FXD,CMPSN:470 OHM,5%,0.25W	01121	CB4715
A31RT111	307-0842-00		RES.,THERMAL:60 OHM,25%	51406	PTH4474
A31T101	120-1252-00		XFMR,PWR,STPDN:	80009	120-1252-00
A31U207	156-0067-00		MICROCIRCUIT,LI:OPERATIONAL AMPLIFIER	01295	MICROA741CP
A31VR203	152-0055-00		SEMICONV DEVICE:ZENER,0.4W,11V,5%	04713	SZG35009K1
A32A1	670-7291-00		CKT BOARD ASSY:CAPACITOR BRACKET	80009	670-7291-00
A32A1	-----		(DAS9129 ONLY)		
A32A1C103	290-0813-00		CAP.,FXD,ELCTLT:2000UF,-10+75%,200V	56289	36DX9463
A32A1C113	290-0813-00		CAP.,FXD,ELCTLT:2000UF,-10+75%,200V	56289	36DX9463
A32A1C114	283-0208-00		CAP.,FXD,CER DI:0.22UF,10%,200V	72982	8151N230 C 224K
A32A1DS120	150-0035-00		LAMP,GLOW:90V,0.3MA,AID-T,WIRE LD	000LI	JH005/3011JA
A32A1F205	159-0014-00		FUSE,CARTRIDGE:3AG,5A,250V,FAST-BLOW	71400	MTH5
A32A1F215	159-0014-00		FUSE,CARTRIDGE:3AG,5A,250V,FAST-BLOW	71400	MTH5
A32A1J101	131-2621-00		CONN,RCPT,ELEC:HEADER,1 X 5.0.25 CTR	00779	640900-1
A32A1R111	308-0313-00		RES.,FXD,WW:20K OHM,1%,3W	91637	RS2B-B20001F
A32A1R201	315-0475-00		RES.,FXD,CMPSN:4.7M OHM,5%,0.25W	01121	CB4755
A32A1R203	308-0313-00		RES.,FXD,WW:20K OHM,1%,3W	91637	RS2B-B20001F

**Replaceable Electrical Parts
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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A33	670-7475-00	B010100	B019999	CKT BOARD ASSY:CONTROLLER (DAS9129 ONLY)	80009	670-7475-00
A33	-----					
A33	670-7475-01	B020000	B029999	CKT BOARD ASSY:CONTROLLER (DAS9129 ONLY)	80009	670-7475-01
A33	-----					
A33	670-7475-02	B030000	B050099	CKT BOARD ASSY:CONTROLLER (DAS9129 ONLY)	80009	670-7475-02
A33	-----					
A33	670-7475-03	B050100		CKT BOARD ASSY:CONTROLLER	80009	670-7475-03
A33	670-7475-01	B020000	B029999	CKT BOARD ASSY:CONTROLLER (DAS9109 ONLY)	80009	670-7475-01
A33	-----					
A33	670-7475-02	B030000	B050099	CKT BOARD ASSY:CONTROLLER (DAS9109 ONLY)	80009	670-7475-02
A33	-----					
A33	670-7475-03	B050100		CKT BOARD ASSY:CONTROLLER	80009	670-7475-03
A33C105	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C121	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C127	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C131	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C137	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C145	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C148	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C161	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C162	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C165	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C168	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C175	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C178	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C181	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C185	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C188	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C251	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C261	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C262	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C265	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C266	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C268	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C269	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C275	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C276	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C278	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C279	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C281	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C282	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C285	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C286	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C288	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C289	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C300	281-0759-00			CAP.,FXD,CER DI:22PF,10%,100V	96733	R2735
A33C321	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C325	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C330	283-0111-00			CAP.,FXD,CER DI:0.1UF,20%,50V	56289	273C11
A33C332	283-0144-00			CAP.,FXD,CER DI:33PF,1%,500V	59660	801-547P2G330G
A33C337	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C361	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C365	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C366	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C368	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C369	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A33C375	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C376	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C378	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C379	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C381	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C382	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C385	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C386	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C388	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C389	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C395	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C396	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C411	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C415	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C425	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C431	283-0333-00			CAP.,FXD,CER DI:35PF,5%,1000V	72982	838-534 A 350>
A33C438	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C445	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C467	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C468	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C471	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C475	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C478	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C481	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C487	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C488	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C496	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C521	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C525	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C527	281-0819-00			CAP.,FXD,CER DI:33PF,5%,50V	72982	8035BC0G330
A33C537	283-0177-00			CAP.,FXD,CER DI:1UF,+80-20%,25V	56289	2C20Z5U105Z025B
A33C538	290-0755-00			CAP.,FXD,ELCTLT:100UF,+50-10%,10V	55680	ULA1A01TEA
A33C545	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C549	290-0748-00			CAP.,FXD,ELCTLT:10UF,+50-10%,25V	T0900	SL25T10(T)TP
A33C550	290-0748-00			CAP.,FXD,ELCTLT:10UF,+50-10%,25V	T0900	SL25T10(T)TP
A33C591	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C597	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C637	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33C638	290-0536-00			CAP.,FXD,ELCTLT:10UF,20%,25V	90201	TDC106M025FL
A33C639	281-0775-00			CAP.,FXD,CER DI:0.1UF,20%,50V	04222	MA205E104MAA
A33CR115	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A33CR535	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A33CR539	152-0141-02			SEMICONV DEVICE:SILICON,30V,150MA	01295	1N4152R
A33J337	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A33J339	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A33J340	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A33J344	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A33J498	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A33J499	131-0608-00			TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD	22526	47357
A33J603	131-1426-00	B050100	B050199	TERM SET,PIN:(36) 0.025 SQ RTANG,0.25L	22526	65524-136
A33LR435	108-0735-00			COIL,RF:FIXED,560NH	80009	108-0735-00
A33LS100	119-1427-00			XDCR,AUDIO:6V,30MA,1-4.2 KHZ	000JB	QMB-06
A33Q110	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
A33Q335	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A33Q425	151-0223-00			TRANSISTOR:SILICON,NPN	04713	SPS8026

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A33Q435	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A33Q438	151-0188-00			TRANSISTOR:SILICON,PNP	04713	SPS6868K
A33Q539	151-0190-00			TRANSISTOR:SILICON,NPN	07263	S032677
A33R115	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R121	311-1562-00			RES.,VAR,NONWIR:2K OHM,20%,0.50W	73138	91-84-0
A33R125	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A33R134	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R140	315-0102-00	B050100		RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A33R141	307-0542-00			RES,NTWK,FXD,FI:10K OHM,5%,0.125W	01121	106A103
A33R145	307-0542-00			RES,NTWK,FXD,FI:10K OHM,5%,0.125W	01121	106A103
A33R146	315-0393-00			RES.,FXD,CMPSN:39K OHM,5%,0.25W	01121	CB3935
A33R147	315-0393-00			RES.,FXD,CMPSN:39K OHM,5%,0.25W	01121	CB3935
A33R150	315-0203-00			RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A33R185	307-0540-00			RES,NTWK,FXD,FI:(5) 1K OHM,10%,0.7W	57924	4306R-101-102
A33R201	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A33R202	315-0103-00			RES.,FXD,CMPSN:10K OHM,5%,0.25W	01121	CB1035
A33R215	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R225	315-0750-00			RES.,FXD,CMPSN:75 OHM,5%,0.25W	01121	CB7505
A33R234	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R295	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A33R332	315-0221-00			RES.,FXD,CMPSN:220 OHM,5%,0.25W	01121	CB2215
A33R331	315-0150-00			RES.,FXD,CMPSN:15 OHM,5%,0.25W	01121	CB1505
A33R333	315-0122-00			RES.,FXD,CMPSN:1.2K OHM,5%,0.25W	01121	CB1225
A33R334	315-0150-00			RES.,FXD,CMPSN:15 OHM,5%,0.25W	01121	CB1505
A33R341	315-0203-00			RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A33R342	315-0203-00			RES.,FXD,CMPSN:20K OHM,5%,0.25W	01121	CB2035
A33R411	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A33R415	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R416	315-0752-00			RES.,FXD,CMPSN:7.5K OHM,5%,0.25W	01121	CB7525
A33R417	315-0752-00			RES.,FXD,CMPSN:7.5K OHM,5%,0.25W	01121	CB7525
A33R418	315-0752-00			RES.,FXD,CMPSN:7.5K OHM,5%,0.25W	01121	CB7525
A33R421	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A33R430	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A33R431	315-0511-00			RES.,FXD,CMPSN:510 OHM,5%,0.25W	01121	CB5115
A33R432	315-0512-00			RES.,FXD,CMPSN:5.1K OHM,5%,0.25W	01121	CB5125
A33R434	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A33R436	315-0510-00			RES.,FXD,CMPSN:51 OHM,5%,0.25W	01121	CB5105
A33R437	315-0472-00			RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A33R438	315-0101-00	B010100	B050099	RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R441	307-0540-00			RES,NTWK,FXD,FI:(5) 1K OHM,10%,0.7W	57924	4306R-101-102
A33R445	307-0446-00			RES,NTWK,FXD FI:10K OHM,20%,(9) RES	91637	MSP10A01-103M
A33R468	315-0101-00	B010100	B050099	RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R478	315-0101-00	B010100	B050099	RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R481	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R485	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R488	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R497	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R511	315-0241-00			RES.,FXD,CMPSN:240 OHM,5%,0.25W	01121	CB2415
A33R525	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A33R527	315-0561-00			RES.,FXD,CMPSN:560 OHM,5%,0.25W	01121	CB5615
A33R535	315-0102-00			RES.,FXD,CMPSN:1K OHM,5%,0.25W	01121	CB1025
A33R536	315-0513-00			RES.,FXD,CMPSN:51K OHM,5%,0.25W	01121	CB5135
A33R539	315-0513-00			RES.,FXD,CMPSN:51K OHM,5%,0.25W	01121	CB5135
A33R540	315-0101-00			RES.,FXD,CMPSN:100 OHM,5%,0.25W	01121	CB1015
A33R555	307-0675-00			RES NTWK,FXD FI:9,1K OHM,2%,1.25W	01121	210A102

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A33R581	307-0445-00			RES NTWK,FXD,FI:4.7K OHM,20%,(9) RES	91637	MSP10A01-472M
A33R597	307-0445-00			RES NTWK,FXD,FI:4.7K OHM,20%,(9) RES	91637	MSP10A01-472M
A33R600	315-0472-00	B050000	B050199	RES.,FXD,CMPSN:4.7K OHM,5%,0.25W	01121	CB4725
A33S100	260-1827-00			SWITCH,ROCKER:5,SPST	81073	76SB05S
A33TP141	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A33TP151	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A33TP211	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A33TP351	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A33TP397	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A33TP420	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A33TP436	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A33TP468	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A33TP637	214-0579-00			TERM,TEST POINT:BRS CD PL	80009	214-0579-00
A33U100	156-0798-02			MICROCIRCUIT,DI:DUAL 14 TO 1 LINE SEL/MUX	01295	SN74LS153
A33U105	156-0480-02			MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3
A33U115	156-0381-02			MICROCIRCUIT,DI:QUAD 2-INP EXCL OR GATE	01295	SN74LS86
A33U121	156-1455-00			MICROCIRCUIT,DI:PROGRAMMABLE CRT CONT	34649	P8275
A33U127	156-0479-02			MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A33U131	156-0798-02			MICROCIRCUIT,DI:DUAL 14 TO 1 LINE SEL/MUX	01295	SN74LS153
A33U137	156-1172-01			MICROCIRCUIT,DI:DUAL 4 BIT CNTR	01295	SN74LS393
A33U138	156-0479-02			MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A33U141	156-0994-02			MICROCIRCUIT,DI:8 INPUT DATA SEL/MUX	01295	SN74LS151NP3
A33U151	156-0480-02			MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3
A33U155	156-0464-02			MICROCIRCUIT,DI:DUAL 4 INP NAND GATE	01295	SN74LS20
A33U161	156-0480-02			MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3
A33U165	156-0479-02			MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A33U168	156-0388-03			MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A33U175	156-0385-02			MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A33U178	156-0388-03			MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A33U181	156-0382-02			MICROCIRCUIT,DI:QUAD 2-INP NAND GATE	01295	SN74LS00
A33U185	156-0388-03			MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A33U188	156-0321-02			MICROCIRCUIT,DI:TRIPLE 3 INP NAND GATE	01295	SN74S10
A33U195	156-0694-02			MICROCIRCUIT,DI:DCDR/3 LINE TO 8 LINE,SCRN	07263	74S138DCQR
A33U197	156-0180-04			MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A33U200	156-0798-02			MICROCIRCUIT,DI:DUAL 14 TO 1 LINE SEL/MUX	01295	SN74LS153
A33U205	156-0479-02			MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A33U208	156-0530-02	B050000	B050099	MICROCIRCUIT,DI:QUAD 2-INP MUX,SCRN	01295	SN74LS157P3
A33U211	156-0530-02			MICROCIRCUIT,DI:QUAD 2-INP MUX,SCRN	01295	SN74LS157P3
A33U215	160-0823-01			MICROCIRCUIT,DI:1024 X 8 PROM,PRGM	80009	160-0823-01
A33U227	156-0865-02			MICROCIRCUIT,DI:OCTAL D-TYPE FF W/CLEAR	01295	SN74LS273NP3
A33U231	156-1172-01			MICROCIRCUIT,DI:DUAL 4 BIT CNTR	01295	SN74LS393
A33U237	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A33U251	156-1202-00			MICROCIRCUIT,DI:PROGRAMMABLE DMA CONTROL- LER	51984	UPD8257C-5
A33U261	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U265	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U268	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U275	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U278	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U281	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U285	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U288	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U295	156-0718-03			MICROCIRCUIT,DI:TRIPLE 3-INP NOR GATE	01295	SN74LS27
A33U297	156-0381-02			MICROCIRCUIT,DI:QUAD 2-INP EXCL OR GATE	01295	SN74LS86
A33U300	156-0480-02			MICROCIRCUIT,DI:QUAD 2 INP & GATE	01295	SN74LS08NP3
A33U305	156-0388-03			MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A33U311	156-0382-02			MICROCIRCUIT,DI:QUAD 2-INP NAND GATE	01295	SN74LS00

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Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A33U315	156-1313-00			MICROCIRCUIT,DI:8 BIT SHIFT REGISTER,SCRN	01295	SN741S166
A33U321	156-1326-00			MICROCIRCUIT,DI:QUAD D TYPE FF,SCRN	80009	156-1326-00
A33U325	156-0385-02			MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A33U331	156-0948-02			MICROCIRCUIT,DI:QUAD D F-F,BURN-IN	01295	SN74S175J4
A33U337	156-0323-02			MICROCIRCUIT,DI:HEX INVERTER,BURN-IN	01295	SN74S04
A33U338	156-0383-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE	01295	SN74LS02
A33U345	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A33U351	156-0983-00			MICROCIRCUIT,DI:MICROPROCESSOR EIGHT BIT	56708	Z 80 ACS
A33U365	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U368	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U375	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U378	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U381	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U385	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U388	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U395	156-0968-02			MICROCIRCUIT,DI:16384 X 1 DYNAMIC RAM	80009	156-0968-02
A33U397	156-0321-02			MICROCIRCUIT,DI:TRIPLE 3 INP NAND GATE	01295	SN74S10
A33U400	156-0388-03			MICROCIRCUIT,DI:DUAL D FLIP-FLOP	07263	74LS74A
A33U405	156-0479-02			MICROCIRCUIT,DI:QUAD 2-INP OR GATE	01295	SN74LS32NP3
A33U411	156-0385-02			MICROCIRCUIT,DI:HEX INVERTER	01295	SN74LS04
A33U415	156-0392-03			MICROCIRCUIT,DI:QUAD LATCH W/CLEAR	01295	SN74S175NP3
A33U421	156-1313-00			MICROCIRCUIT,DI:8 BIT SHIFT REGISTER,SCRN	01295	SN741S166
A33U425	156-0784-02			MICROCIRCUIT,DI:SYNC 4 BIT BINARY COUNTER	27014	DM74LS163ANA+
A33U431	156-0205-02			MICROCIRCUIT,DI:QUAD 2-INP NOR GATE,SCRN	04713	MC10102PD/LD
A33U438	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A33U445	156-0955-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	04713	SN74LS241
A33U461	156-1065-01			MICROCIRCUIT,DI:DUAL D TYPE TRANS LATCHES	34335	AM74LS373
A33U475	156-1065-01			MICROCIRCUIT,DI:OCTAL D TYPE TRANS LATCHES	34335	AM74LS373
A33U478	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A33U481	156-0125-02			MICROCIRCUIT,DI:QUAD 2-INP MUX,SCRN	01295	SN74157(NP3 OR J
A33U485	156-0125-02			MICROCIRCUIT,DI:QUAD 2-INP MUX,SCRN	01295	SN74157(NP3 OR J
A33U488	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A33U495	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A33U497	156-0478-02			MICROCIRCUIT,DI:DUAL 4 INP & GATE,BURN-IN	01295	SN74LS21NP3
A33U500	156-0784-02			MICROCIRCUIT,DI:SYNC 4 BIT BINARY COUNTER	27014	DM74LS163ANA+
A33U505	156-0784-02			MICROCIRCUIT,DI:SYNC 4 BIT BINARY COUNTER	27014	DM74LS163ANA+
A33U511	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A33U515	156-0784-02			MICROCIRCUIT,DI:SYNC 4 BIT BINARY COUNTER	27014	DM74LS163ANA+
A33U517	156-0718-03			MICROCIRCUIT,DI:TRIPLE 3-INP NOR GATE	01295	SN74LS27
A33U521	156-0784-02			MICROCIRCUIT,DI:SYNC 4 BIT BINARY COUNTER	27014	DM74LS163ANA+
A33U525	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A33U531	156-0180-04			MICROCIRCUIT,DI:QUAD 2-INPUT NAND GATE	01295	SN74S00NP3
A33U535	156-0948-02			MICROCIRCUIT,DI:QUAD D F-F,BURN-IN	01295	SN74S175J4
A33U537	156-0645-02			MICROCIRCUIT,DI:HEX INV ST NAND GATES,SCRN	01295	SN74LS14
A33U541	156-0392-03			MICROCIRCUIT,DI:QUAD LATCH W/CLEAR	01295	SN74S175NP3
A33U555	156-1111-02			MICROCIRCUIT,DI:OCTAL BUS TRANSCEIVERS	01295	SN74LS245JP3
A33U563	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A33U565	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A33U571	156-0956-02			MICROCIRCUIT,DI:OCTAL BFR W/3 STATE OUT	01295	SN74LS244NP3
A33U581	156-1111-02			MICROCIRCUIT,DI:OCTAL BUS TRANSCEIVERS	01295	SN74LS245JP3
A33U585	160-0826-00			MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0826-00
A33U591	160-0827-00			MICROCIRCUIT,DI:8192 X 8 PROM,PRGM,SCRN	80009	160-0827-00
A33U597	160-1679-00	B010100	B010145	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-00
A33U597	160-1679-01	B010146	B019999	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-00

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
A33U597	160-1679-02	B020000	B029999	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-00
A33U597	160-1679-03	B030000	B039999	MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-00
A33U597	160-1679-06	B040000		MICROCIRCUIT,DI:8192 X 8 EPROM,PRGM	80009	160-1679-00
A33U600	156-0784-02			MICROCIRCUIT,DI:SYNC 4 BIT BINARY COUNTER	27014	DM74LS163ANA+
A33U603	156-0382-02			MICROCIRCUIT,DI:QUAD 2-INP NAND GATE	01295	SN74LS00
A33U605	156-0469-02			MICROCIRCUIT,DI:3/8 LINE DCDR	01295	SN74LS138NP3
A33W160	131-0566-00	B030000		BUS CONDUCTOR:DUMMY RES,2.375,22 AWG	57668	JWW-0200E0
A33Y432	158-0223-00			XTAL UNIT,QTZ:29.4912 MHZ,0.01%,SERIES	33096	HC-18/U
.						
.						
A34	119-1594-00	B020000		DISPLAY ASSY:9 INCH CH,TTL,SYNC OR DRIVE	80009	119-1594-00
.						
.						
A34A1	118-2984-00	B020000		CKT BOARD ASSY:DISPLAY	80009	118-2984-00

**Replaceable Electrical Parts
DAS 9100 Series Service Vol.II**

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
CHASSIS PARTS						
C100	285-0981-00			CAP.,FXD,PLSTC:2.0UF,10%,400V	14752	C-2585
C101	285-1192-00			CAP.,FXD,PPR DI:0.0022UF,20%,250VAC	000FG	PME271Y422
C104	283-0358-00			CAP.,FXD,CER DI:0.01UF,+80-20%,1.4KV	59660	OBD
F100	----- 159-0057-00			(DAS9129 ONLY) FUZE,CARTRIDGE:3AG,10A,250V,SLOW-BLOW	71400	MDA 10
F100	----- 159-0210-00			(STANDARD ONLY) FUZE,CARTRIGE:DIN 5 X 20MN,250V	S3629	FST034-312
F100	----- 159-0211-00			(OPTION A1,A2,A3 ONLY) FUZE CARTRIDGE:3AG,5 AMP,250V,SLOW BLOW	T0946	NSDLO5A
F101	----- 159-0125-00			(OPTION A4 ONLY) FUZE,THERMAL:150 DEG C OPEN30A MAX,AX LD	27012	4300A
J150	131-1315-01			CONN,RCPT,ELEC:BNC,FEMALE	24931	28JR 306-1
J151	131-1315-01			CONN,RCPT,ELEC:BNC,FEMALE	24931	28JR 306-1
K101	148-1005-00			RELAY,SOL STATE:250VAC,10A CONT,12VDC	05292	C1-12D-PC-24
L100	108-1115-00			COIL,RF:FIXED,DEGAUSSING	80009	108-1115-00
Q155	151-0625-00			TRANSISTOR:SILICON,PNP	03508	D45H11
Q160	151-0426-00			TRANSISTOR:SILICON,NPN	03508	X44H242
Q165	151-0426-00			TRANSISTOR:SILICON,NPN	03508	X44H242
Q170	151-0426-00			TRANSISTOR:SILICON,NPN	03508	X44H242
R100	308-0634-00			RES.,FXD,WW:12.5 OHM,1%,5W	91637	HL605Z812R50F
R101	305-0104-00	B010400		RES.,FXD,CMPSN:100K OHM,5%,2W	01121	HB1045
R645	----- 311-1365-00			(DAS 9129 ONLY) RES.,VAR,NONWIR:50K OHM,20%,1W	01121	11M164
S100	----- 260-0638-00	B010100	B019999	(DAS 9129 ONLY) SW,THERMOSTATIC:10A,240V,OPEN 75 DEG C	93410	430-364
S101	----- 260-1901-00			(DAS 9109 ONLY) SWITCH,TOGGLE:DPST,8A,250V	15605	7320K55 29-761
S101	----- 260-0413-00			(DAS 9109 ONLY) SW,THERMOSTATIC:10A,240V	73803	20700L63-253
S102	----- 260-1663-00			(DAS 9129 ONLY) SWITCH,THRMSTC:C,OPEN 100,CL 88,8A,250V	14604	3450-21-418
S103	----- 260-1967-00			(DAS 9109 ONLY) SWITCH,SLIDE:DPDT,5A/250V	000FJ	4021.0512
S104	260-0574-00			SWITCH,PUSH:SPDT,10A,250VAC	04426	76-2351-404
V315	154-0857-00			ELECTRON TUBE:CRT,HI-RESOLN COLOR	000KL	220DB22
W81	175-4097-00			CABLE ASSY,RF:50 OHM COAX,12.0 L,9-0	80009	175-4097-00
W100	179-2777-00			WIRING HARNESS:POWER	80009	179-2777-00
W100	----- 198-4688-00			(FRONT FAN TO INTRCON BD & REAR FAN DAS 9109 ONLY) WIRE SET,ELEC:	80009	198-4688-00
W101	----- 198-4689-00			(VOLTAGE SLIDE SW TO J105 MAIN INTERCONNECT BD DAS 9129 ONLY) WIRE SET,ELEC:	80009	198-4689-00
W110	----- 179-2869-00			(LINE SELECTER SW TO J110 ON W110) WIRING HARNESS:POWER SWITCH	80009	179-2869-00
W112	----- 198-4691-00			(POWER SW TO P110 ON W101) WIRE SET,ELEC:	80009	198-4691-00
W119	----- 198-4690-00			(FRONT FAN TO J419 ON MAIN INTCON BD) WIRE SET,ELEC:	80009	198-4690-00
	-----			(DEGAUSSING SW TO J119 ON MAIN INTCON BD DAS 9129 ONLY)		

Replaceable Electrical Parts
DAS 9100 Series Service Vol.II

Component No.	Tektronix Part No.	Serial/Model No. Eff	Dscont	Name & Description	Mfr Code	Mfr Part Number
W121	198-4685-00			WIRE SET,ELEC: (J125 ON MAIN INTRCON BD TO J101 ON CAP BRKT BD)	80009	198-4685-00
W150	175-4097-00			CABLE ASSY,RF:50 OHM COAX,12.0 L,9-0 (J72 ON MAIN INTRCON BD TO WORD BNC)	80009	175-4097-00
W151	175-5703-00			CABLE ASSY,RF:50 OHM COAX, 13.0 L,9-1 (J75 ON MAIN INTRCON BD TO TRIG INP BNC)	80009	175-5703-00
W155	198-4686-00			WIRE SET,ELEC: (Q155 TO J155 MAIN PWR SPLY BD)	80009	198-4686-00
W165	198-4687-00			WIRE SET,ELEC: (Q160,Q165,Q170 TO J165 MAIN PWR SPLY BD)	80009	198-4687-00
W320	198-4652-00			WIRE SET,ELEC:	80009	198-4652-00
W351	175-3868-00			(P320 ON Z-AXIS BD TO J320 ON SOCKET BD) CA ASSY,SP,ELEC:5,22 AWG,10.0L,RIBBON (J351 ON SERVO BD TO J425 ON MAIN INTRCON BD)	80009	175-3868-00
W367	175-4383-00			CA ASSY,SP,ELEC:8,22 AWG,26.0L,RIBBON (MOTOR EXTENSION TO J367 ON SERVO BD)	80009	175-4383-00
W400	175-3867-00			CA ASSY,SP,ELEC:10,26 AWG,8.0L,RIBBON (J400 ON DATA BD TO J131 ON SERVO BD)	80009	175-3867-00
W415	175-3864-00			CA ASSY,SP,ELEC:3,26 AWG,7.0L,RIBBON (J415 ON DATA BD TO J131 ON SERVO BD)	80009	175-3864-00
W420	175-3095-00			CA ASSY,SP,ELEC:8,26 AWG,3.0L,RIBBON (J2 ON STATUS BD TO J420 ON DATA BD)	80009	175-3095-00
W421	175-4522-00			CA ASSY,SP,ELEC:10,22 AWG,8.0 L,RIBBON (J421 ON MAIN INTRCON BD TO P2 ON DISPLAY BD 9109 ONLY)	80009	175-4522-00
W422	175-4522-00			CA ASSY,SP,ELEC:10,22 AWG,8.0 L,RIBBON (J422 ON MAIN INTRCON BD TO DEFL BD DAS 9109 ONLY)	80009	175-4522-00
W422	198-4651-00			WIRE SET,ELEC: (J615 ON DEFL BD TO J422 ON MAIN INTRCON BD DAS 9129 ONLY)	80009	198-4651-00
W423	175-3672-00			CA ASSY,SP,ELEC:16,28 AWG,16.5 L (J429 ON MAIN INTRCON BD TO KEYBOARD)	80009	175-3672-00
W440	175-3865-00			CA ASSY,SP,ELEC:5,26 AWG,4.0L,RIBBON (J440 ON DATA BD TO TAPE DRIVE HSG)	80009	175-3865-00
W470	198-4403-00	B010100	B020219	WIRE SET,ELEC:(9109 ONLY) (J470 ON DATA BD TO MAIN INTRCON BD)	80009	198-4403-00
W470	198-4403-00	B020220		WIRE SET,ELEC:(9109 ONLY) (J470 ON DATA BD TO MAIN INTRCON BD)	80009	198-4403-00
W470	198-4403-00	B010100	B020239	WIRE SET,ELEC:(9129 ONLY)	80009	198-4403-00
W470	198-4403-00	B020240		(J470 ON DATA BD TO MAIN INTRCON BD) WIRE SET,ELEC:(9129 ONLY) (J470 ON DATA BD TO MAIN INTRCON BD)	80009	198-4403-00
W524	198-4457-00			WIRE SET,ELEC: (J524 ON +5 PWR BD TO R720)	80009	198-4457-00
W645	175-5700-00			CA ASSY,SP,ELEC:3,26 AWG,30.0L,RIBBON (BRIGHTNESS SW TO J645 ON DEFL BD DAS 9129 ONLY)	80009	175-5700-00
W650	175-4779-00			CA ASSY,SP,ELEC:7,26 AWG,7.0L,RIBBON (J650 ON DEFL BD TO J301 ON SOCKET BD)	80009	175-4779-00
V315	154-0857-00	B010100	B020179	ELECTRON TUBE:CRT,HI-RESOLN COLOR	000KL	220DB22
V315	154-0857-01	B020180		ELECTRON TUBE:CRT,HI-RESOLN COLOR	000KL	220DB22



DIAGRAMS AND CIRCUIT BOARD ILLUSTRATIONS

Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2-1975.

Logic symbology is based on ANSI Y32.14-1973 in terms of positive logic. Logic symbols depict the logic function performed and may differ from the manufacturer's data.

The overline on a signal name indicates that the signal performs its intended function when it is in the low state.

Abbreviations are based on ANSI Y1.1-1972.

Other ANSI standards that are used in the preparation of diagrams by Tektronix, Inc. are:

- Y14.15, 1966 Drafting Practices.
Y14.2, 1973 Line Conventions and Lettering.
Y10.5, 1968 Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering.

American National Standard Institute
1430 Broadway
New York, New York 10018

Component Values

Electrical components shown on the diagrams are in the following units unless noted otherwise:

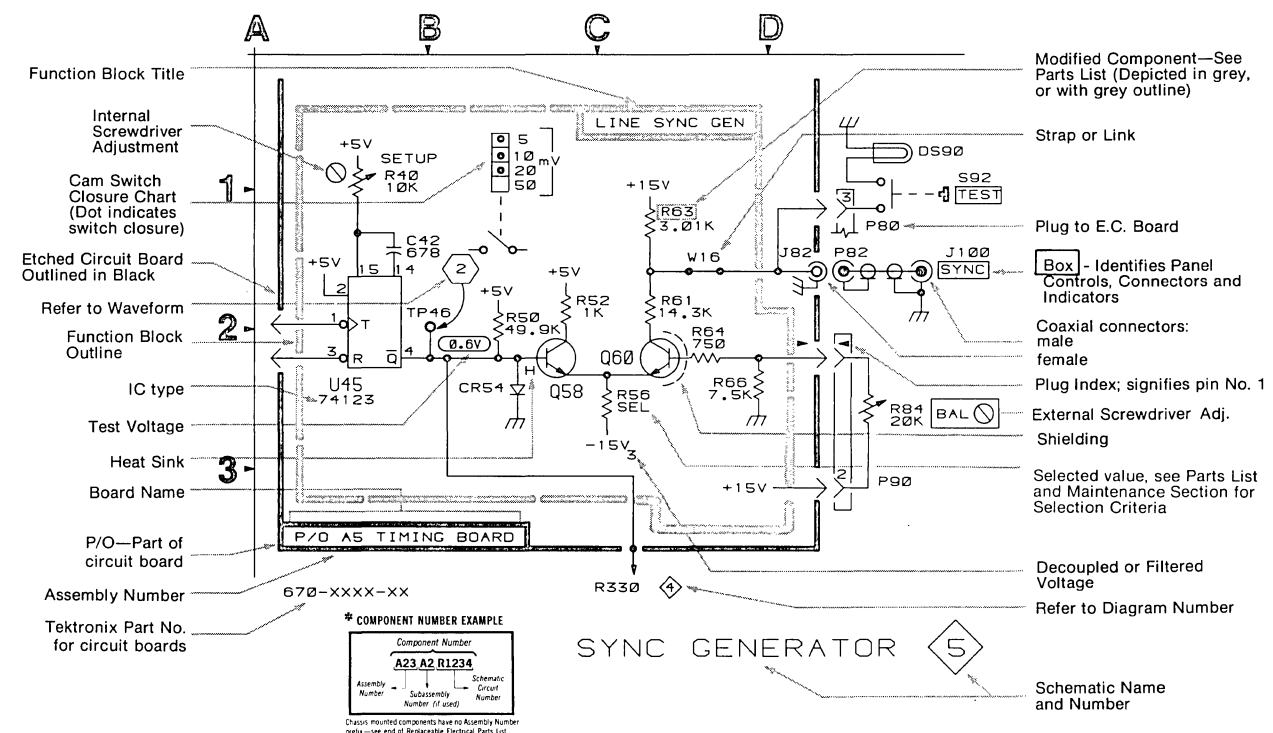
- Capacitors = Values one or greater are in picofarads (pF).
Values less than one are in microfarads (μ F).
Resistors = Ohms (Ω).

The information and special symbols below may appear in this manual.

Assembly Numbers and Grid Coordinates

Each assembly in the instrument is assigned an assembly number (e.g., A20). The assembly number appears on the circuit board outline on the diagram, in the title for the circuit board component location illustration, and in the lookup table for the schematic diagram and corresponding component locator illustration. The Replaceable Electrical Parts list is arranged by assemblies in numerical sequence; the components are listed by component number *(see following illustration for constructing a component number).

The schematic diagram and circuit board component location illustration have grids. A lookup table with the grid coordinates is provided for ease of locating the component. Only the components illustrated on the facing diagram are listed in the lookup table. When more than one schematic diagram is used to illustrate the circuitry on a circuit board, the circuit board illustration may only appear opposite the first diagram on which it was illustrated; the lookup table will list the diagram number of other diagrams that the circuitry of the circuit board appears on.



COLORS ON SCHEMATICS

Introduction

Some of the schematics in this section are color-coded. This coding indicates the flow of the self-diagnostic tests contained in the DAS. Each separate color stands for an individual diagnostic function. The correlation between colors and functions is indicated in the legend at the lower left corner of each color schematic.

PARTS OF THE COLOR SCHEMATICS

There are three parts to each color schematic in this manual:

- **Color.** The color follows the lines of the schematics that are first used by a diagnostic function.
- **Legend.** The legend makes the correlation between colors and specific diagnostic functions.
- **Function Tags.** The function tag at the beginning and end of each colored line indicates all functions that are present on the line.

The colors on the schematics indicate the presence of a diagnostic self-test at the point the color is present. The specific color at any point on the schematic indicates only the first diagnostic function that is run at that point on the board. (This has been done to avoid possible confusion arising from trying to show multiple colors on a single line.)

Note, however, that if the diagnostic test functions are run in the recommended sequence, then any circuitry that was tested by a previous test is not shown in the color of the most recent test. Only the new circuitry that is tested by a diagnostic function is indicated in the colors of the schematics.

NOTE

Any color will always stand for the same test on all schematics for one board. That same color may be used on schematics for another board and signify an entirely different diagnostic test function. Colors are consistent on any one board, but do not try to relate colors on one board to colors on another board — there is no correlation.

To indicate which colors correspond to each diagnostic test, there is a legend near the lower left corner of the schematic. Refer to this legend whenever the DAS self-diagnostics are used to troubleshoot a board. On any schematic or set of schematics for a board, one color always stands for the same diagnostic function.

At the point where a colored line enters or leaves a schematic, there is a note that refers to the functions on that line. Use these function tags when tracing the sources of diagnostic tests through the schematics or when looking for circuitry common to more than one test. All diagnostic functions that enter or leave the page at that point are indicated by the function tag.

USING THE COLOR IN TROUBLESHOOTING

The color on the schematics is designed exclusively as a troubleshooting aid. Three examples follow that show how the colors can be used to find circuit faults.

One Diagnostic Function Failure

Start the troubleshooting procedure by running all the DAS diagnostic functions on the board to be repaired. Suppose only one of the tests failed. Note the function that failed, and flip to the schematics for that board. Refer to the legend on the schematic page to see which color corresponds to the function that failed. Any point on the schematic that shows the color corresponding to the diagnostic function is the probable location of the failure.

Multiple Diagnostic Function Failures

Start the troubleshooting procedure by running all the DAS diagnostic functions on the board to be repaired. Suppose more than one of the tests failed. Note the functions that failed as well as the numbers of the functions. Flip to the schematics for the board to be repaired. Refer to the legend on the schematic page to find out which color corresponds to the diagnostic function with the lowest number.

Since more than one diagnostic function failed, the failure must be in circuitry that is common to all of the failed tests. This means the failure is on the color that corresponds to the lowest function number. Find the areas on the schematics that show that color. Now refer to the function tags at the beginnings and ends of lines of this color. Use the function tags to define an area in the failed color that contains all of the failed diagnostic functions. This area will probably be much smaller than the area covered by the selected color.

No Diagnostic Function Failures

When troubleshooting failures not detected by the diagnostics, first define the type of failure and the possible causes. Next, examine the white (uncolored) areas of the schematics that might contain this type of circuit fault. (You need only examine the white areas since all colored areas are covered by the diagnostics.)

TABLE 11-1
IC Pin Information

Device Type	VCC or VDD	GND	Device Type	VCC or VDD	GND
10016	1,16	8	74LS21	14	7
10101	1,16	8	74LS27	14	7
100101	9,10	21	74LS32	14	7
100102	9,10	21	74LS33	14	7
100107	9,10	21	74S38	14	7
100122	4,9,10,16,22	21	74LS74A	14	7
100131	9,10	21	74S74 (LS)	14	7
100136	9,10	21	74LS76	16	8
100141	9,10	21	74S112	14	7
100151	9,10	21	74S132 (LS)	14	7
100155	9,10	21	74S133	14	7
100164	9,10	21	74S138 (LS)	16	8
10101	1,16	8	74LS139	16	8
10102	1,16	8	74S151 (LS)	16	8
10103	1,16	8	74S153 (LS)	16	8
10104	1,16	8	74LS154	24	12
10105	1,16	8	74157(S) (LS)	16	8
10106	1,16	8	74S161 (LS)	16	8
10107	1,16	8	74LS163	16	8
10113	1,16	8	74LS166	16	8
10115	1,16	8	74S169	16	8
10123	1,16	8	74S174 (LS)	16	8
10131	1,16	8	74S175 (LS)	16	8
10135	1,16	8	74LS193	16	8
10136	1,16	8	74S196	14	7
10138	1,16	8	74S197 (LS)	14	7
10145	1,16	8	74S240 (LS)	20	10
10146	16	8	74LS241	20	10
10164	1,16	8	74LS244	20	10
10165	1,16	8	74LS245	20	10
10174	1,16	8	74LS273	20	10
10176	1,16	8	74LS273	20	10
10186	16	8	74LS283	16	8
10188	1,16	8	74LS373	20	10
10197	1,16	8	74LS379	16	8
10216	1,16	8	74LS390	16	8
10231	1,16	8	74LS393	14	7
11C01	4,5	12	74C374	20	10
1458	8	4	7555	8	1
1488	14	7	78L15	—	2
1489	14	7	8251A	26	4
1692	1,16	8	8257	31	20
2716	24	12	8275	40	20
2764	28	16	93422	22	8
4013 (B)	14	7	9914	40	20
4025	14	7	AM6080	20	10
6080	20	10	CD4066B	—	7
6500/1	30,1	12	DAC08	3,13	NONE
7071H	1,24	15	LM301	+12 V ₁	-12 V ₄
7072	20,21	11	LM308	7	—
74S00 (LS)	14	7	LM324	4	11
74S02 (LS)	14	7	LM339	3	12
7404A	14	7	LM393A	8	—
74S04 (LS)	14	7	LM393	8	4
74S05	14	7	LM358	8	4
7407	14	7	M218	13	4
74S08 (LS)	14	7	M223	27,39	19
74S10	14	7	MC3405	4	11
74S11 (LS)	14	7	MC3423	1	7
74LS14	14	7	MC3448	16	8
74S20 (LS)	14	7	MK36000	24	12

DAS 9100 Series

EXTERNAL CLOCK PROBE
 3 - 91A32 EXTERNAL CLOCKS
 1 - P.G. PAUSE
 1 - P.G. INHIBIT
 1 - P.G. CLK
 1 - P.G. INTERRUPT

DATA ACQUISITION PROBE
 8 - DATA CHANNELS
 1 - QUALIFIER

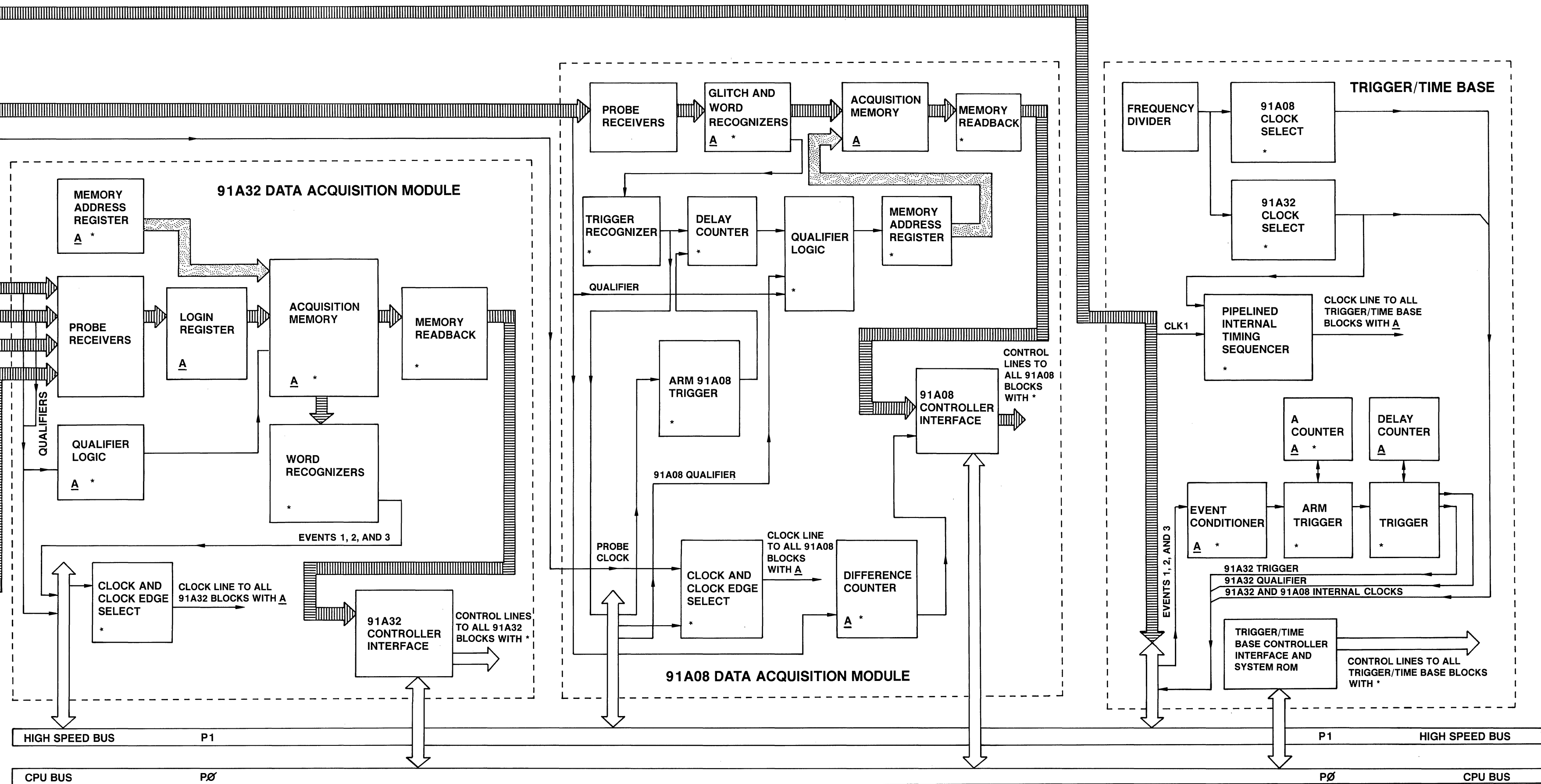
100 MHz
 CLOCK PROBE

DATA ACQUISITION PROBE A
 8 - DATA CHANNELS
 1 - QUALIFIER

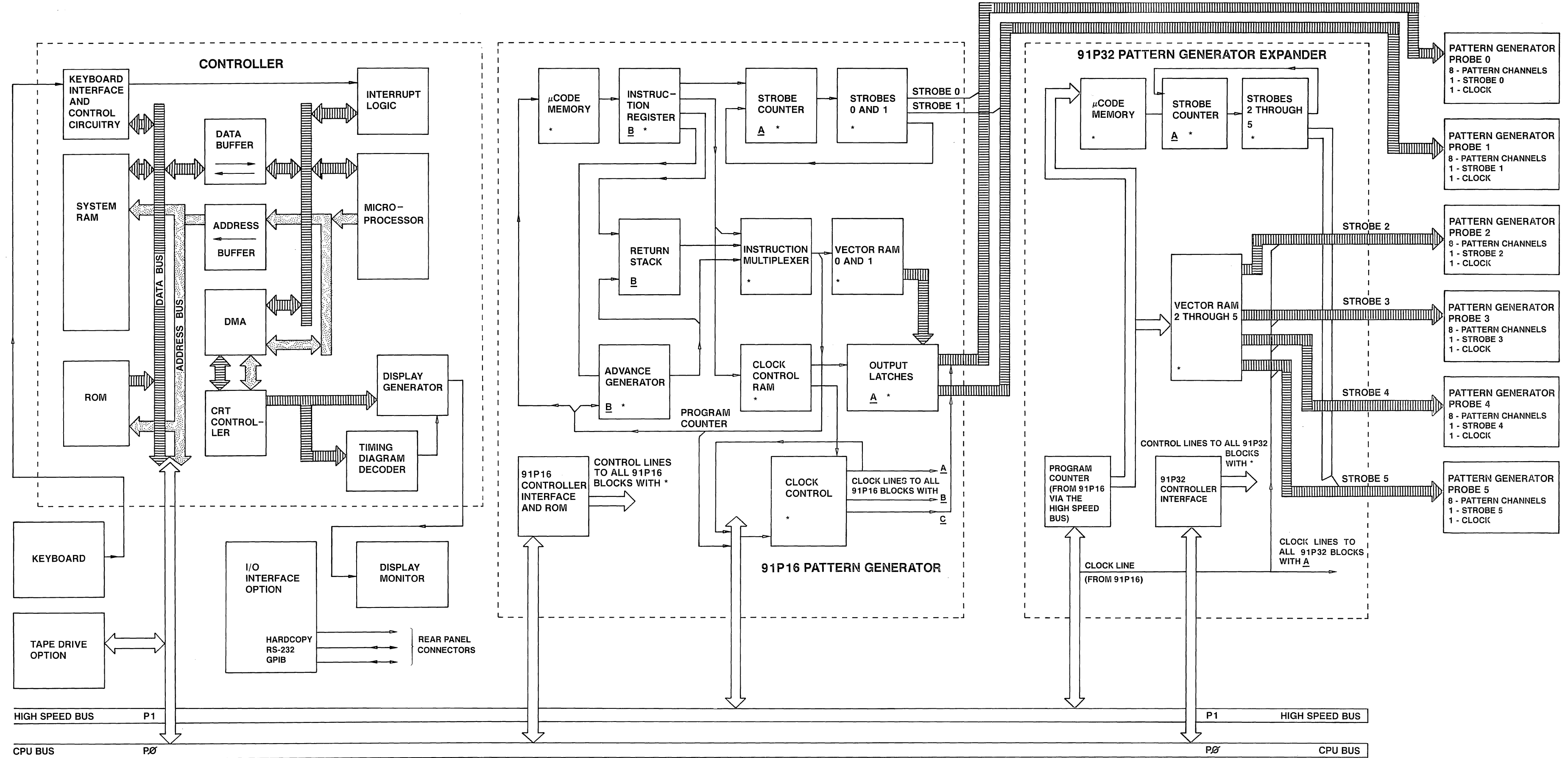
DATA ACQUISITION PROBE B
 8 - DATA CHANNELS
 1 - QUALIFIER

DATA ACQUISITION PROBE C
 8 - DATA CHANNELS
 NO QUALIFIER

DATA ACQUISITION PROBE D
 8 - DATA CHANNELS
 NO QUALIFIER



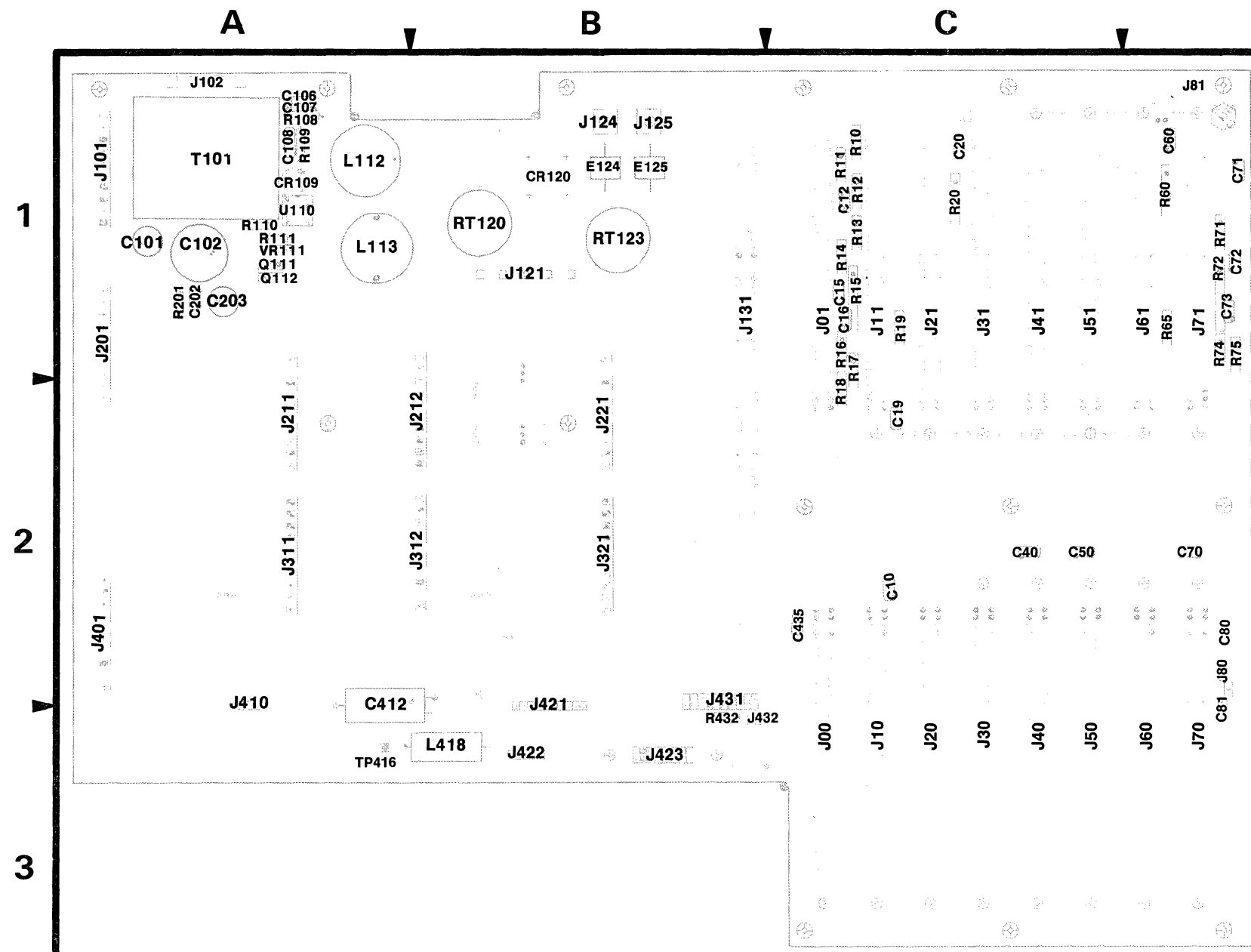
DAS 9100 SERIES SYSTEM BLOCK DIAGRAM PART A



BLOCK DIAGRAM B

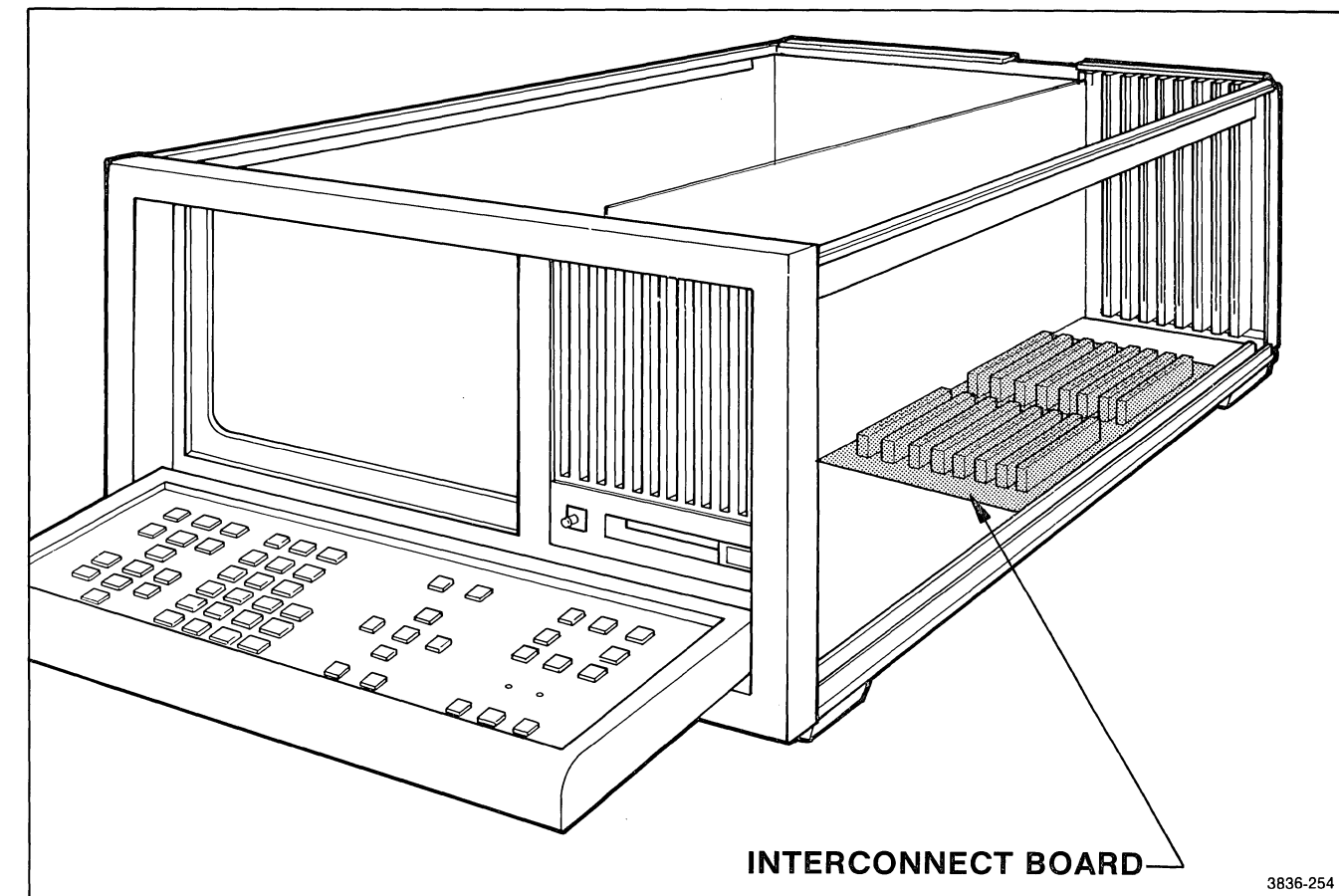
DAS 9100 SERIES SYSTEM BLOCK DIAGRAM PART B

A01 INTERCONNECT BOARD & COMPONENT LOCATIONS



3836-253

Figure 11-1M. A01 Interconnect Board Component Locations.

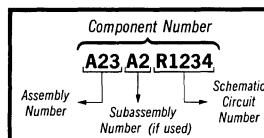


3836-254

Figure 11-2M. A01 Interconnect Board Location.

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-2M

INTERCONNECT BOARD M		
ASSEMBLY A01		
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C10	B1	C2
C40	C1	C2
C435	B3	C2
C50	E1	C2
C70	F3	D2
C80	F4	D2
C81	F5	D2
J00	A1	C3
J01	A5	C1
J01	A2	C1
J10	B1	C3
J101	A1	A1
J131	A4	B1
J20	C1	C3
J212	E1	B2
J30	C1	C3
J311	B1	A2
J321	D1	B2
J40	D1	C3
J423	A3	B3
J431	A4	B2
J50	E1	C3
J60	F1	D3
J70	F1	D3
J80	F4	D2

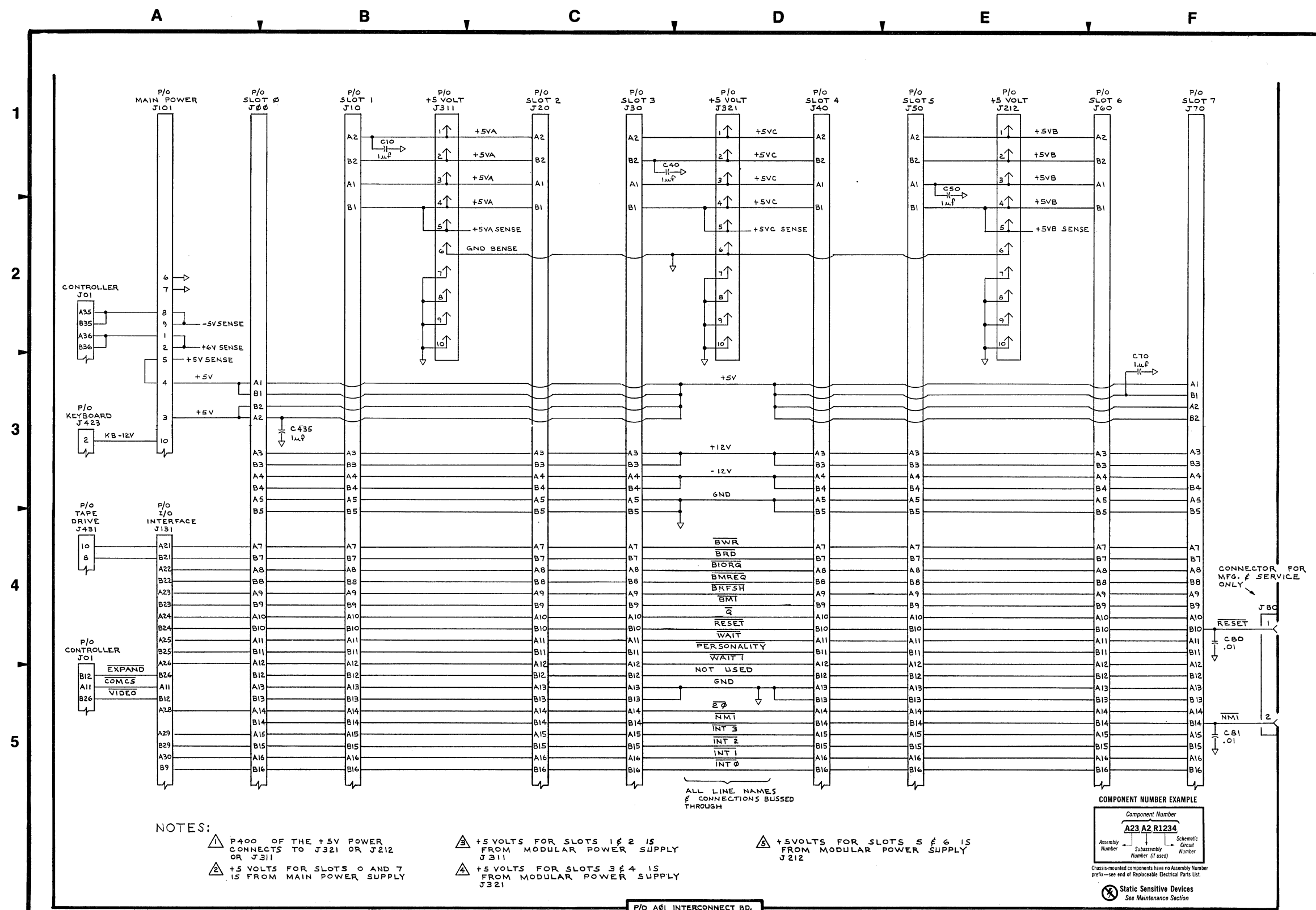


Table 11-3M

INTERCONNECT BOARD M 2

ASSEMBLY A01

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C412	A5	A2
J00	C1	C3
J01	B1	C1
J10	C1	C3
J131	C1	B1
J20	D1	C3
J30	D1	C3
J40	E1	C3
J421	A5	B2
J422	A4	B3
J423	A1	B3
J431	B1	B2
J432	A5	C3
J50	E1	C3
J60	F1	D3
J70	F1	D3
L418	A5	B3
R432	A5	B3

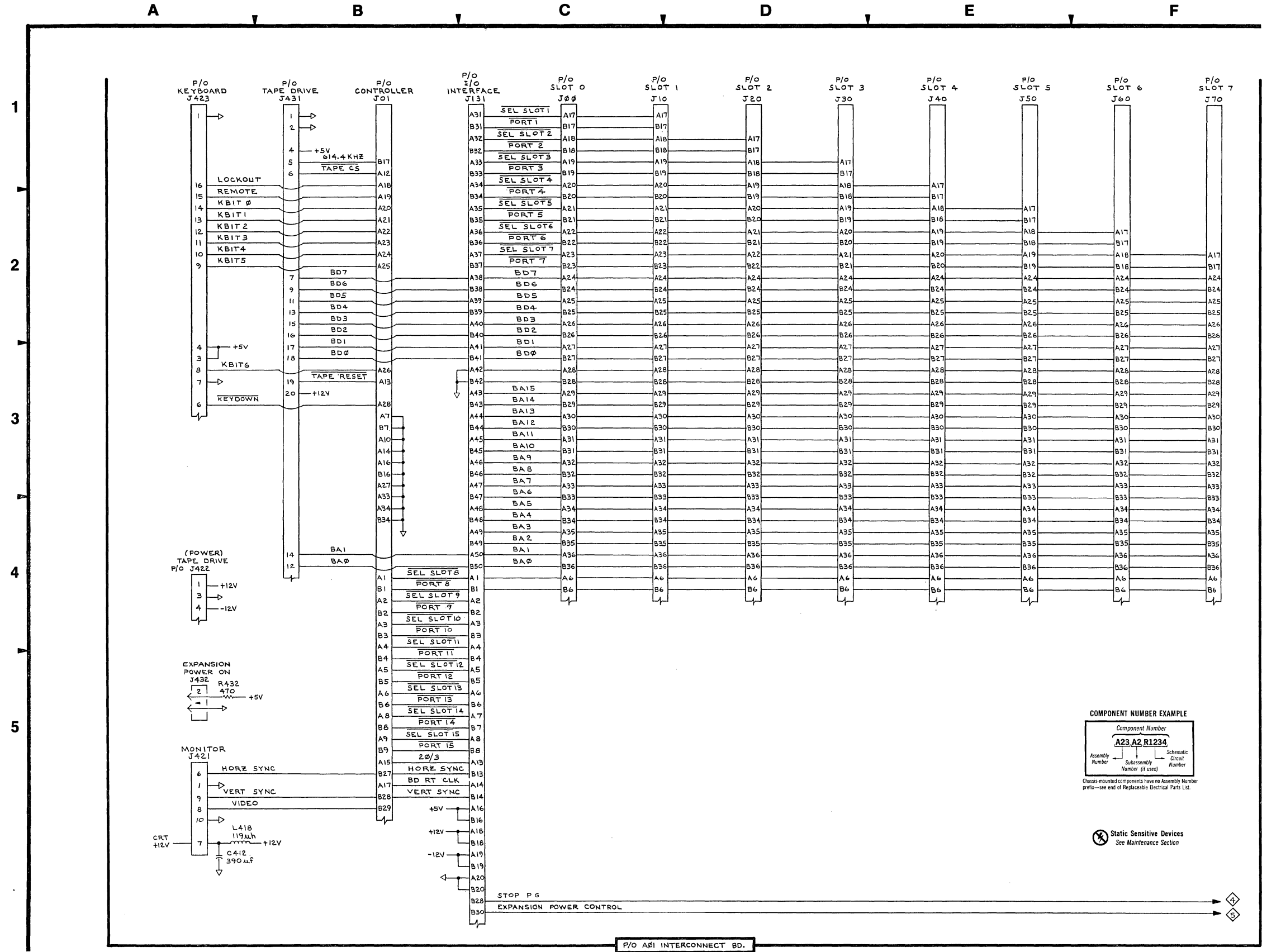


Table 11-4M

INTERCONNECT BOARD M 3

ASSEMBLY A01

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C12	A2	C1	R16B	A5	C1
C16	A4	C1	R16C	A5	C1
C19	A5	C2	R17A	A5	C1
C20	B2	C1	R17B	A4	C1
C60	E1	D1	R17C	A4	C1
C71	F3	D1	R18A	A4	C1
C73	F5	D1	R18B	A4	C1
J11	A1	C1	R18C	A5	C1
J21	B1	C1	R19A	A4	C1
J31	C1	C1	R19B	A4	C1
J41	C1	C1	R19C	A4	C1
J51	D1	C1	R20B	B2	C1
J61	E1	D1	R20C	B1	C1
J71	E1	D1	R20D	B1	C1
J81	F3	D1	R60C	E1	D1
R10A	A3	C1	R60D	E1	D1
R10B	A3	C1	R60E	F3	D1
R10C	A3	C1	R65A	F4	D1
R11A	A3	C1	R65B	F4	D1
R11B	A3	C1	R65C	F4	D1
R11C	A3	C1	R71A	F4	D1
R12A	A4	C1	R71B	F4	D1
R12B	A3	C1	R71C	F4	D1
R12C	A2	C1	R72E	F2	D1
R13A	A1	C1	R74A	F4	D1
R13B	A2	C1	R74B	F4	D1
R13C	A4	C1	R74C	F4	D1
R14A	A4	C1	R75A	F5	D1
R14B	A5	C1	R75B	F4	D1
R15F	A2	C1	R75C	F5	D1
R16A	A5	C1			

1
2
3
4
5

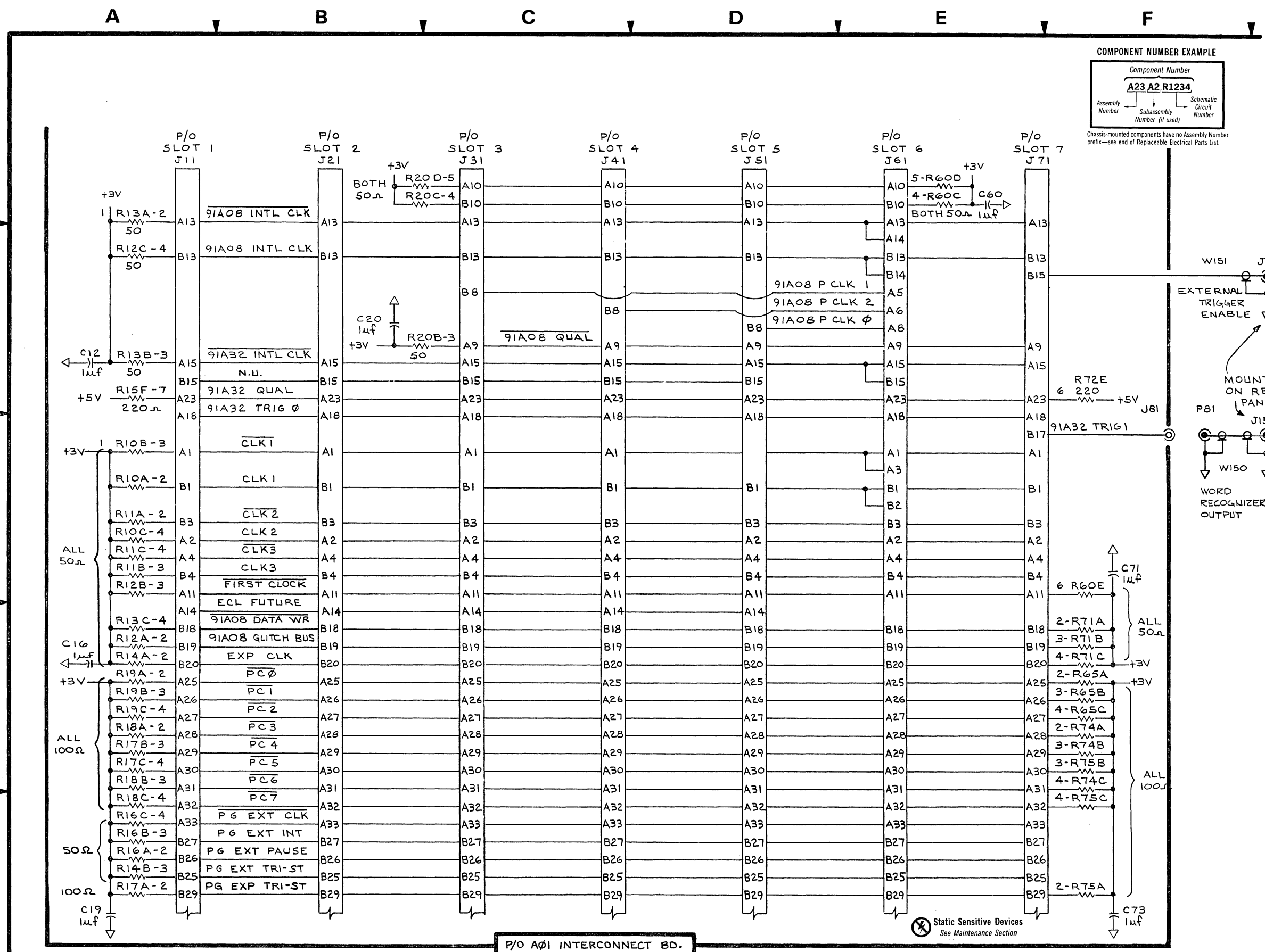
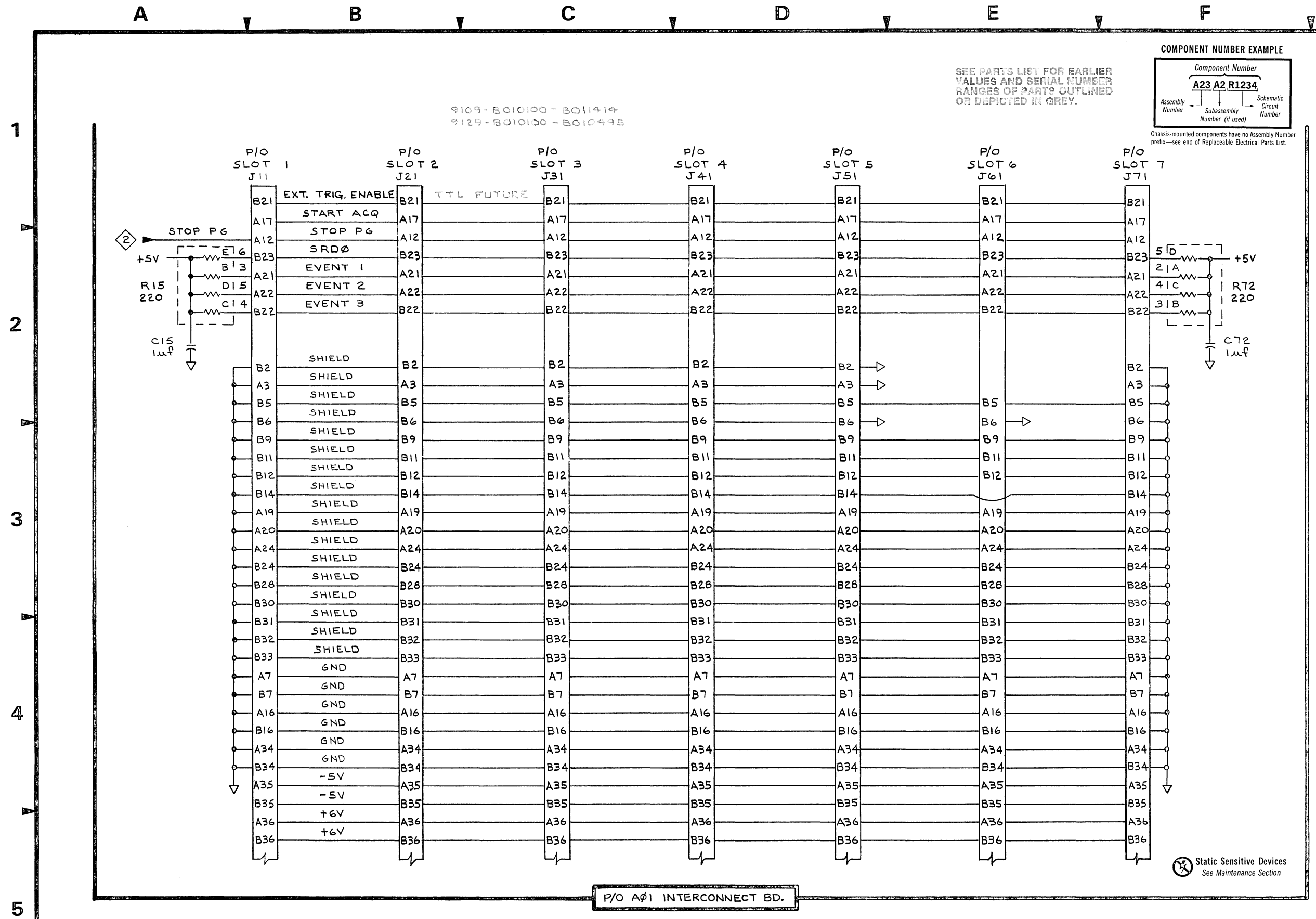
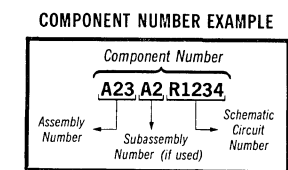


Table 11-5M

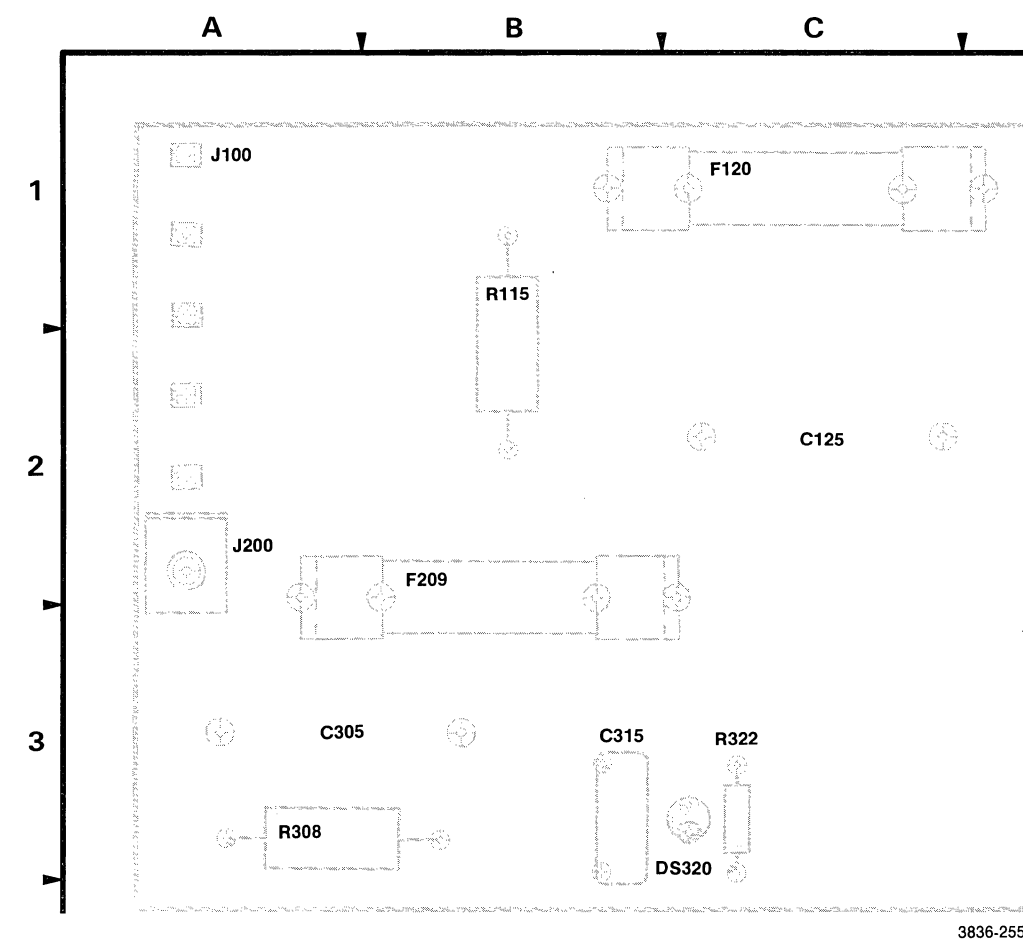
INTERCONNECT BOARD M 4		
ASSEMBLY A01		
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C15	A2	C1
C72	F2	D1
J11	B1	C1
J21	B1	C1
J31	C1	C1
J41	D1	C1
J51	D1	C1
J61	E1	D1
J71	F1	D1
R15B	A2	C1
R15C	A2	C1
R15D	A2	C1
R15E	A2	C1
R72A	F2	D1
R72B	F2	D1
R72C	F2	D1
R72D	F2	D1



SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

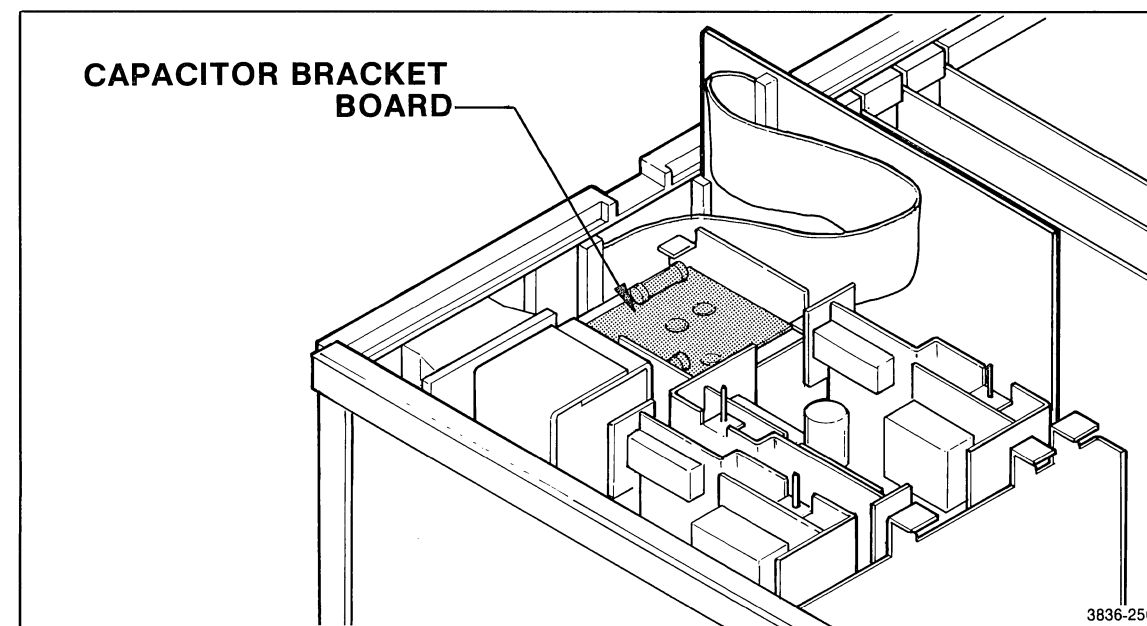


A25 CAPACITOR BRACKET BD.
BOARD & COMPONENT LOCATIONS



3836-255

Figure 11-3M. A25 Capacitor Bracket Board Component Locations.

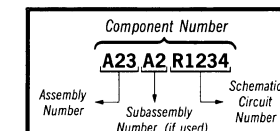


3836-256

Figure 11-4M. Capacitor Bracket Board Location.

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE

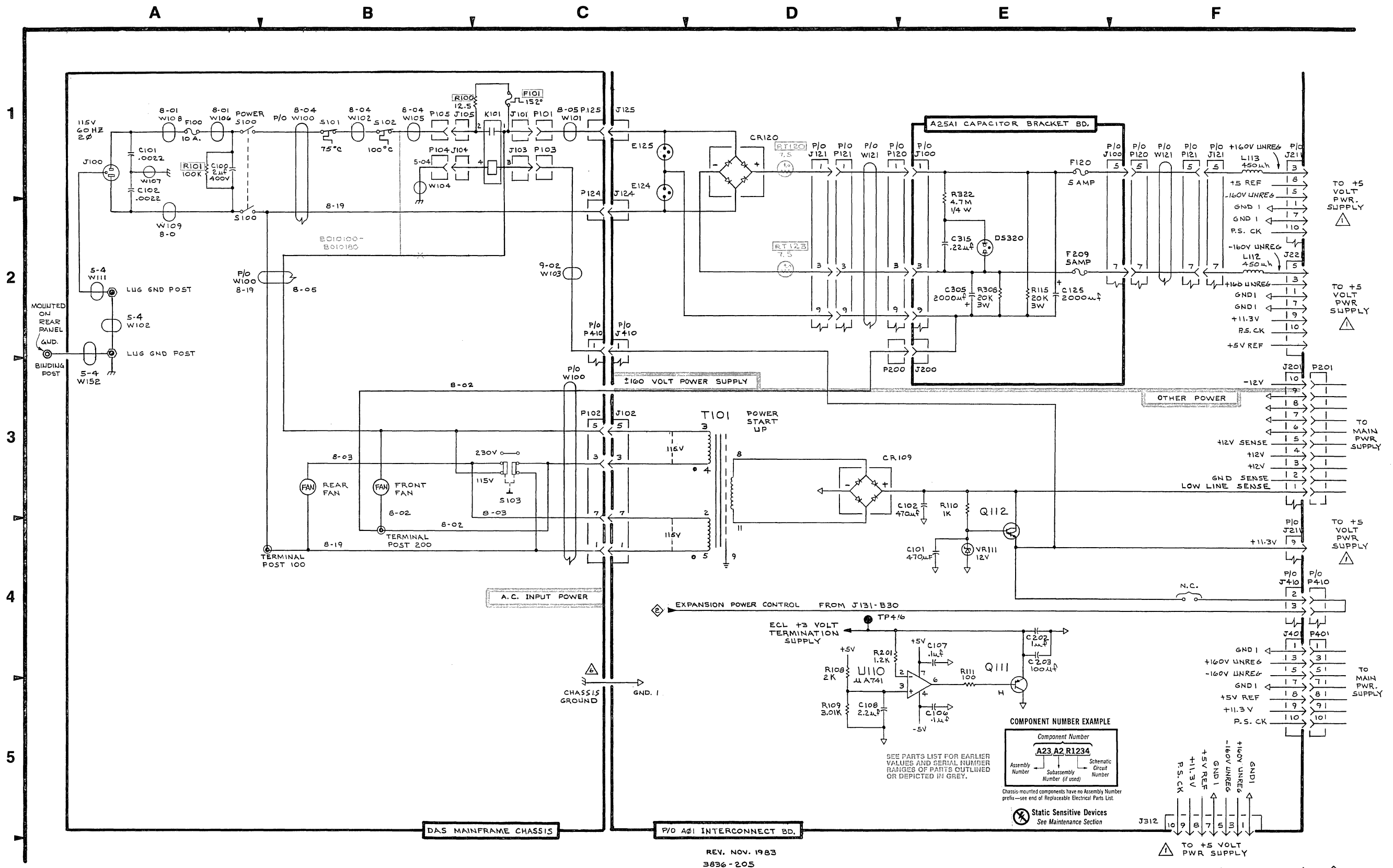


Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-6M

INTERCONNECT M 5					
ASSEMBLY A01					
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C100	A1	*	R109	D5	A1
C101	E4	A1	R110	E3	A1
C101	A1	*	R111	E5	A1
C102	E3	A1	R201	D4	A1
C102	A1	*	*** RT120	D1	B1
C106	E5	A1	*** RT123	D2	B1
C107	E4	A1	S100	A1	*
C108	D5	A1	S101	B1	*
C202	E4	A1	S102	B1	*
C203	E4	A1	S103	C3	*
CR109	D3	A1	T101	D3	A1
CR120	D1	B1	TP416	D4	A3
E124	C1	B1	U110	E5	A1
E125	C1	B1	VR111	E4	A1
F100	A1	*	W100	B2	*
*** F101	C1	*	W100	C3	*
J100	A1	*	W100	B1	*
J101	C1	A1	W101	C1	*
J101	C1	*	W102	A2	*
J102	C3	A1	W102	B1	*
J103	C1	*	W103	C2	*
J104	B1	*	W104	B1	*
J105	B1	*	W105	B1	*
J121	D1	B1	W106	A1	*
J121	F1	B1	W107	A1	*
J124	C1	B1	W108	A1	*
J125	C1	B1	W109	A2	*
J201	F3	A1	W111	A2	*
J211	F1	A2	W121	D1	**
J211	F4	A2	W121	F1	**
J221	F2	B2	CHASSIS GND	C5	*
J312	F5	B2	FRONT FAN	B3	*
J401	F4	A2	LUG GND POST	A2	*
J410	C2	A2	LUG GND POST	A2	*
J410	F4	A2	REAR FAN	B3	*
K101	C1	*	TERM POST 100	B4	*
L112	F2	A1	TERM POST 200	B4	*
L113	F1	A1	CAPACITOR BRACKET BOARD C5		
P100	D1	**	ASSEMBLY A3		
P100	F1	**			
P101	C1	*			
P102	C3	*			
P103	C1	*			
P104	B1	*			
P105	B1	*			
P121	D1	**	C103	E2	A1
P121	F1	**	C113	E2	C1
P121	F1	**	C114	E2	D1
P124	C2	*	DS120	E2	D1
P125	C1	*	F205	E1	A3
P200	D2	*	F215	E2	C3
P410	C2	*	J101	F1	B1
Q111	E5	A1	R111	E2	C1
Q112	E4	A1	R201	E1	A2
*** R100	B1	*	R203	E2	A2
R101	A1	*			
R108	D4	A1			

*MOUNTED ON MAINFRAME CHASSIS
 **TO CAPACITOR BRACKET BOARD
 *** SEE PARTS LISTS FOR SERIAL NUMBER RANGE



DAS 9100 SERIES

REV. NOV. 1983
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DAS 9109 INTERCONNECT +160V SUPPLY (MONOCHROME) M 5

P/O A01 & A25 INTERCONNECT M 5
±160 V SUPPLY

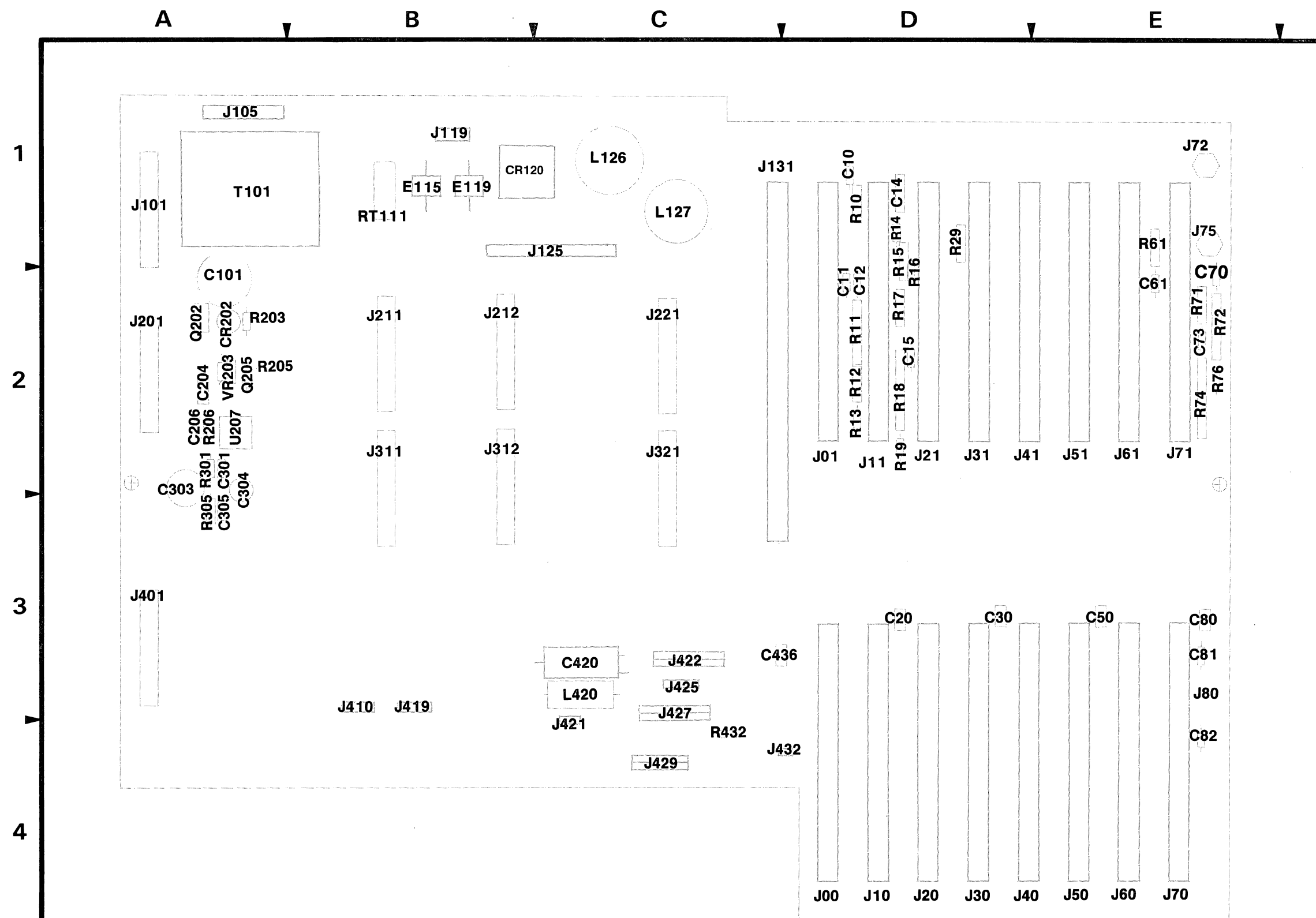


Figure 11-1C. A31 Interconnect Board Component Locations.

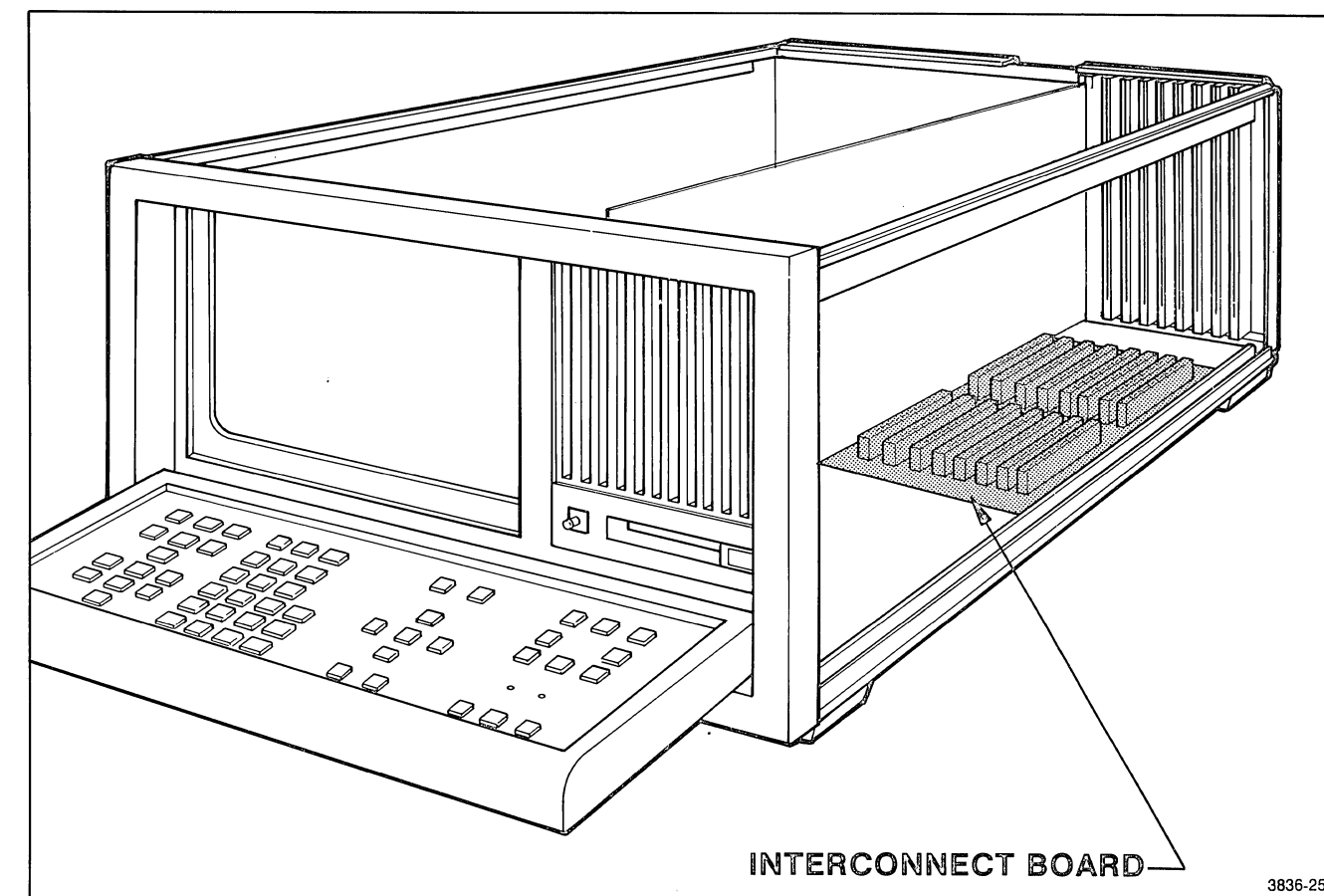
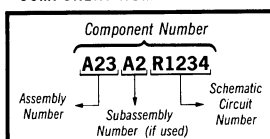


Figure 11-2C. A31 Interconnect Board Location.

A31 INTERCONNECT BOARD & COMPONENT LOCATIONS

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



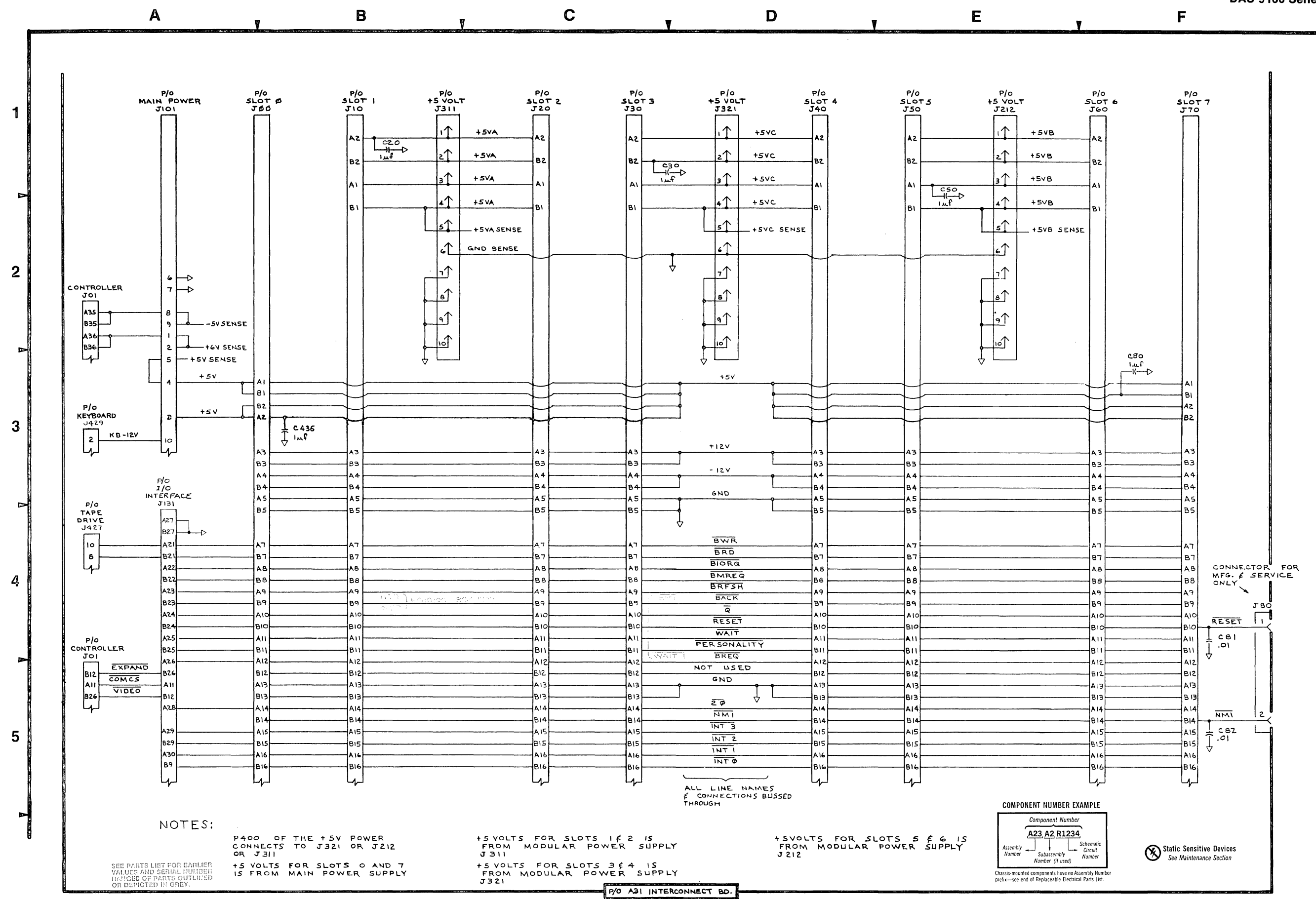
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

3836-232

3836-254

Table 11-2C
INTERCONNECT BOARD C 1
ASSEMBLY A31

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C20	B1	D3
C30	C1	D3
C436	B3	C3
C50	E1	E3
C80	F3	E3
C81	F4	E3
C82	F5	E3
J00	B1	D4
J10	B1	D4
J101	A1	A1
J131	A4	C1
J20	C1	D4
J212	E2	B2
J212	E1	B2
J30	C1	D4
J311	B2	B2
J311	B1	B2
J321	D1	C2
J40	D1	D4
J50	E1	E4
J60	F1	E4
J70	F1	E4
J80	F5	E3
J80	F4	E3



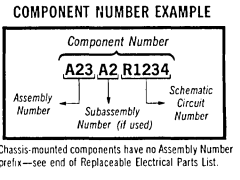
NOTES:

P400 OF THE +5V POWER CONNECTS TO J321 OR J212 OR J311.
 +5 VOLTS FOR SLOTS 0 AND 7 IS FROM MAIN POWER SUPPLY

+5 VOLTS FOR SLOTS 1 & 2 IS FROM MODULAR POWER SUPPLY J311
 +5 VOLTS FOR SLOTS 3 & 4 IS FROM MODULAR POWER SUPPLY J321

+5VOLTS FOR SLOTS 5 & 6 IS FROM MODULAR POWER SUPPLY J212

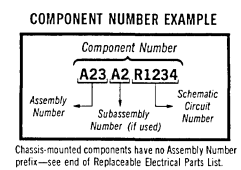
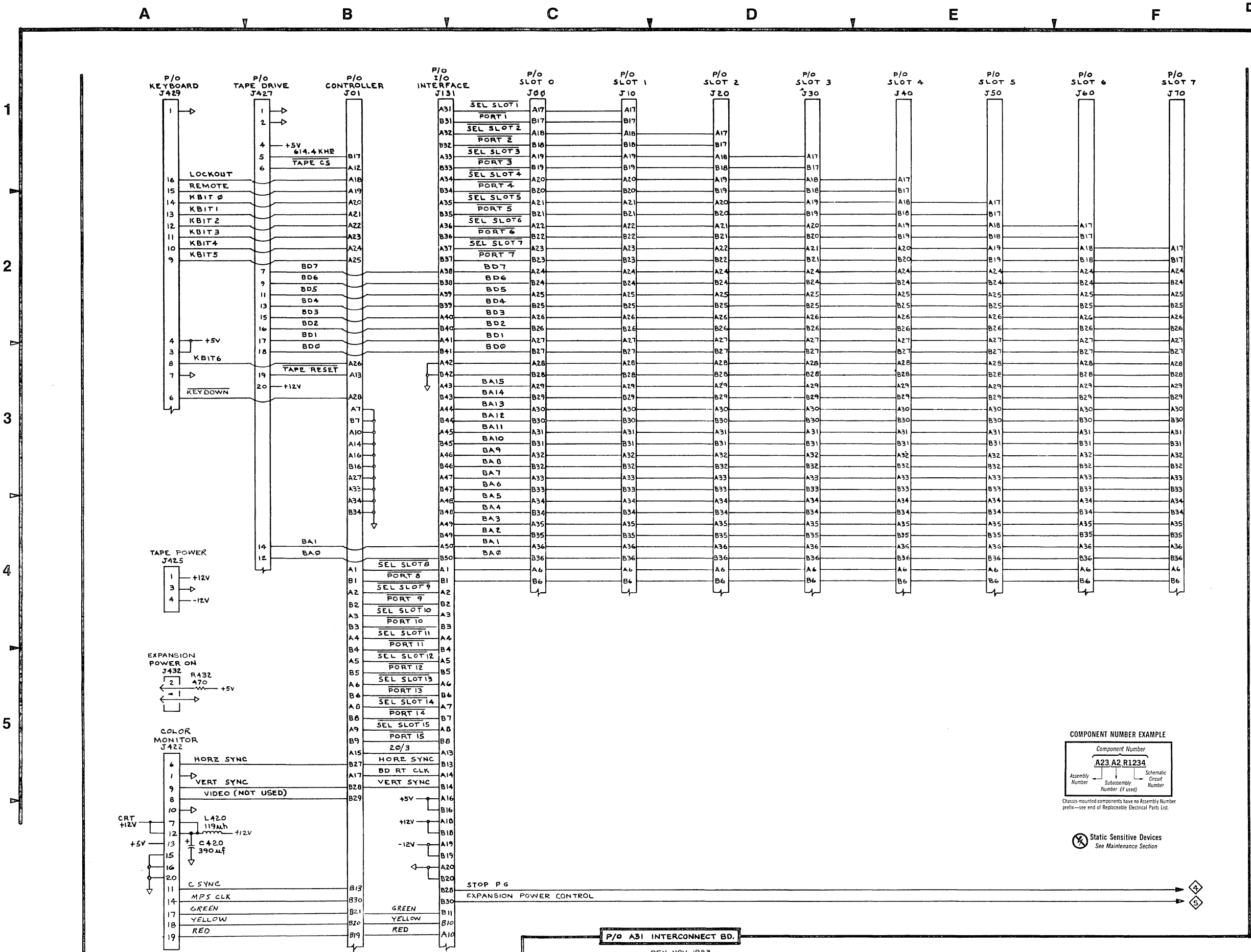
ALL LINE NAMES & CONNECTIONS BUSSED THROUGH



Static Sensitive Devices See Maintenance Section

Table 11-3C
INTERCONNECT BOARD C2
ASSEMBLY A31

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C420	A5	C3
J00	C1	D4
J01	B1	D2
J10	C1	D4
J20	D1	D4
J30	D1	D4
J40	E1	D4
J422	A5	C3
J425	A4	C3
J427	B1	C4
J429	A1	C4
J432	A5	C4
J50	E1	E4
J60	F1	E4
J70	F1	E4
L420	A5	C3
R432	A5	C4



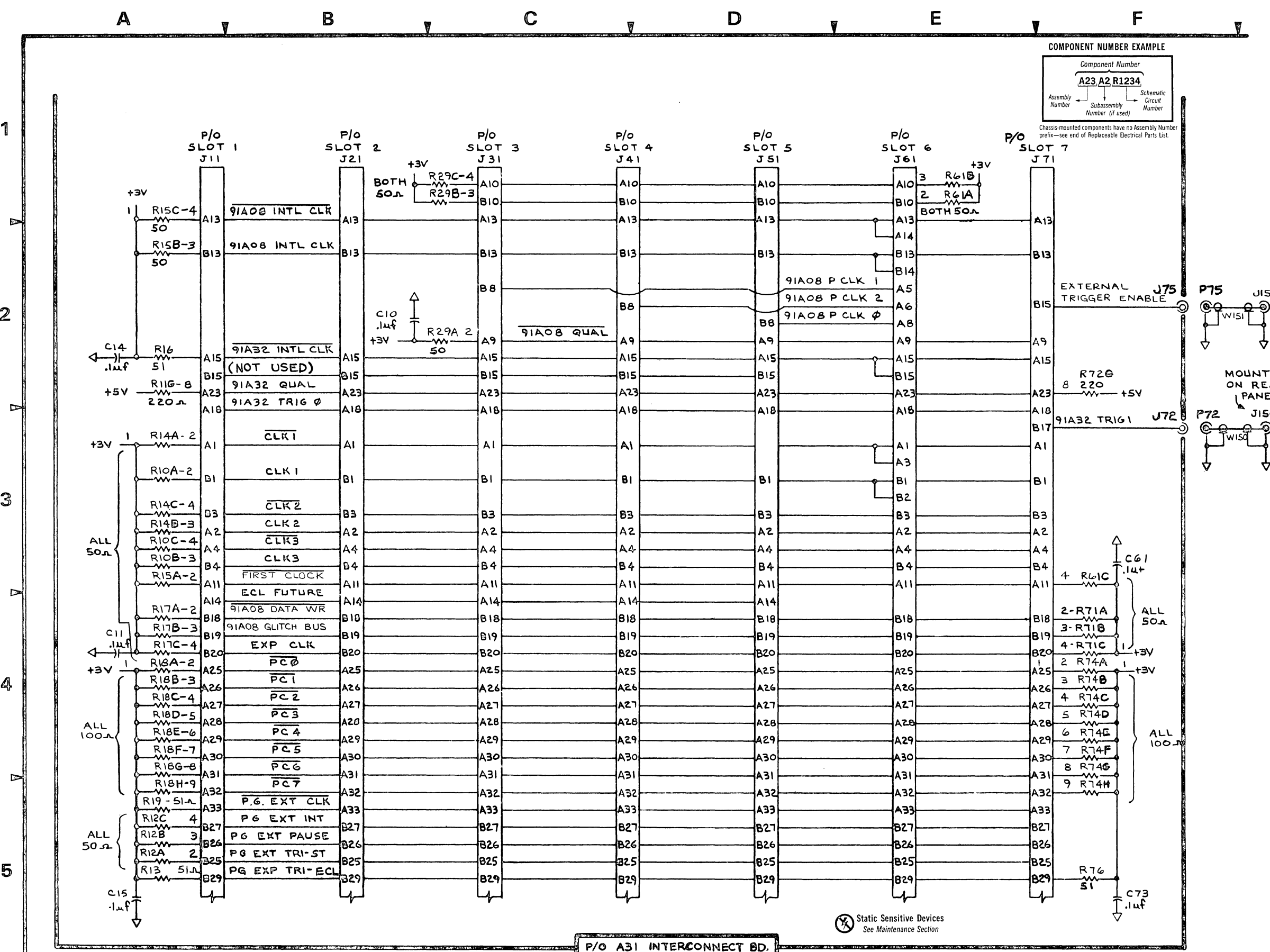
Static Sensitive Devices
See Maintenance Section

Table 11-4C

INTERCONNECT BOARD C

ASSEMBLY A31

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C10	B2	D1	R17C	A4	D2
C11	A4	D2	R18A	A4	D2
C14	A2	D1	R18B	A4	D2
C15	A5	D2	R18C	A4	D2
C61	F3	E2	R18D	A4	D2
C73	F5	E2	R18E	A4	D2
J11	A1	D2	R18F	A4	D2
J21	B1	D2	R18G	A4	D2
J31	C1	D2	R18H	A5	D2
J41	C1	D2	R19	A5	D2
J51	D1	E2	R29A	C2	D1
J71	F1	E2	R29B	C1	D1
R10A	A3	D1	R29C	C1	D1
R10B	A3	D1	R61A	E1	E1
R10C	A3	D1	R61B	E1	E1
R11G	A2	D2	R61G	F3	E1
R12A	A5	D2	R71A	F4	E2
R12B	A5	D2	R71B	F4	E2
R12C	A5	D2	R71C	F4	E2
R13	A5	D2	R72	F2	E2
R14A	A3	D1	R74A	F4	E2
R14B	A3	D1	R74B	F4	E2
R14C	A3	D1	R74C	F4	E2
R15A	A3	D1	R74D	F4	E2
R15B	A2	D1	R74E	F4	E2
R15C	A2	D1	R74F	F4	E2
R16	A2	D1	R74G	F4	E2
R17A	A4	D2	R74H	F5	E2
R17B	A4	D2	R76	F5	E2
			W150	F3	.
			W151	F2	.



DAS 9100 SERIES

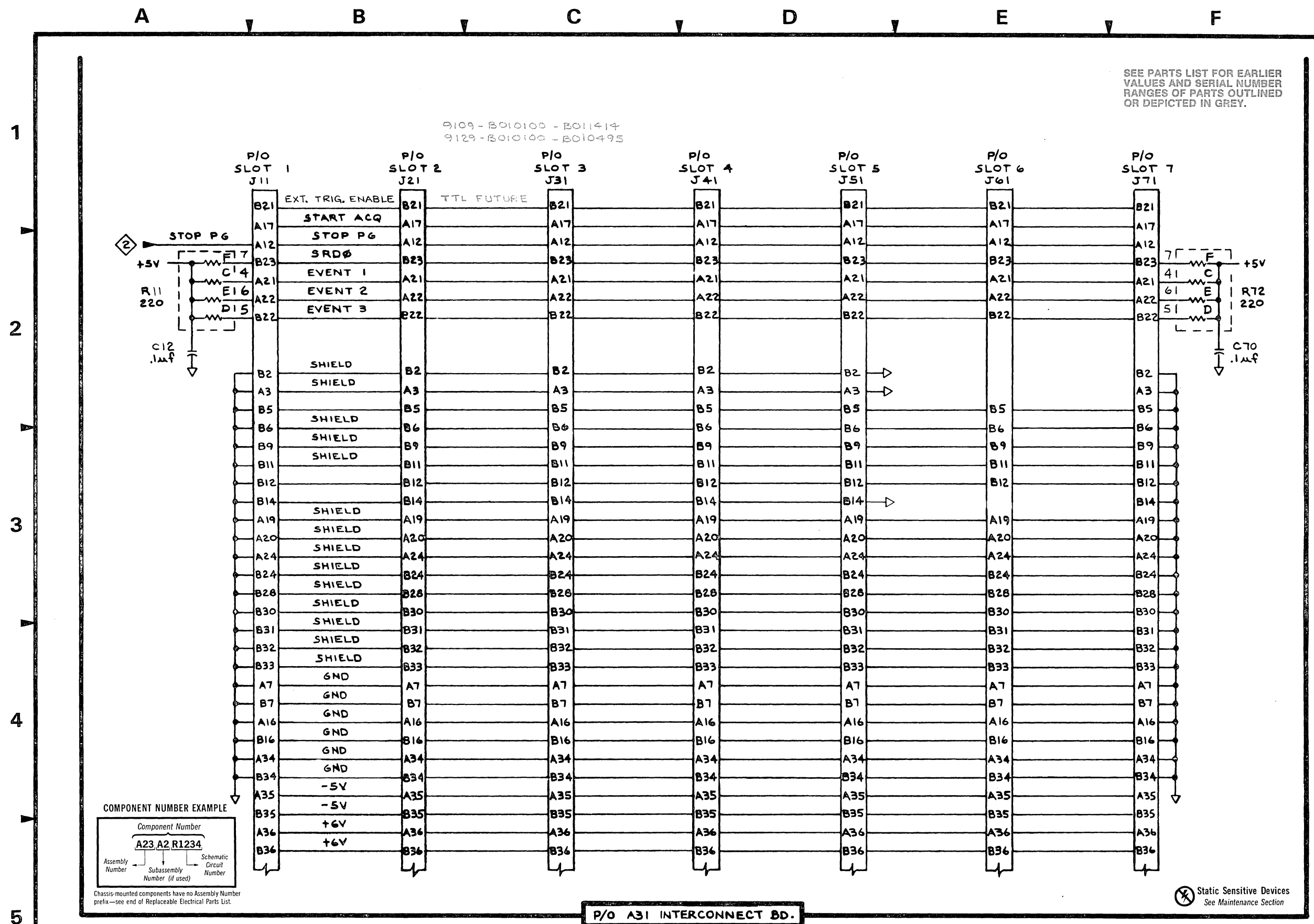
REV. NOV. 1983
(3836-203)
3836-602

DAS 9129 INTERCONNECT
HIGH SPEED BUS (COLOR) C
DAS 9109 INTERCONNECT
HIGH SPEED BUS (MONOCHROME) M

P/O A31 INTERCONNECT C

Table 11-5C

INTERCONNECT BOARD C		
ASSEMBLY A31		
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C12	A2	D2
C70	F2	E2
J11	B1	D2
J21	B1	D2
J31	C1	D2
J41	D1	D2
J51	D1	E2
J61	E1	E2
J71	F1	E2
R11C	A2	D2
R11D	A2	D2
R11E	A2	D2
R11F	A2	D2
R72C	F2	E2
R72D	F2	E2
R72E	F2	E2
R72F	F2	E2



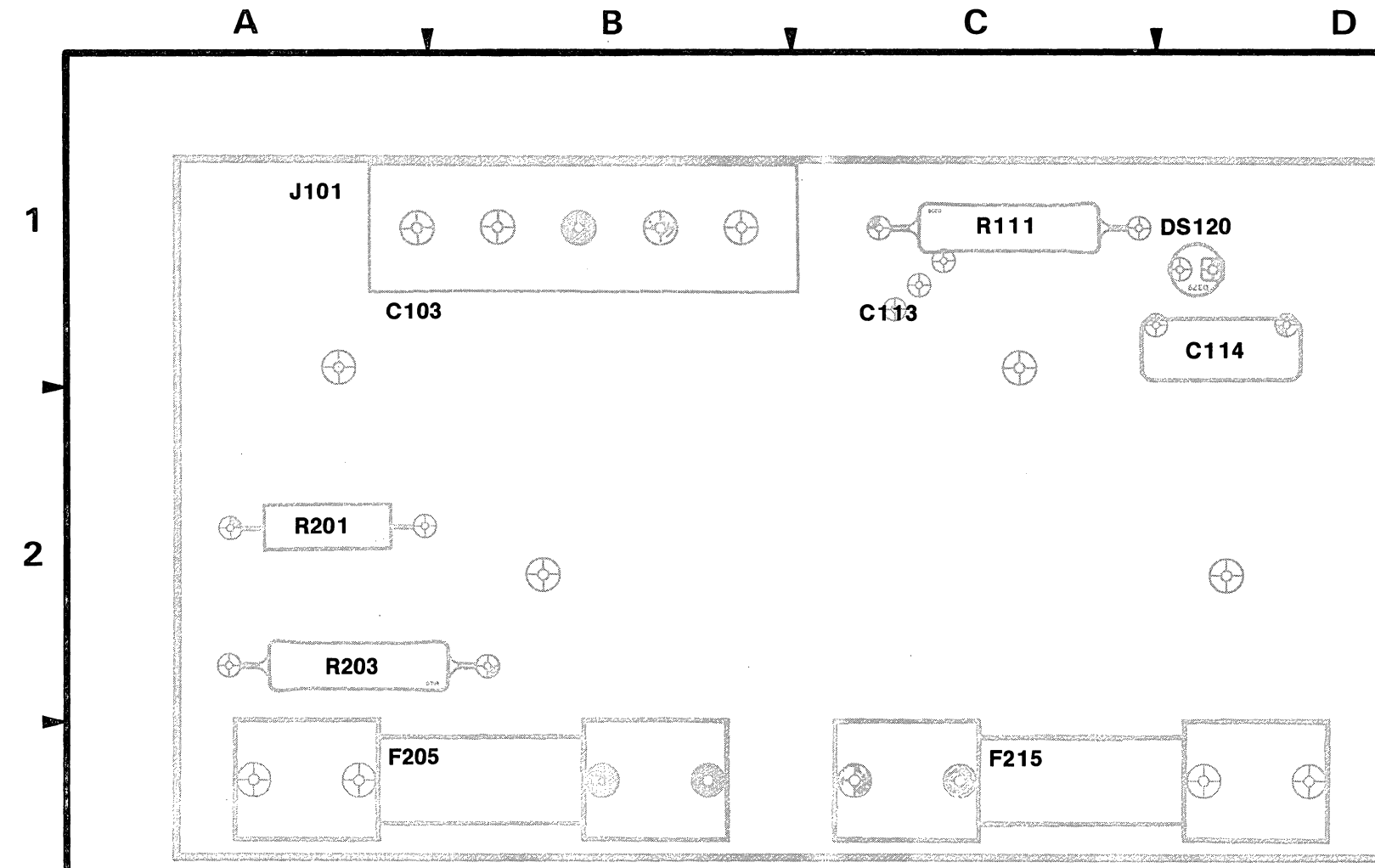


Figure 11-3C. Capacitor Bracket Board Component Locations.

3836-233

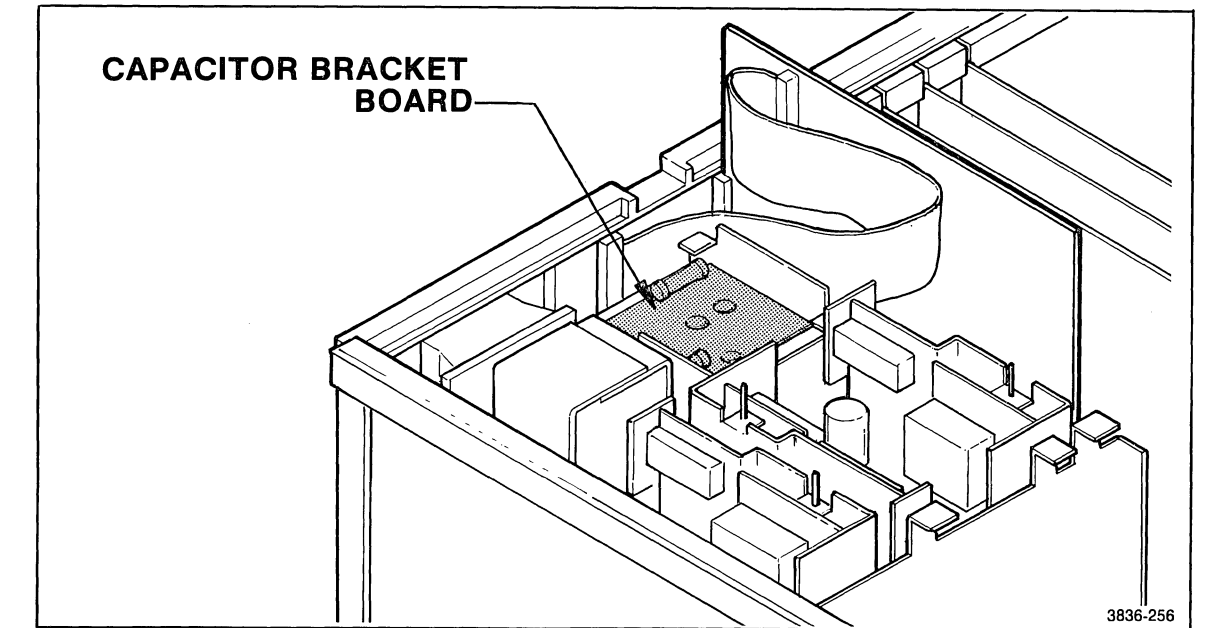
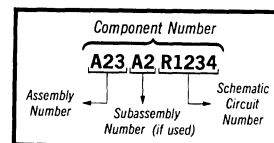


Figure 11-4C. Capacitor Bracket Board Location.

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

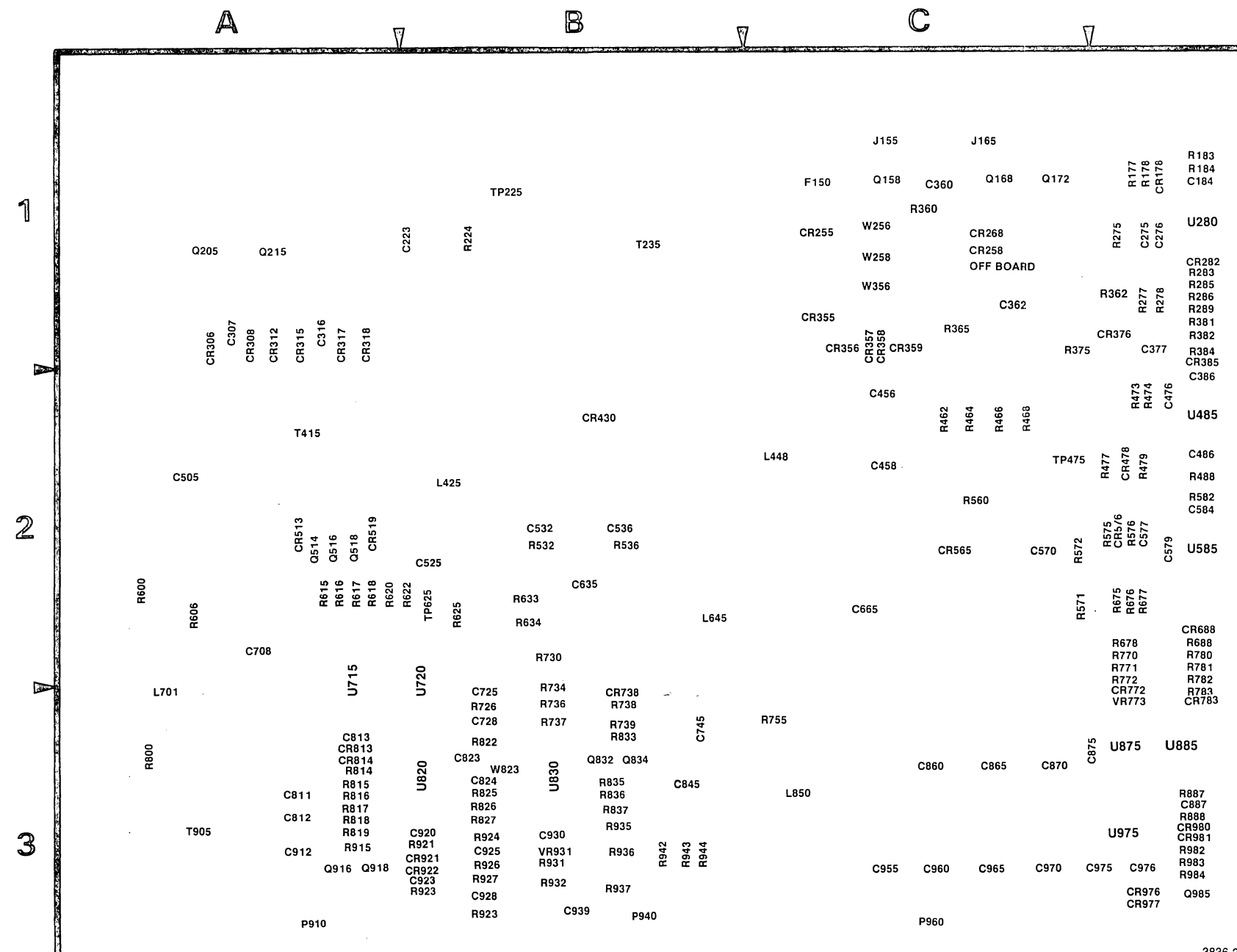


Figure 11-5. A02 Main Power Supply Component Locations.

3836-257
REV NOV 1983

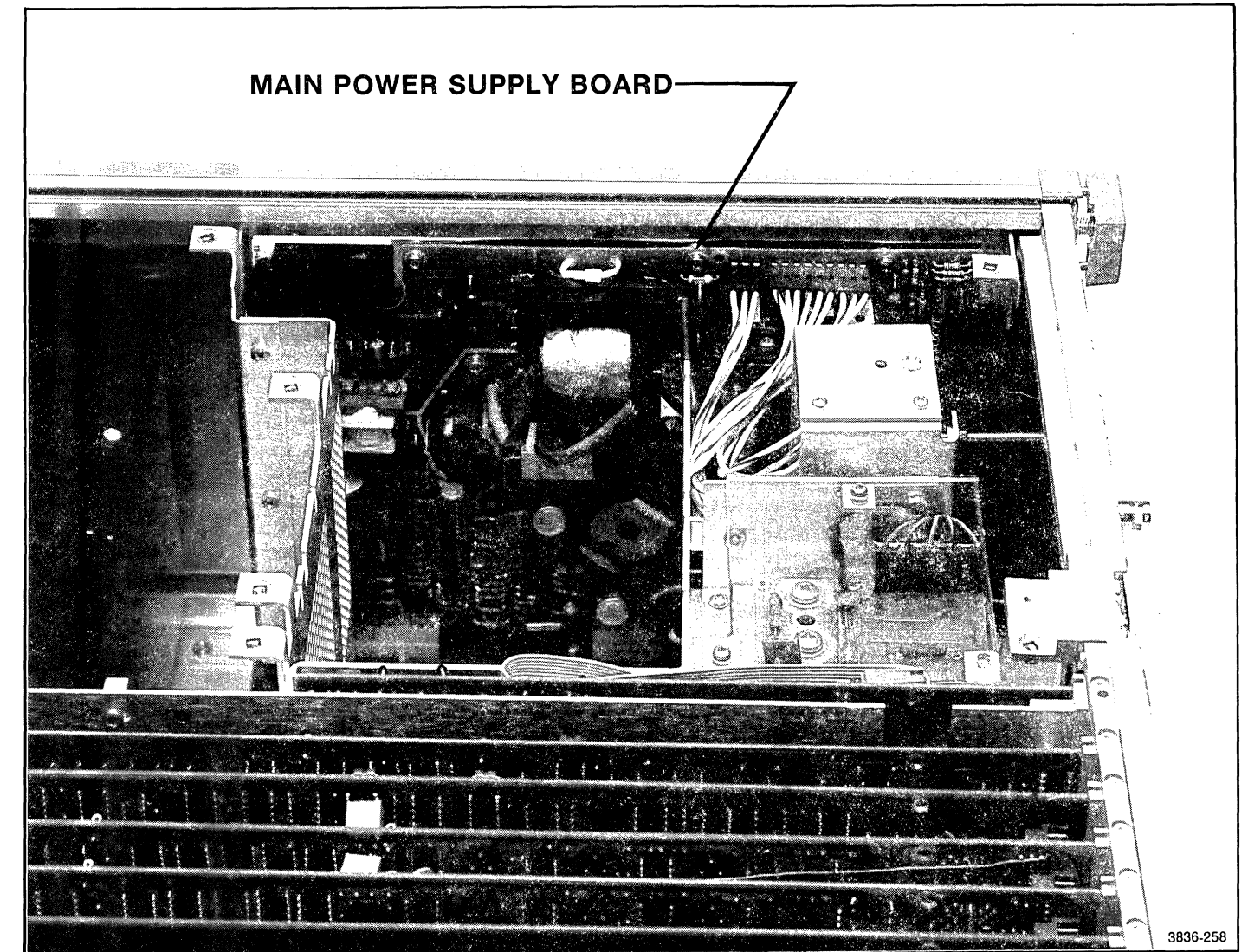
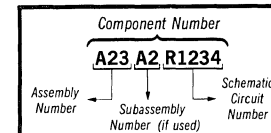


Figure 11-6. Main Power Supply Location.

⊗ Static Sensitive Devices
See Maintenance Section

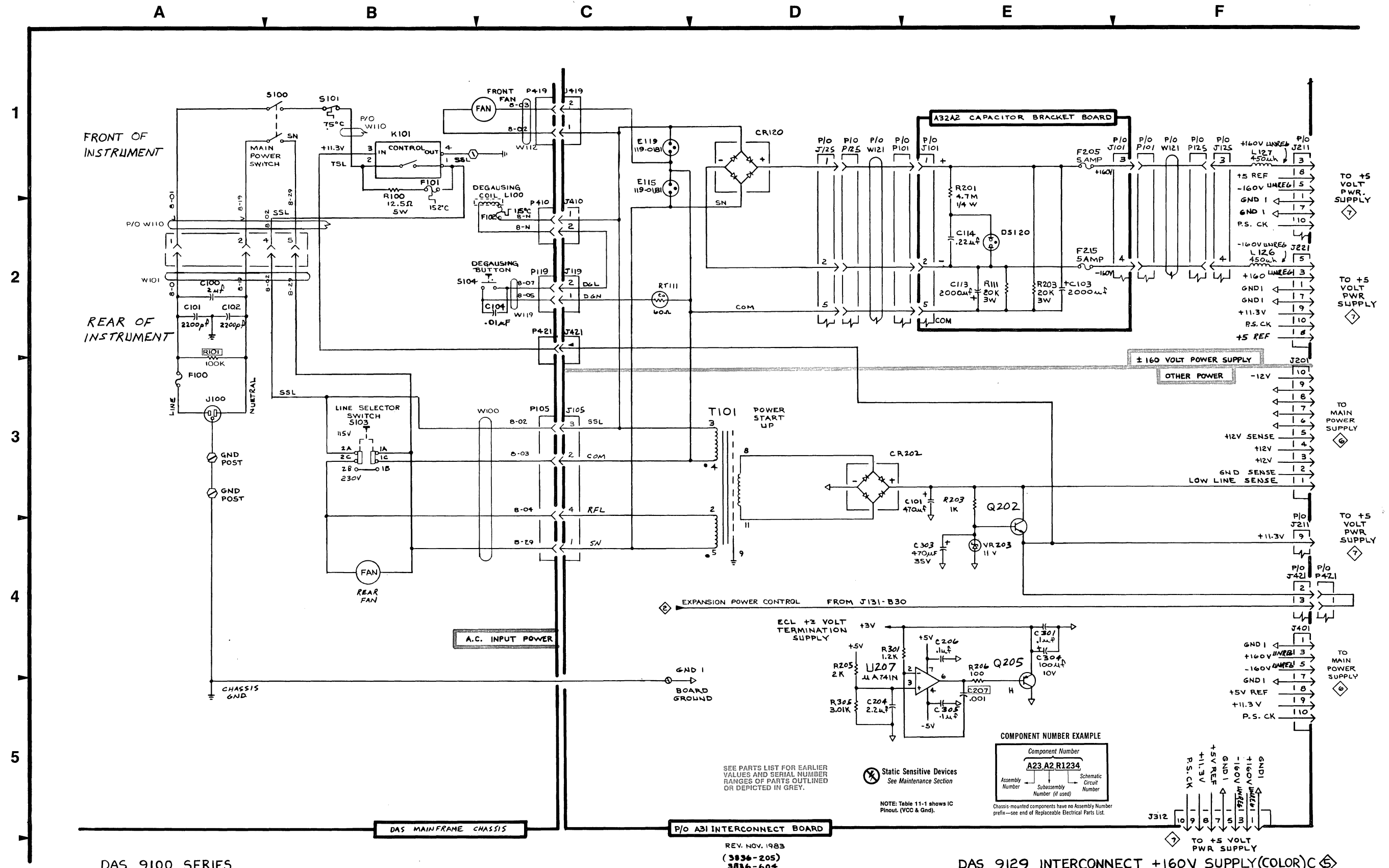
COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-6C

INTERCONNECT BOARD C 5		
ASSEMBLY A31		
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C101	E3	A2
C204	D5	A2
C206	E4	A2
C207	E5	A2
C301	E4	A2
C303	E4	A2
C304	E4	A2
C305	E5	A3
CR120	D1	B1
CR202	D2	A2
E115	C1	B1
E119	B1	B1
J105	C3	A1
J119	C2	B1
J125	D1	B1
J125	F1	B1
J201	F3	A2
J211	F1	B2
J211	F4	B2
J221	F2	C2
J312	F5	B2
J401	F4	A3
J410	C2	B3
J419	C1	B3
J421	F4	C4
J421	C2	C4
L126	F2	C1
L127	F1	C1
Q202	E4	A2
Q205	E5	A2
R203	E3	A2
R205	D4	A2
R206	E5	A2
R301	D4	A2
R305	D5	A3
RT111	C2	B1
T101	D2	A1
U207	E5	A2
VR203	E4	A2



DAS 9100 SERIES

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 (3836-205)
 3836-604

DAS 9129 INTERCONNECT ±160V SUPPLY (COLOR) C
 DAS 9109 INTERCONNECT ±160V SUPPLY (MONOCHROME) M

*SEE PARTS LIST FOR SERIAL NUMBER RANGES.

P/O A31 INTERCONNECT
 ±160 V SUPPLY

C

DAS 9100 Series

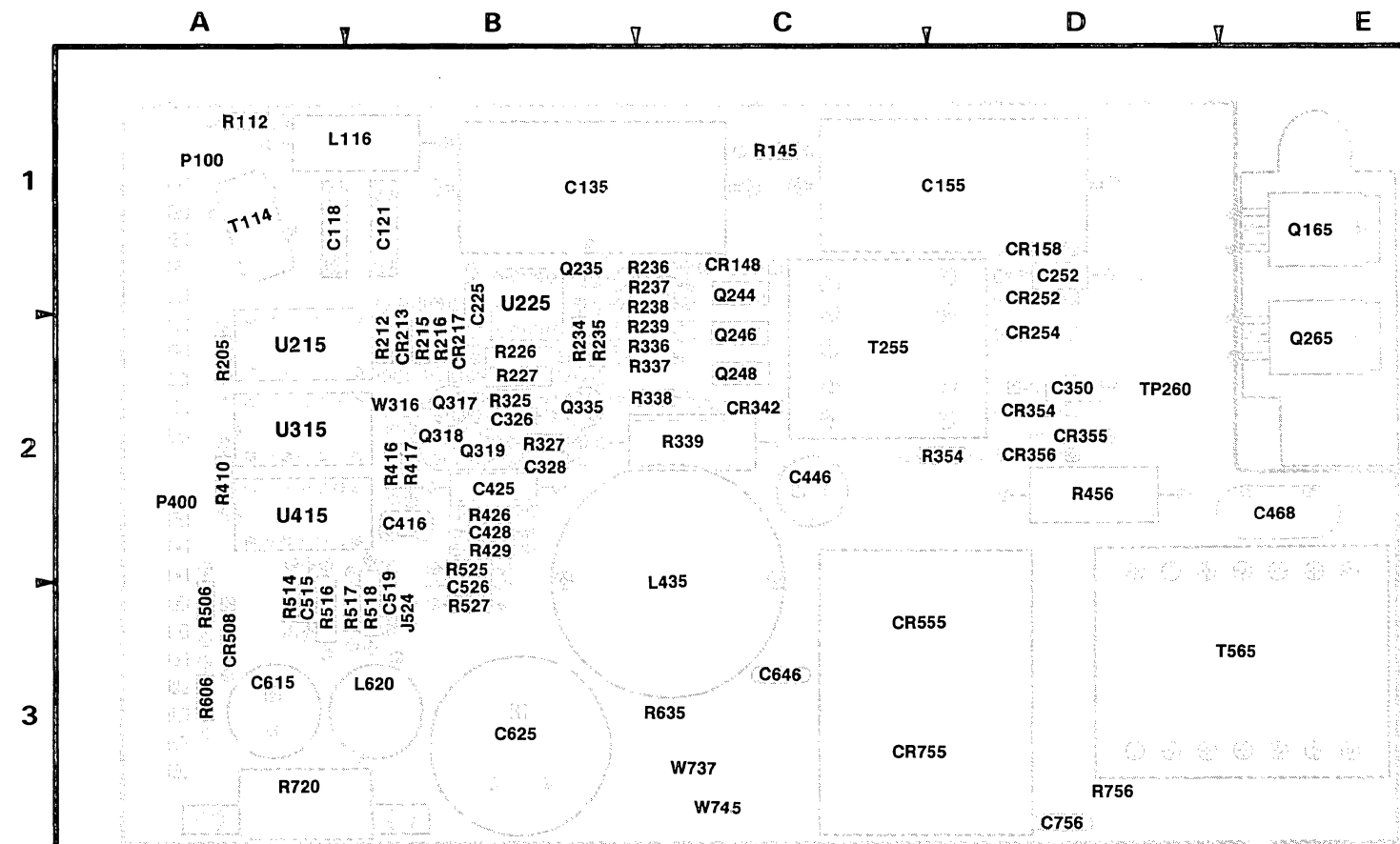


Figure 11-7. A03 +5 V Power Supply Component Locations.

3836-259

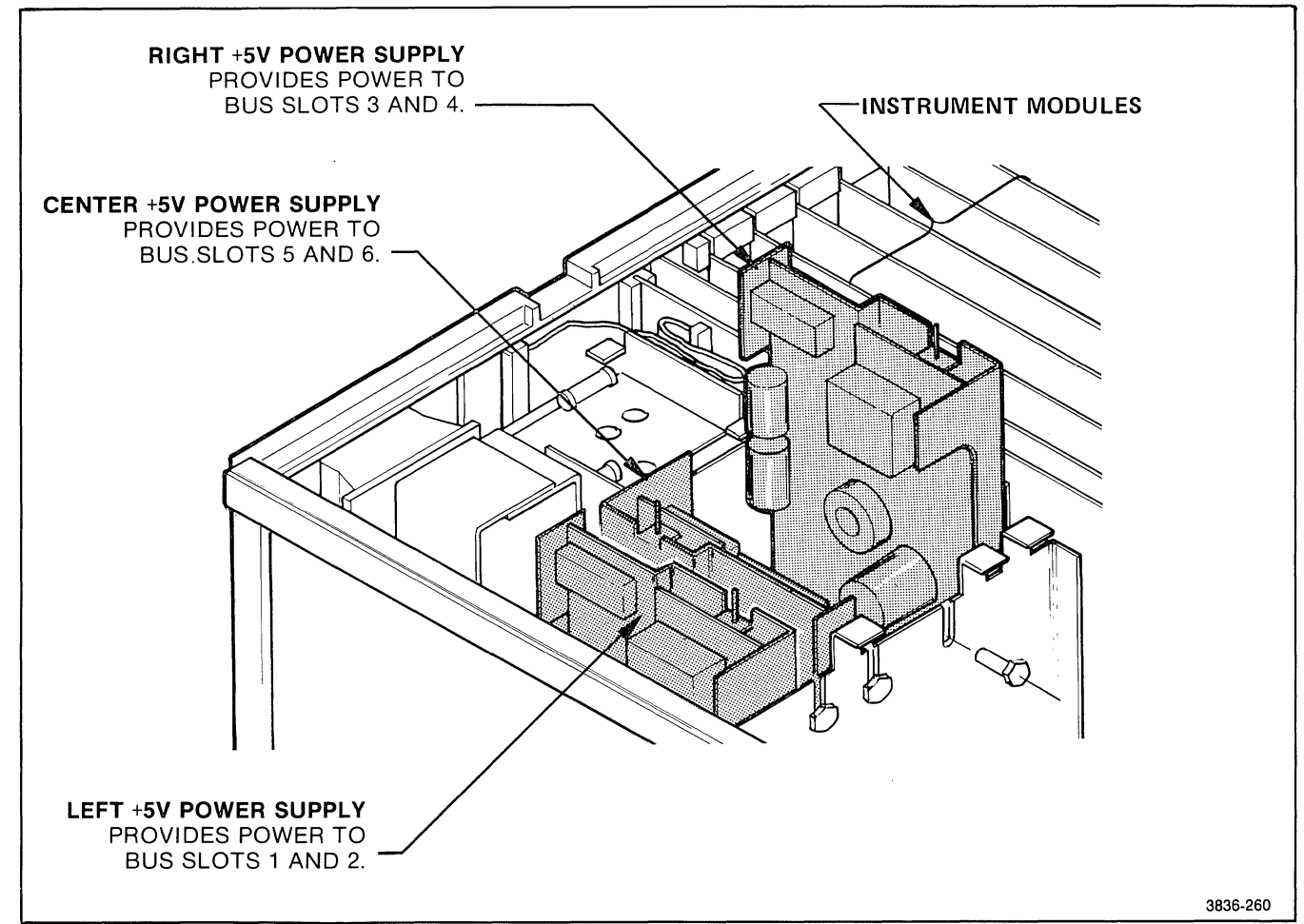
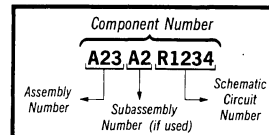


Figure 11-8. +5 V Power Supply Location.

3836-260

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

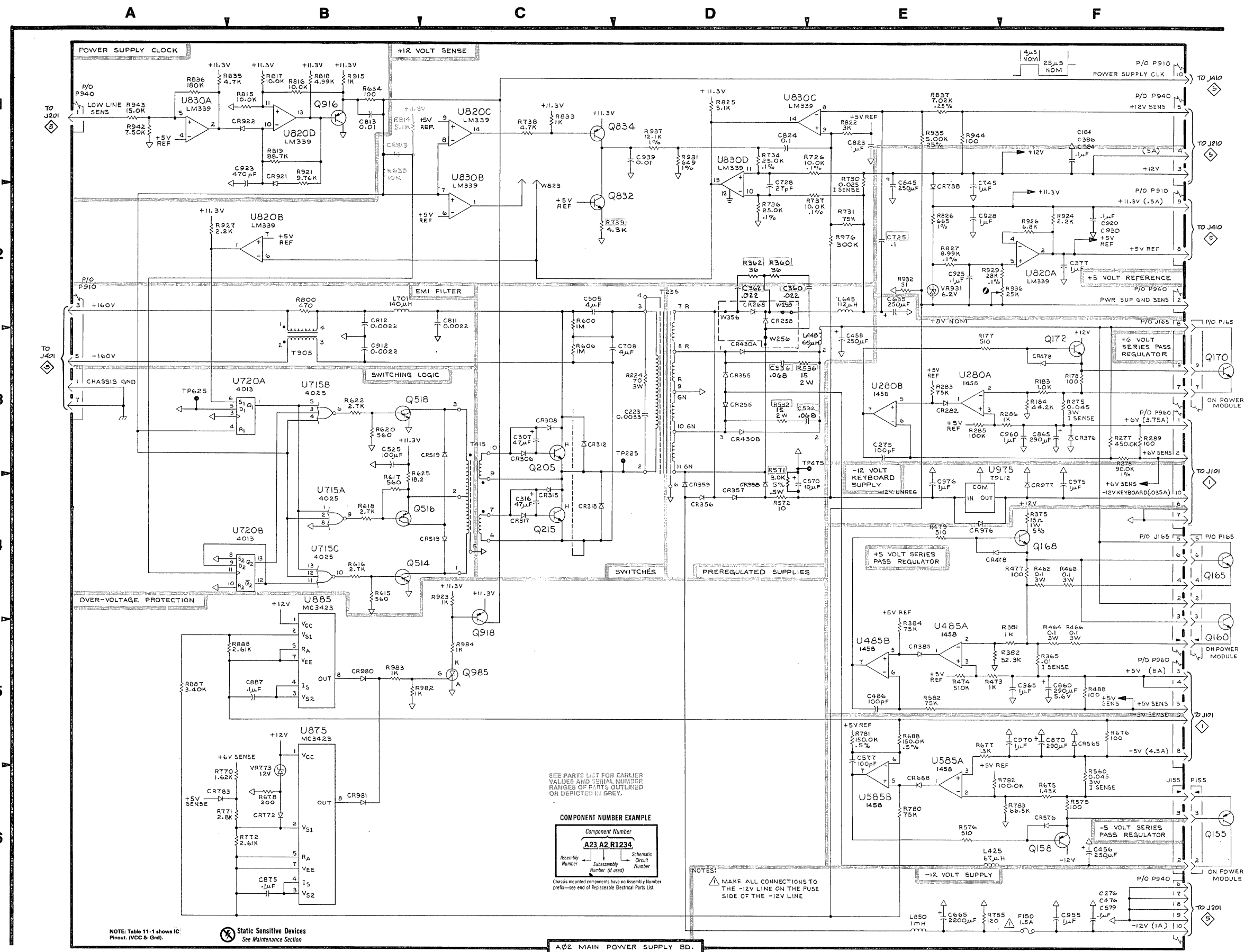
Table 11-7

MAIN POWER SUPPLY 6

ASSEMBLY A02											
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C184	F1	D1	CR376	F3	D1	R283	E3	D1	R825	D1	B3
C223	D3	B1	CR385	E5	D1	R285	E3	D1	R826	E2	B3
C275	E3	D1	CR430A	D3	B2	R286	F3	D1	R827	E2	B3
C276	F6	D1	CR430B	D3	B2	R289	F3	D1	R833	C1	B3
C307	C3	A1	CR478	E4	A2	R362	D2	C1	R835	A1	B3
C316	C4	A1	CR513	C4	D2	R362	D2	C1	R836	A1	B3
C360	D2	C1	CR519	C3	A2	R365	F5	C1	R837	F5	C1
C362	D2	C1	CR565	F5	C2	R375	F4	C2	R887	A5	D3
C377	F2	D1	CR576	F6	D2	R381	F5	D1	R888	B5	D3
C386	F1	D2	CR688	E6	D3	R382	F5	D1	R915	B1	A3
C456	F6	C2	CR738	E2	B3	R384	F5	D1	R921	B1	B3
C458	E3	C2	CR772	B6	D2	R462	F4	C2	R923	C4	B3
C476	F6	D2	CR783	A6	D3	R464	F5	D2	R924	F2	B3
C486	E5	D2	CR813	B1	A3	R466	F5	C2	R926	F2	B3
C505	C2	A2	CR921	B1	B3	R468	F4	C2	R927	A2	B3
C525	B3	B2	CR922	B1	B3	R473	E5	D2	R929	F2	B3
C532	D3	B2	CR976	E4	D3	R474	E5	D2	R931	D1	B3
C536	D3	B2	CR977	F4	D3	R477	F4	D2	R932	E2	B3
C570	D4	C2	CR980	B5	D3	R479	E4	D2	R935	E1	B3
C577	E5	D2	CR981	B6	D3	R488	F5	D2	R936	F2	B3
C579	F6	D2	F150	F6	C1	R532	D3	B2	R937	D1	B3
C584	F1	D2	J155	F6	C1	R536	D3	B2	R942	A1	B3
C635	E2	B2	J165	F4	C1	R560	F6	C2	R943	A1	B3
C665	E6	C2	L425	F3	C1	R571	D4	C1	R944	E1	B3
C708	C3	A2	L448	E3	C2	R572	D4	C2	R947	E2	B3
C725	E2	B3	L645	E2	B2	R575	F6	D2			
C728	D2	B3	L701	B2	A3	R576	E6	D2			
C811	C2	A3	L850	E6	C3	R582	E5	D2			
C812	B2	A3	P155	F6	TO HEAT SINK	R600	C3	A2	R982	B5	D3
C813	B1	A3	P165	F4	TO HEAT SINK	R615	B4	A2	R983	B5	D3
C823	E1	B3	P165	F3	TO HEAT SINK	R616	B4	A2	R984	C5	D3
CR94	D1	B3	P910	F1	A3	R617	B4	A2	T235	D3	B1
CR845	E2	B3	P910	F2	A3	R618	B4	A2	T415	C4	A2
CR860	F5	C3	P910	A3	A3	R620	B3	A2	T905	B3	A3
CR865	F3	C3	P940	A1	B3	R622	B3	B2	TP225	D3	B1
CR870	F5	C3	P940	F1	B3	R625	B4	B2	TP475	D3	C2
CR875	B6	D3	P940	F2	B3	R633	B1	B2	TP625	A3	B2
CR887	B5	D3	P940	F6	B3	R634	B1	B2	U280A	E3	D1
CR912	B3	A3	P960	F3	C3	R675	F6	D2	U280B	E3	D1
CR920	F2	B3	P960	F5	C3	R676	F5	D2	U485A	E5	D2
CR923	B1	B3	Q158	F6	C1	R677	E5	D2	U485B	E5	D2
CR925	E2	B3	Q155	F6	TO HEAT SINK	R678	B6	D2	U585A	E6	D2
CR928	E2	B3	Q160	F5	TO HEAT SINK	R688	E5	D2	U585B	E6	D2
CR930	F2	B3	Q165	F4	TO HEAT SINK	R726	E1	B3	U715A	B4	A2
CR939	D1	B3	Q168	F4	C1	R730	E1	B2	U715B	B3	A2
CR955	F6	C3	Q170	F3	TO HEAT SINK	R731	E1	B2	U715C	B4	A2
CR960	F3	C3	Q172	F3	C1				U720A	B2	B3
CR965	F5	C3	Q205	C3	A1				U720B	B2	B3
CR970	F5	C3	Q215	C4	A1	R734	D1	B2	U820C	C1	B3
CR975	F4	D3	Q514	B4	A2	R736	D2	B3	U820D	B1	B3
CR976	E4	D3	Q518	B3	A2	R737	E2	B3	U830A	A1	B3
CR178	F3	D1	Q518	B3	A2	R738	C1	B3	U830B	C2	B3
CR255	D3	C1	Q832	C2	B3	R739	C2	B3	U830C	E1	B3
CR258	D2	OFF BRD.	Q834	C1	B3	R755	E6	C3	U830D	D1	B3
CR268	E3	OFF BRD.	Q916	B1	A3	R770	B6	D2	U875	B6	D3
CR282	C3	D1	Q918	C4	A3	R771	B6	D2	U885	B5	D3
CR306	C3	A1	Q985	C5	D3	R772	B6	D2	U975	E4	D3
CR308	C3	A1	R177	E3	D1	R780	E6	D2	VR773	B6	D3
CR312	C4	A1	R178	F3	D1	R781	E5	D2	W256	D3	C1
CR315	C4	A1	R183	F3	D1	R782	E6	D2	W258	D2	C1
CR317	C4	A1	R184	F3	D1	R783	F6	D2	W356	D2	C1
CR355	D3	C1	R224	D3	B1	R800	B2	A3	W823	C2	B3
CR356	D4	C1	R275	F3	D1	R814	B1	A3			
CR357	D4	C1	R277	F3	D1	R815	B1	A3			
CR358	D4	C1	R278	F3	D1	R816	B1	A3			
CR359	D4	C1				R817	B1	A3			
						R818	B1	A3			
						R819	B1	A3			
						R822	E1	B3			

SOLDERED BETWEEN CR976 AND PIN 9 OF U830

SOLDERED BETWEEN R739 AND R822



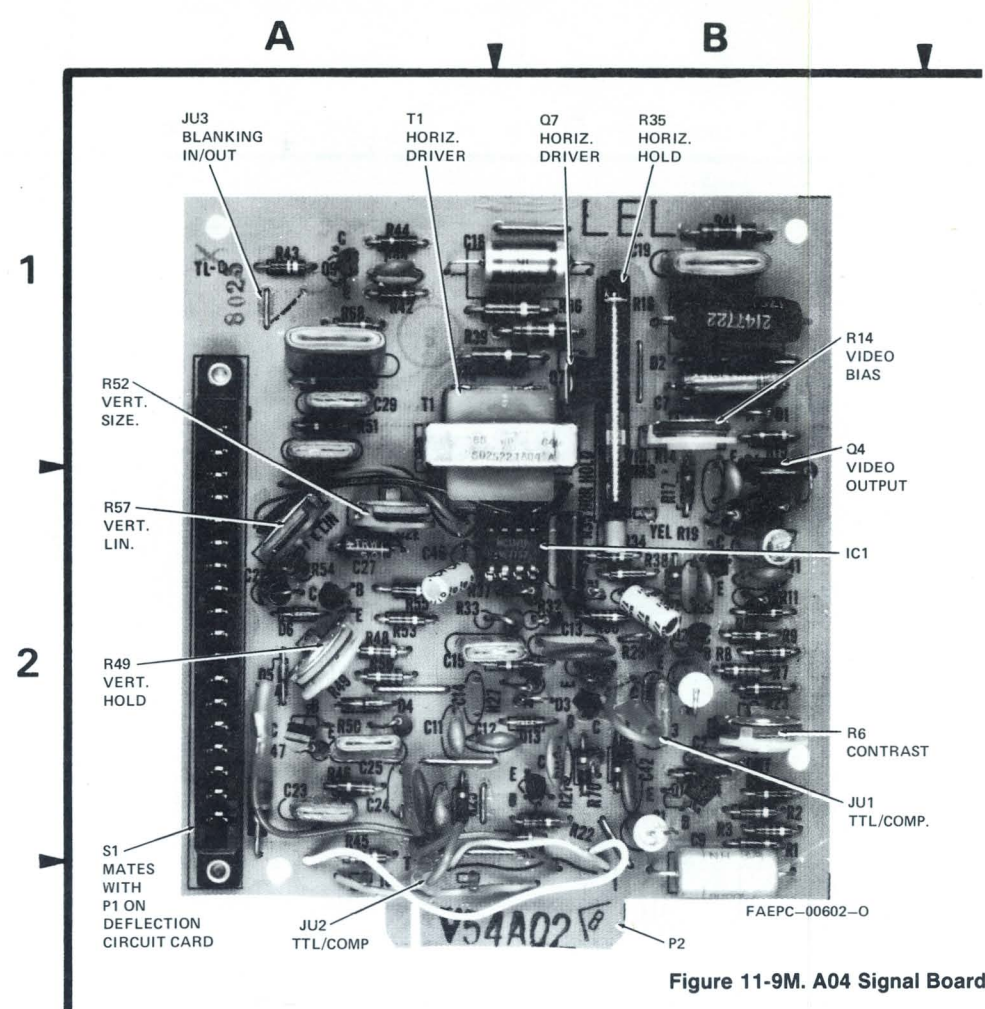
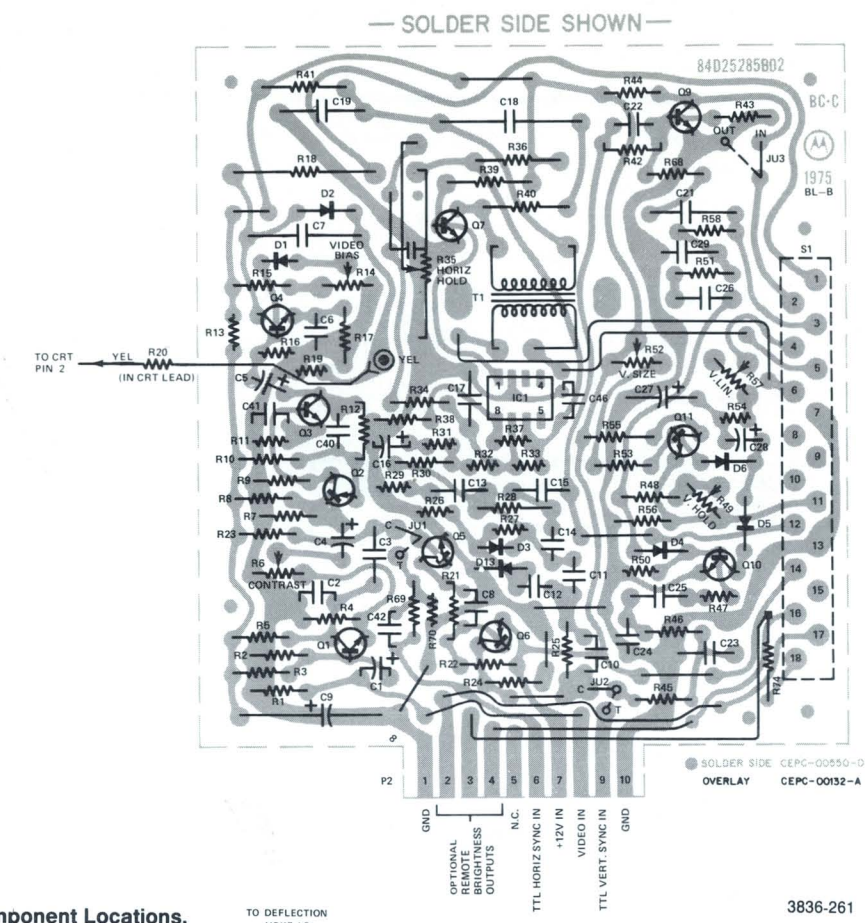


Figure 11-9M. A04 Signal Board Component Locations.



3836-261

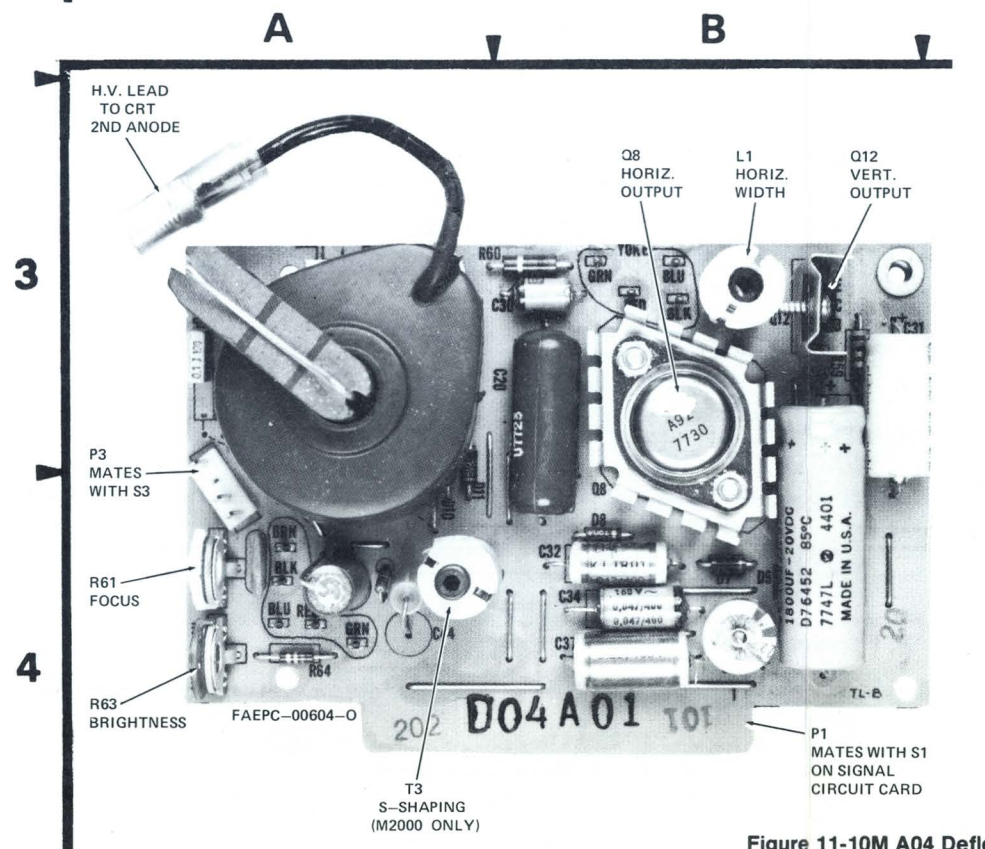
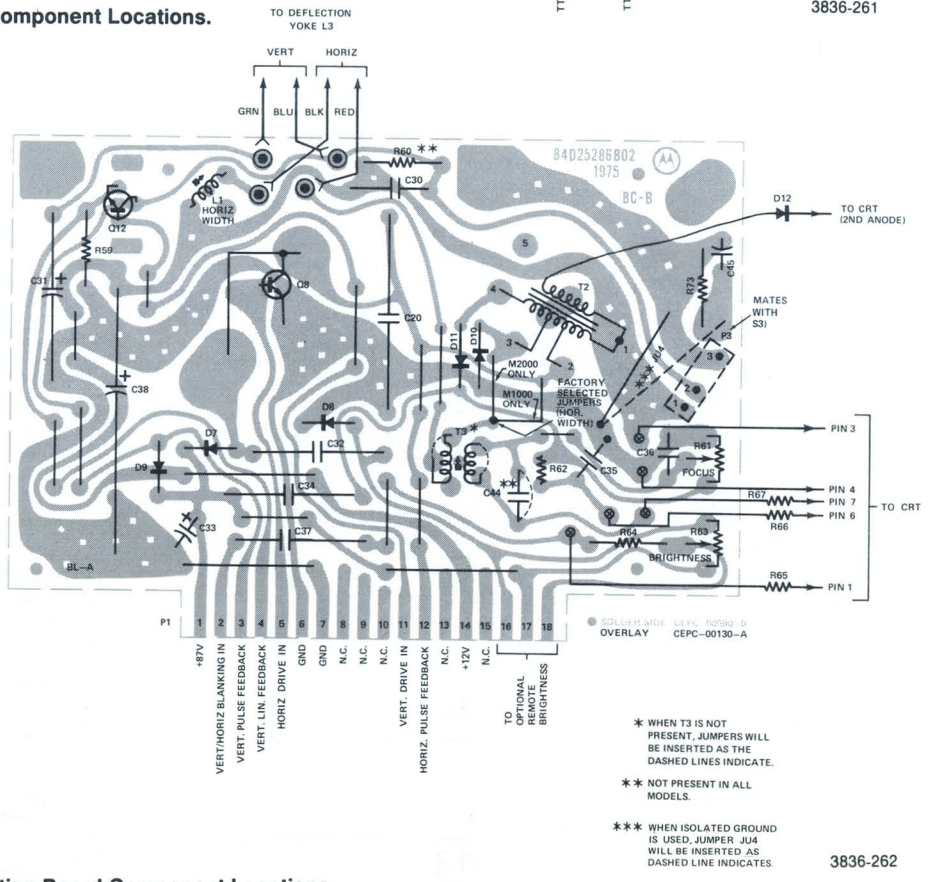


Figure 11-10M A04 Deflection Board Component Locations.



3836-262

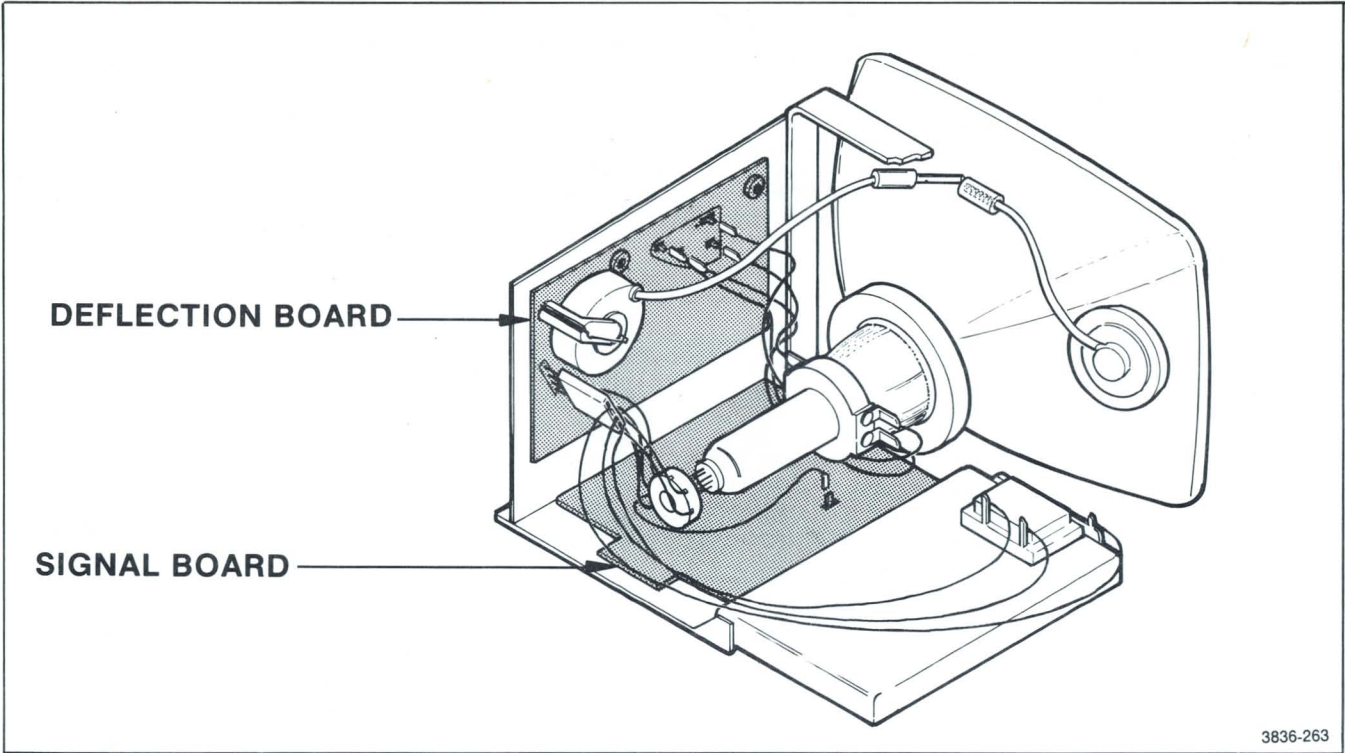
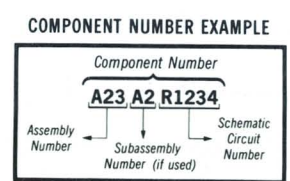


Figure 11-11M. Signal and Deflection Board Locations.

3836-263

⊗ Static Sensitive Devices
See Maintenance Section



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

VOLTAGE AND WAVEFORM CONDITIONS

The voltages and waveforms shown were taken from the point indicated to chassis ground. Contrast and brightness controls were at maximum, all other controls were in the normal operating position.
Voltage Conditions. Voltages were taken with a VTVM. There was no incoming signal.
Waveform Conditions. Waveforms were taken with a wide-band oscilloscope. The oscilloscope was synced near the sweep rate indicated -- V for vertical and H for horizontal. There was a 0.5 V p-p input signal.

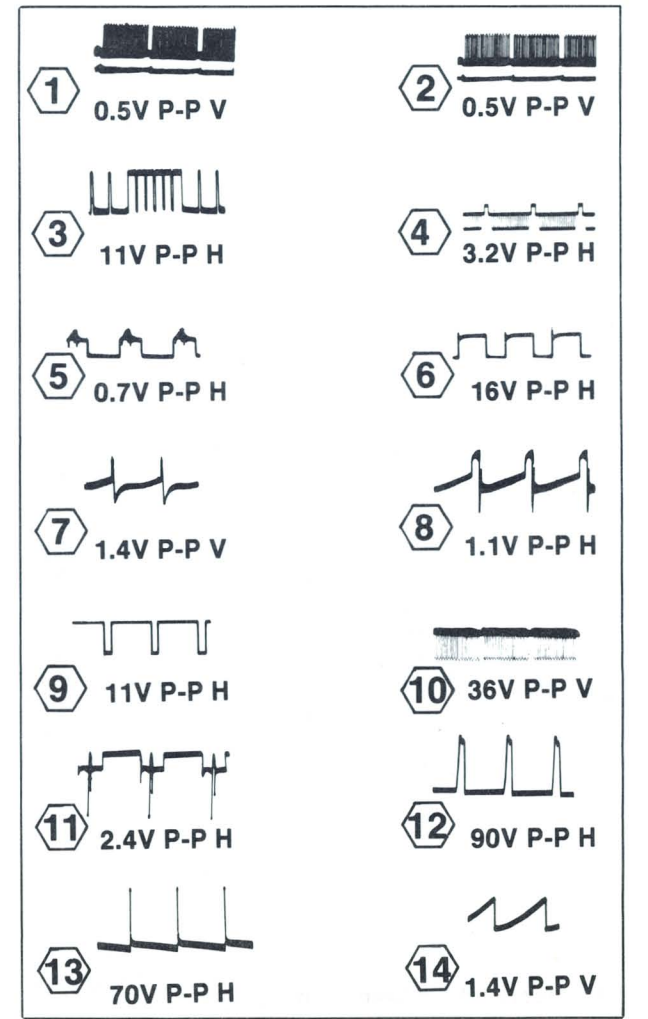


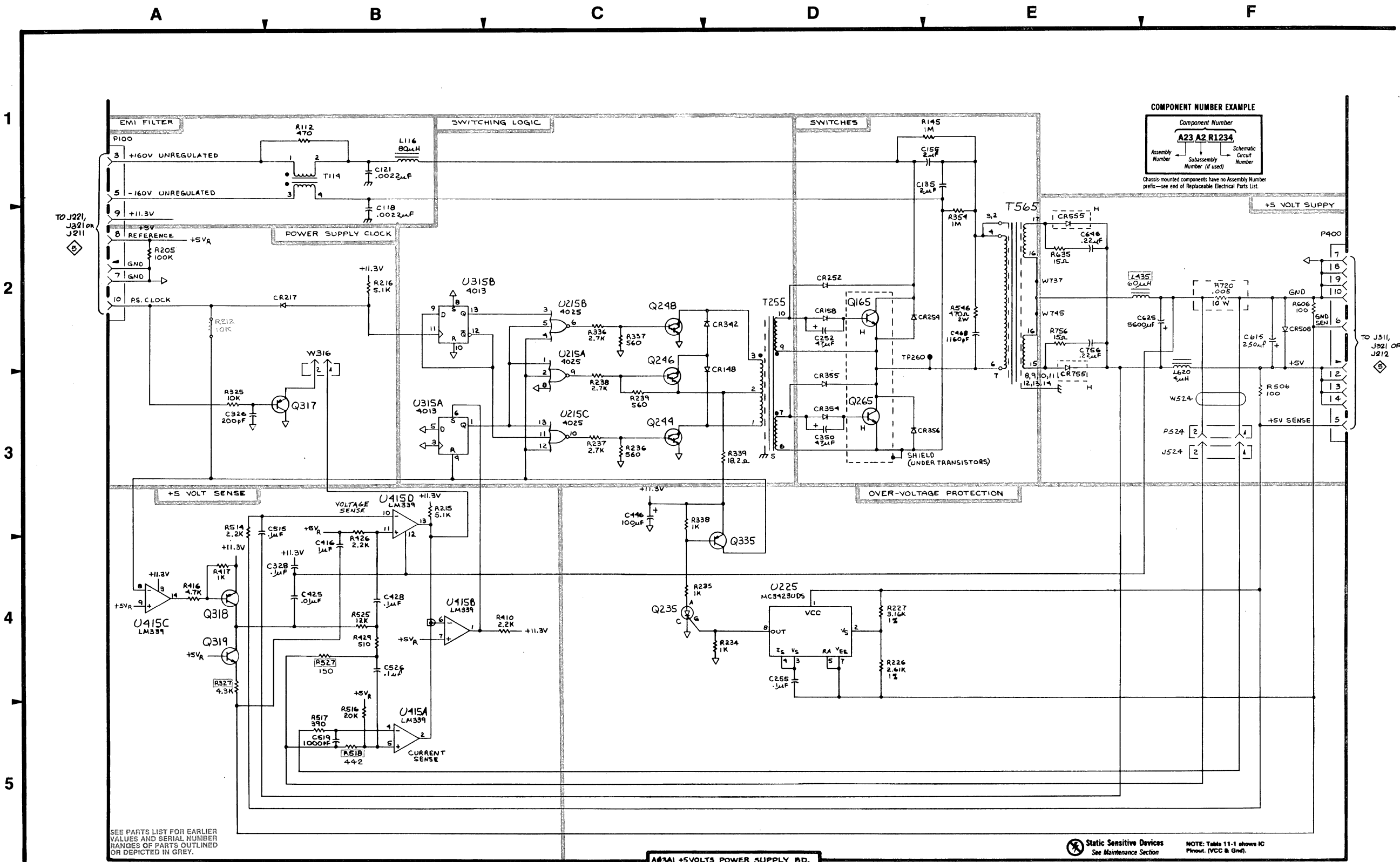
Table 11-8

+5 V POWER SUPPLY

DAS 9100 Series

ASSEMBLY A03

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C118	B2	A1	* R212	A2	B2
C121	B1	B1	R215	B3	B2
C135	E1	B1	R216	B2	B2
C155	E1	D1	R226	D4	B2
C225	D4	B1	R227	D4	B2
C252	D2	D1	R234	D4	B2
C326	A3	B2	R235	C4	B2
C328	B4	B2	R236	C3	C1
C350	D3	D2	R237	C3	C1
C416	B4	B2	R238	C3	C1
C425	B4	B2	R239	C3	C2
C428	B4	B2	R325	A3	B2
C446	C3	C2	* R327	A4	B2
C468	E2	E2	R336	C2	C2
C515	A3	A3	R337	C2	C2
C519	B5	B3	R338	C3	C2
C526	B4	B2	R339	D3	C2
C615	F2	A3	R354	E2	D2
C625	F2	B3	R410	C4	A2
C646	E2	C3	R416	A4	B2
C756	E2	D3	R417	A4	B2
CR148	D3	C1	R426	B4	B2
CR158	D2	D1	R429	B4	B2
CR217	B2	B2	R456	E2	D2
CR252	D2	D1	R506	F3	A3
CR254	D2	D2	R514	A3	A3
CR342	D2	C2	R516	B5	A3
CR354	D3	D2	R517	B5	B3
CR355	D3	D2	* R518	B5	B3
CR356	D3	D2	R525	B4	B2
CR508	F2	A3	* R527	B4	B3
CR555	E2	D3	R606	F2	A3
CR755	E2	D3	R635	E2	C3
J524	F3	B3	R720	F2	A3
L116	B1	B1	R756	E2	D3
* L435	E2	C2	T114	B1	A1
L620	F2	B3	T255	D2	C2
P100	A1	A1	T565	E2	E3
P400	F2	A2	TP260	E2	D2
Q165	D2	E1	U215A	C3	A2
Q235	C4	B1	U215B	C2	A2
Q244	C3	C1	U215C	C3	A2
Q246	C3	C2	U225	D4	B1
Q248	C2	C2	U315A	B3	A2
Q265	D3	E2	U315B	B2	A2
Q317	B3	B2	U415A	B5	A2
Q318	A4	B2	U415B	B4	A2
Q319	A4	B2	U415C	A4	A2
Q335	D4	B2	U415D	B3	A2
R112	B1	A1	W316	B3	B2
R145	E1	C1	W737	E2	C3
R205	A2	A2	W745	E2	C3



DAS 9100 SERIES

REV. NOV. 1983
3836-207

+5 VOLT POWER SUPPLY

*SEE PARTS LIST FOR SERIAL NUMBER RANGES.

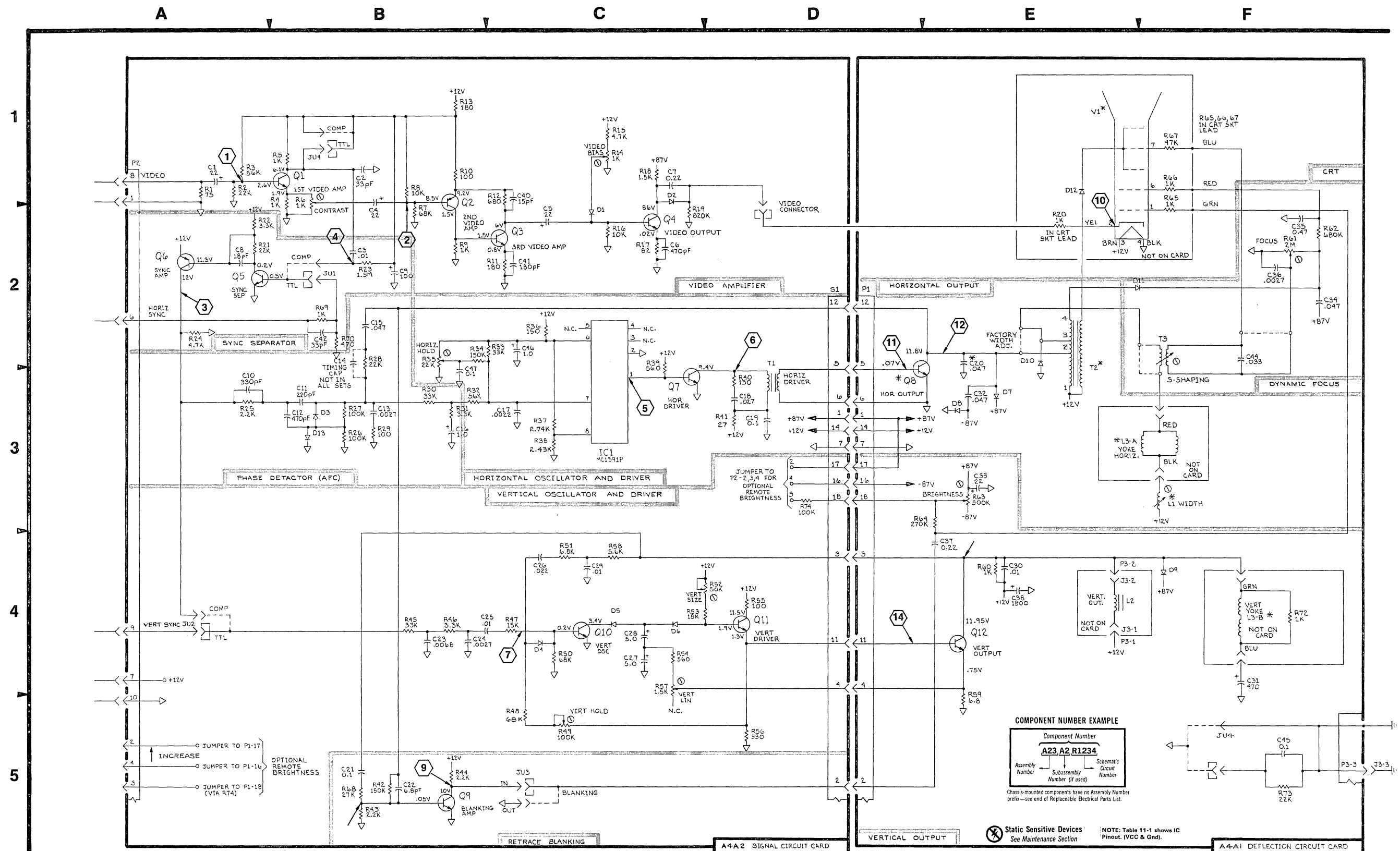
Table 11-9M

DISPLAY MONITOR M 8

DAS 9100 Series

ASSEMBLY A04

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C1	A1	B2	D6	C4	A2	R32	B3	B2
C10	A3	A2	D7	D3	B4	R33	C2	A2
C11	B3	A2	D8	E3	B4	R34	B2	B2
C12	B3	A2	D9	F4	B4	R35	B2	B1
C13	B3	B2	IC1	C3	B2	R36	C2	B1
C14	B2	A2	JU1	B2	B2	R37	C3	B2
C15	B2	A2	JU1	F5	B2	R38	C3	B2
C16	B3	B2	JU2	A4	A3	R39	C2	B1
C17	C3	B2	JU3	C5	A1	R4	B1	B2
C18	D3	B1	JU4	B1	A4	R40	D3	A1
C19	D3	B1	L1	F3	B3	R41	D3	B1
C2	B1	B2	L2	E4	OFF BRD.	R42	B5	A1
C20	E2	B3	L3A	F3	OFF BRD.	R43	B5	A1
C21	B5	A1	L3B	F4	OFF BRD.	R44	B5	A1
C22	B5	A1	P1	D2	B4	R45	B4	A2
C23	B4	A2	P2	A1	B3	R46	B4	A2
C24	B4	A2	P3	F5	A4	R47	C4	A2
C25	B4	A2	Q1	B1	B2	R48	C5	A2
C26	C4	A1	Q10	C4	A2	R49	C5	A2
C27	C4	A2	Q11	D4	A2	R5	B1	B2
C28	C4	A2	Q12	E4	B3	R50	C4	A2
C29	C4	A1	Q2	B1	B2	R51	C4	A1
C3	B2	B2	Q3	C2	B2	R52	C4	A2
C30	E4	B3	Q4	C2	B2	R53	C4	A2
C31	F4	B3	Q5	A2	B2	R54	C4	A2
C32	E3	B4	Q6	A2	B2	R55	D4	A2
C33	E3	B4	Q7	C3	B1	R56	D5	A2
C34	F2	B4	Q8	D2	B3	R57	C4	A2
C35	F2	A4	Q9	B5	A1	R58	C4	A1
C36	F2	A4	R1	A1	B2	R59	E5	B3
C37	E4	B4	R10	B1	B2	R6	B1	B2
C38	E4	B4	R11	C2	B2	R60	B4	B3
C4	B1	B2	R12	C1	B2	R61	F2	A4
C40	C1	B2	R13	B1	B2	R62	F2	A4
C41	C2	B2	R14	C1	B1	R63	E3	A4
C42	B2	B2	R15	C1	B1	R64	E3	A4
C44	F2	A4	R16	C2	B2	R65	F1	OFF BRD.
C45	F5	A3	R17	C2	B2	R66	F1	OFF BRD.
C46	C2	A2	R18	C1	B1	R67	F1	OFF BRD.
C47	B3	BACK OF BRD.	R19	C2	B2	R68	B5	A1
C5	C2	B2	R2	A1	B2	R69	B2	B2
C6	C2	B2	R20	E2	OFF BRD.	R7	B2	B2
C7	C1	B1	R21	A2	B2	R70	B2	B2
C8	A2	B2	R22	A2	B2	R72	F4	OFF BRD.
C9	B2	B3	R23	B2	B2	R73	F5	A3
D1	C2	B1	R24	A2	B2	R74	D3	A2
D10	E2	A4	R25	A3	A2	R8	B1	B2
D11	E2	A4	R26	B3	B2	R9	B2	B2
D12	E1	OFF BRD.	R27	B3	B2	S1	D2	A1
D13	B3	B2	R28	B2	B2	T1	D3	A1
D2	C1	B1	R29	B3	B2	T2	E2	A3
D3	B3	B2	R3	A1	B2	T3	F2	A4
D4	C4	A2	R30	B3	B2	V1	E1	OFF BRD.
D5	C4	A2	R31	B3	B2			



DAS 9100 SERIES

3894-208

NOTE: * TO MAINTAIN ORIGINAL PRODUCT SAFETY DESIGN STANDARDS RELATIVE TO X-RAY RADIATION, FEDERAL REGULATIONS REQUIRE THAT THESE PARTS BE REPLACED WITH IDENTICAL PART NUMBERS SHOWN IN THE REPLACEABLE ELECTRICAL PARTS LIST.

DAS 9109 MOTOROLA DISPLAY MONITOR (MONOCHROME) M8

A04 MOTOROLA MONITOR M 8

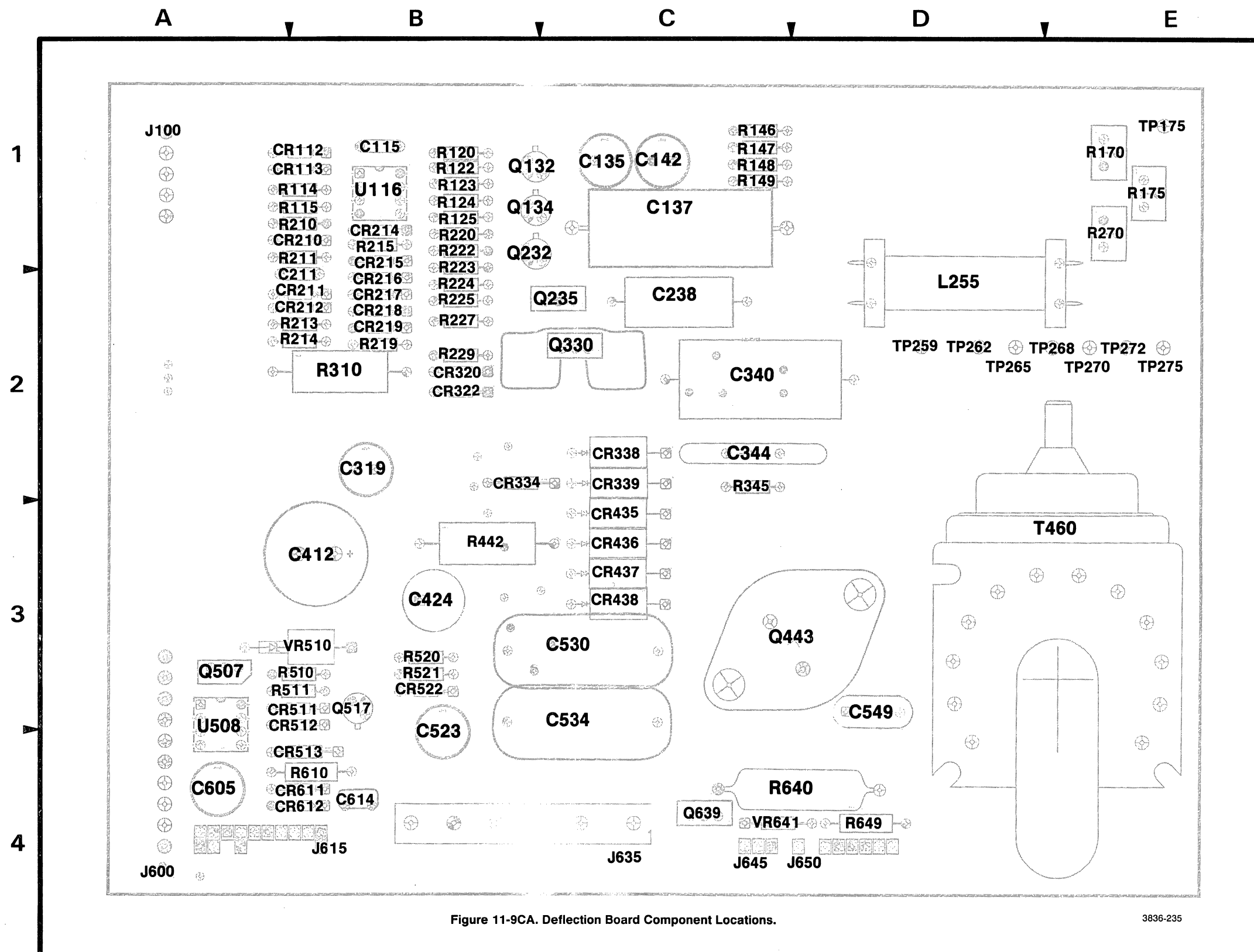


Figure 11-9CA. Deflection Board Component Locations.

3836-235

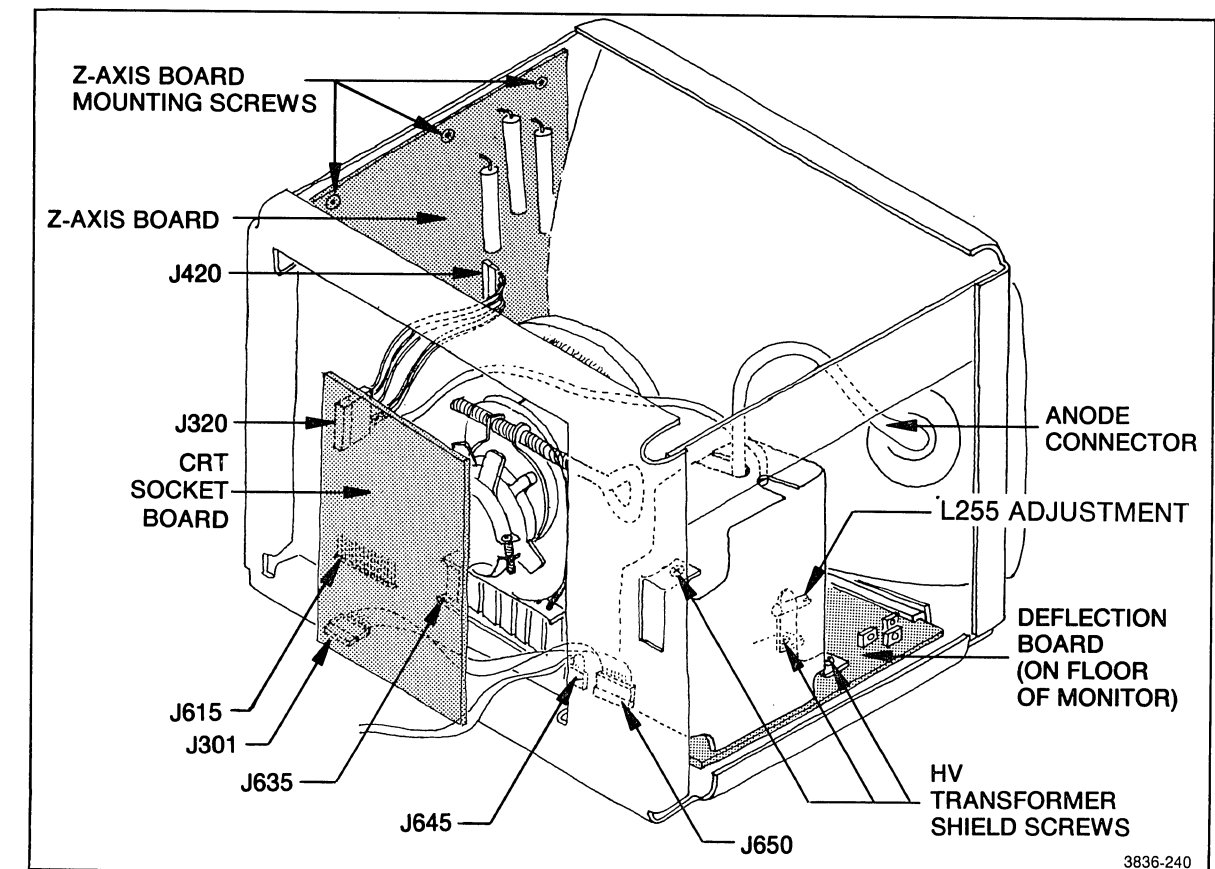


Figure 11-9C. A30 Color Monitor Component Locations.

3836-240

A30A1 DEFLECTION BOARD & COMPONENT LOCATIONS

Table 11-9CA

DEFLECTION BOARD C **BA**

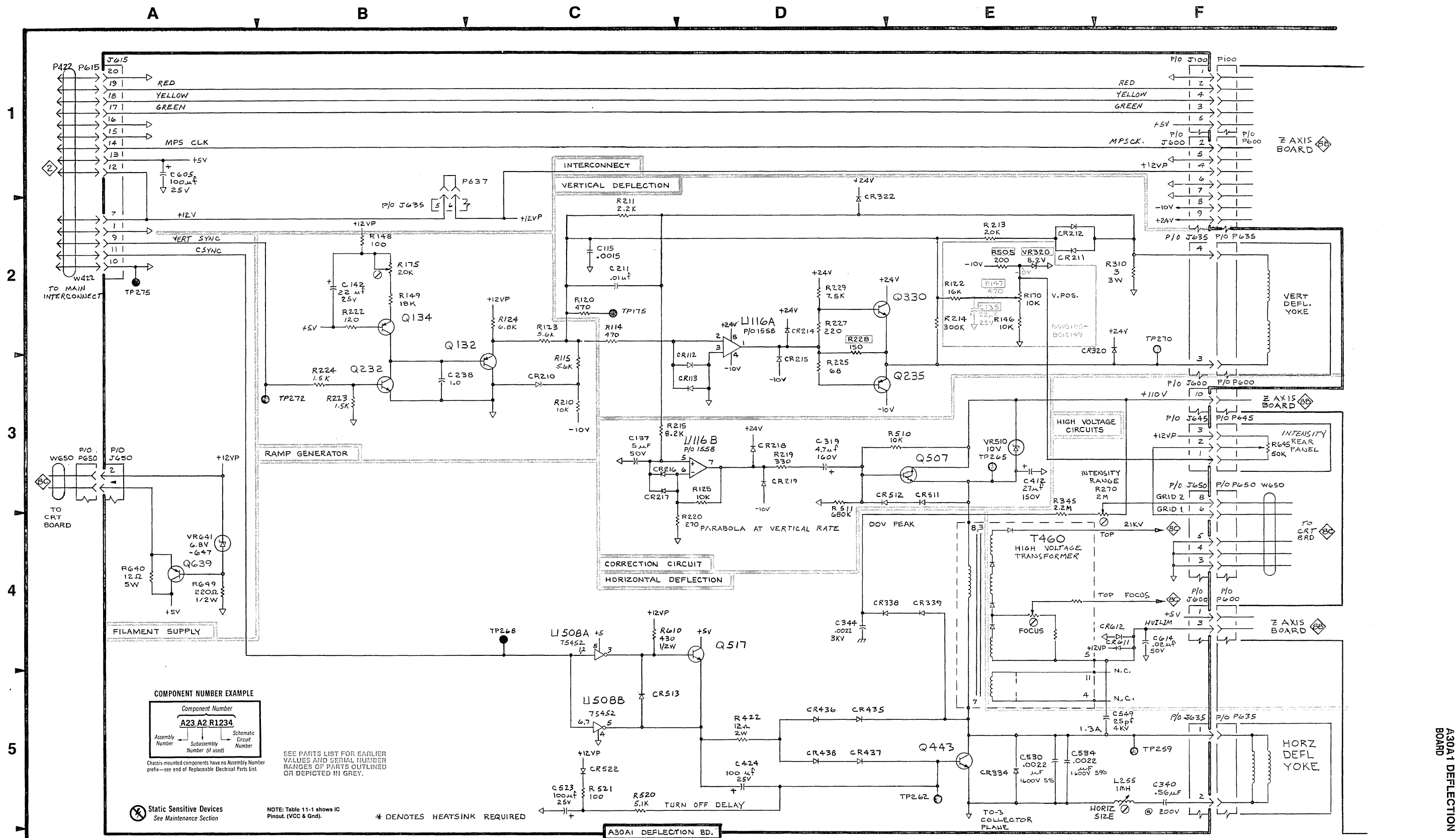
ASSEMBLY A30A01

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C115	C2	B1	Q232	B3	B1
C135	E2	C1	Q235	D3	C2
C137	C3	C1	Q330	D2	B2
C142	B2	C1	Q443	E5	D3
C211	C2	B1	Q507	E3	A3
C238	B3	C2	Q517	D4	B3
C319	D3	B2	Q639	A4	C4
C340	F5	D2	R114	C2	B1
C344	D4	C2	R115	C3	B1
C412	E3	B3	R120	C2	B1
C424	D5	B3	R122	E2	B1
C523	C5	B3	R123	C2	B1
C530	E5	C3	R124	C2	B1
C534	E5	C3	R125	D3	B1
C549	F5	D3	R146	E2	C1
C605	A1	A4	R147	E2	C1
C614	F4	B4	R148	B2	C1
CR112	D3	B1	R149	B2	C1
CR113	D3	B1	R170	E2	E1
CR210	C3	B1	R175	B2	E1
CR211	E2	B2	R210	C3	B1
CR212	E2	B2	R211	C2	B1
CR214	D2	B1	R213	E2	B2
CR215	D3	B1	R214	E2	B2
CR216	C3	B2	R215	C3	B1
CR217	C3	B2	R219	D3	B2
R218	D3	B2	R220	C4	B1
CR219	D3	B2	R222	B2	B1
CR320	F2	B2	R223	B3	B1
CR322	D2	B2	R224	B3	B2
CR334	E5	B2	R225	D3	B2
CR338	D4	C2	R227	D2	B2
CR339	E4	C2	*R228	D2	B2
CR435	D5	C3	R229	D2	B2
CR436	D5	C3	R270	F4	E1
CR437	D5	C3	R310	F2	B2
CR438	D5	C3	R442	D5	B3
CR511	E3	B3	*R505	F2	A4
CR512	D3	B3	R510	E3	B2
CR513	C5	B4	R511	D3	B3
CR522	C5	B3	R520	D2	B3
CR611	F4	B4	R521	C5	B3
CR612	F4	B4	R610	C4	B4
J100	F1	A1	R640	A4	C4
J600	F3	A4	R649	A4	D4
J600	F1	A4	T460	E4	E3
J615	A1	A4	TP175	C2	E1
J635	F5	C4	TP259	F5	D2
J635	B2	C4	TP262	E5	D2
J635	F2	C4	TP265	E3	D2
J645	F3	C4	TP268	C4	E2
J650	A3	D4	TP270	F2	E2
J650	F3	D4	TP272	B3	E2
L255	F5	D2	TP275	A2	E2
Q132	C3	B1	U116	D3	B1
Q134	B2	B1	U508	C5	A3
			U508	C4	A3
			*VR320	F2	D4
			VR510	E3	B3
			VR641	A4	C4

BACK OF BD.

BACK OF BD.

BACK OF BD.



DAS 9100 SERIES

REV. NOV. 1983
3836-605

DAS 9129 MONITOR DISPLAY DEFLECTION BOARD (COLOR) C **BA**

*SEE PARTS LIST FOR SERIAL NUMBER RANGES.

A30A1 DEFLECTION BOARD

C

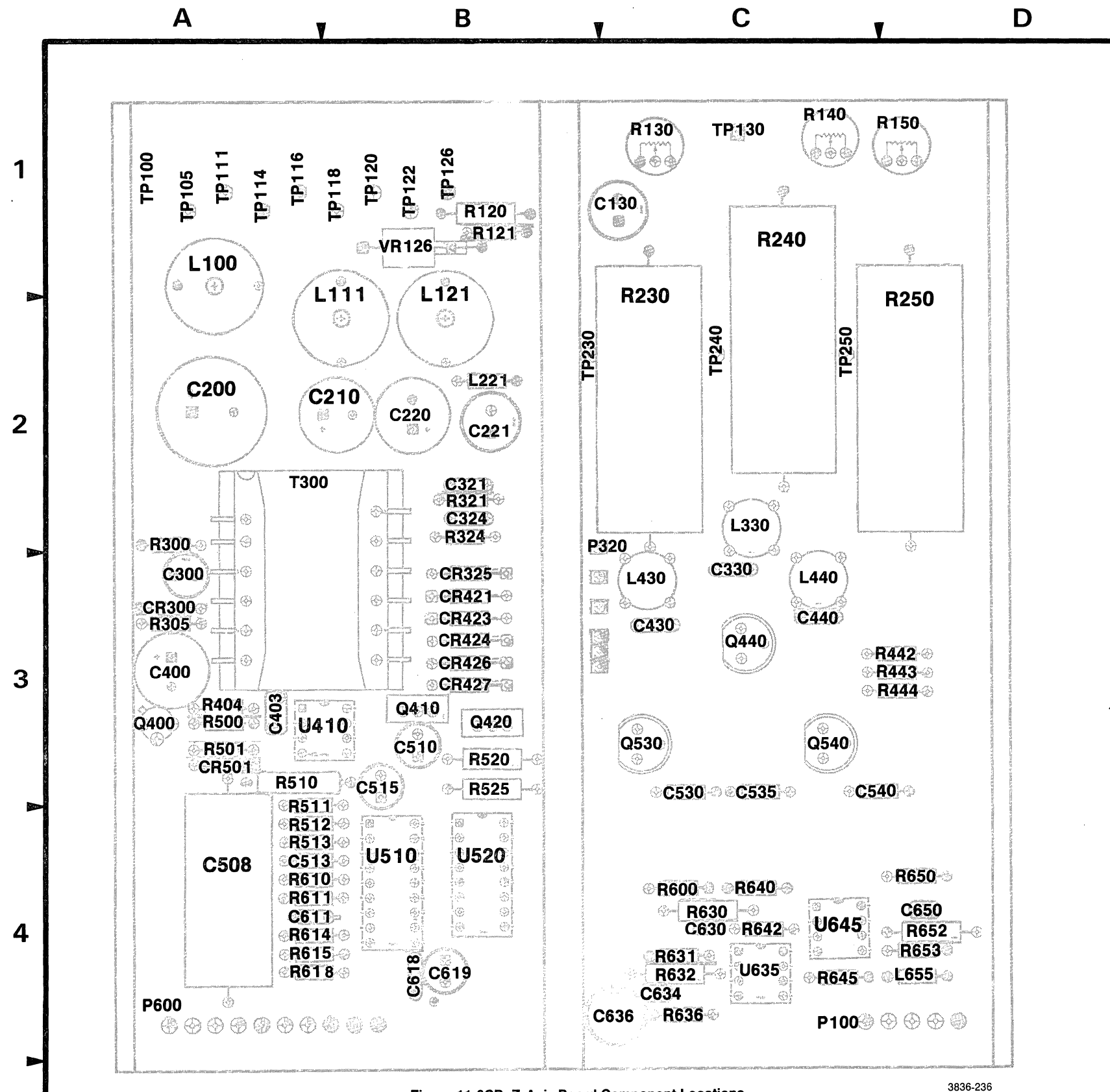
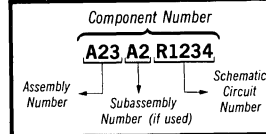


Figure 11-9CB. Z-Axis Board Component Locations.

3836-236

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



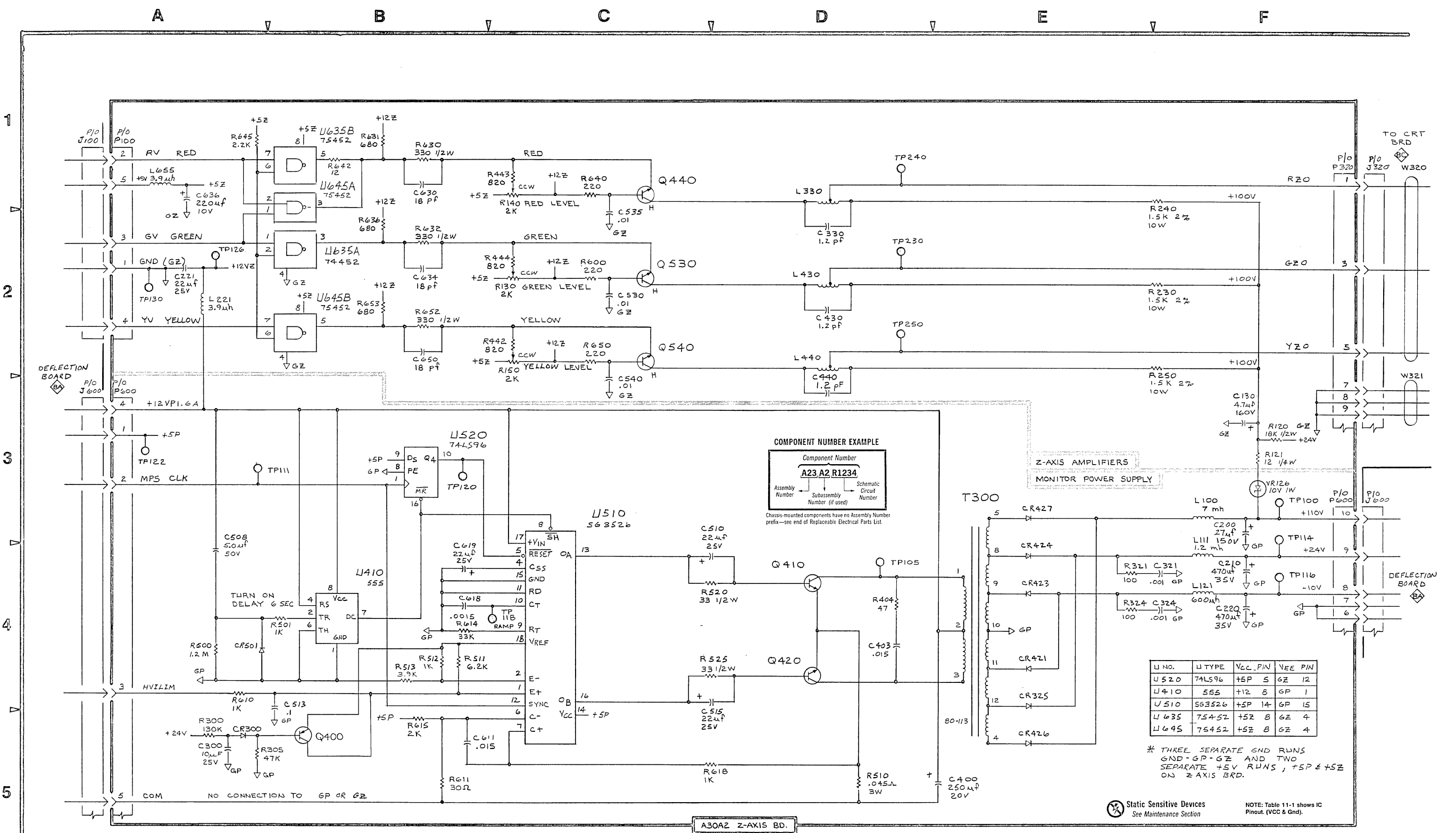
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-9CB

Z-AXIS BOARD C 8B

ASSEMBLY A30A2

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C130	F3	C1	R150	C2	D1
C200	F3	A2	R230	F2	C2
C210	F4	B2	R240	F1	C1
C220	F4	B2	R250	F3	D2
C221	A2	B2	R300	A5	A2
C300	A5	A3	R305	A5	A3
C321	F4	B2	R321	E4	B2
C324	F4	B2	R324	E4	B2
C330	D2	C3	R404	D4	A3
C400	E4	A3	R442	C2	D3
C403	D4	A3	R443	C1	D3
C430	D2	C3	R444	C2	D3
C440	D3	C3	R500	A4	A3
C508	A4	A4	R501	B4	A3
C510	C4	B3	R510	D5	A3
C513	B5	C4	R511	B4	A3
C515	C4	B3	R512	B4	A4
C530	C2	C3	R513	B4	A4
C535	C2	C3	R520	C4	B3
C540	C3	D3	R525	C4	B3
C611	B5	A4	R600	C2	C4
C618	B4	B4	R610	A4	A4
C619	B4	B4	R611	B5	A4
C630	B1	C4	R614	B4	A4
C634	B2	C4	R615	B5	A4
C636	A1	C4	R618	C5	A4
C650	B2	D4	R630	B1	C4
CR300	A5	A3	R631	B1	C4
CR325	E4	B3	R632	B2	C4
CR421	E4	B3	R636	B2	C4
CR423	E4	B3	R640	C1	C4
CR424	E4	B3	R642	B1	C4
CR426	E4	B3	R645	A1	C4
CR427	E3	B3	R650	C2	D4
CR501	A4	A3	R652	B2	D4
L100	F3	A1	R653	B2	D4
L111	F4	B2	T300	E4	A2
L121	F4	B2	TP100	F3	A1
L221	A2	B2	TP105	D4	A1
L330	D1	C2	TP111	A3	A1
L430	D2	C3	TP114	F4	A1
L440	D2	C3	TP116	F4	A1
L655	A1	D4	TP118	C4	B1
P100	A1	D4	TP120	B3	B1
P320	F2	B3	TP122	A3	B1
P600	F4	A4	TP126	A2	B1
P600	A3	A4	TP130	A2	C1
Q400	B5	A3	TP230	D2	B2
Q410	D4	B3	TP240	D1	C2
Q420	D4	B3	TP250	D2	C2
Q440	C1	C3	U410	B4	A3
Q530	C2	C3	U510	C4	B4
Q540	C2	C3	U520	B3	B4
R120	F3	B1	U635A	B2	C4
R121	F3	B1	U635B	B1	C4
R130	C2	C1	U645A	B1	C4
R140	C1	C1	U645B	B2	C4
			VR126	F3	B1



DAS 9100 SERIES

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DAS 9129 DISPLAY MONITOR Z-AXIS BOARD (COLOR) C 8B

Static Sensitive Devices
See Maintenance Section

NOTE: Table 11-1 shows IC Pinout (VCC & GND).

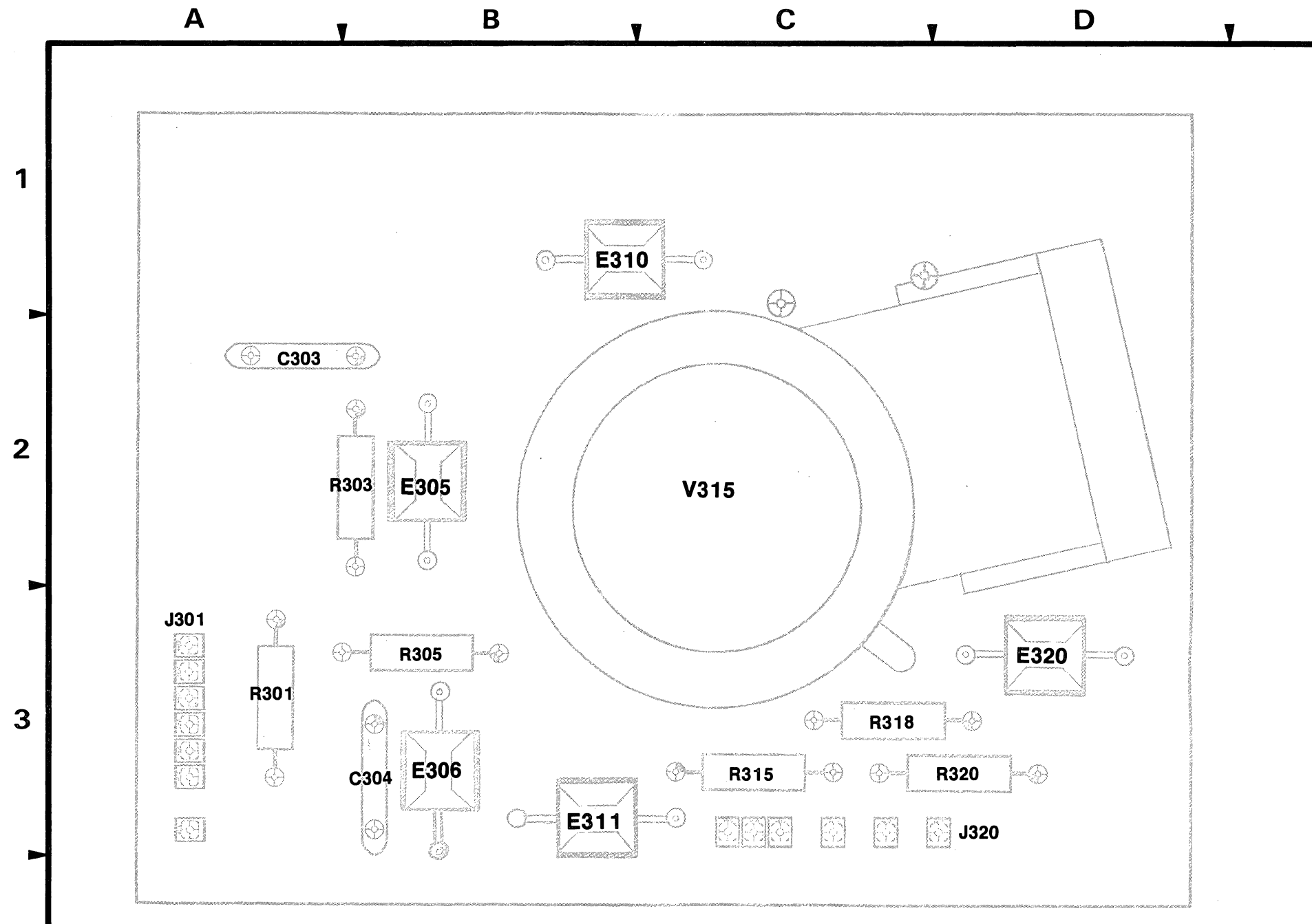
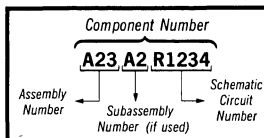


Figure 11-9CC. CRT Socket Board Component Locations.

3836-234

 Static Sensitive Devices
See Maintenance Section

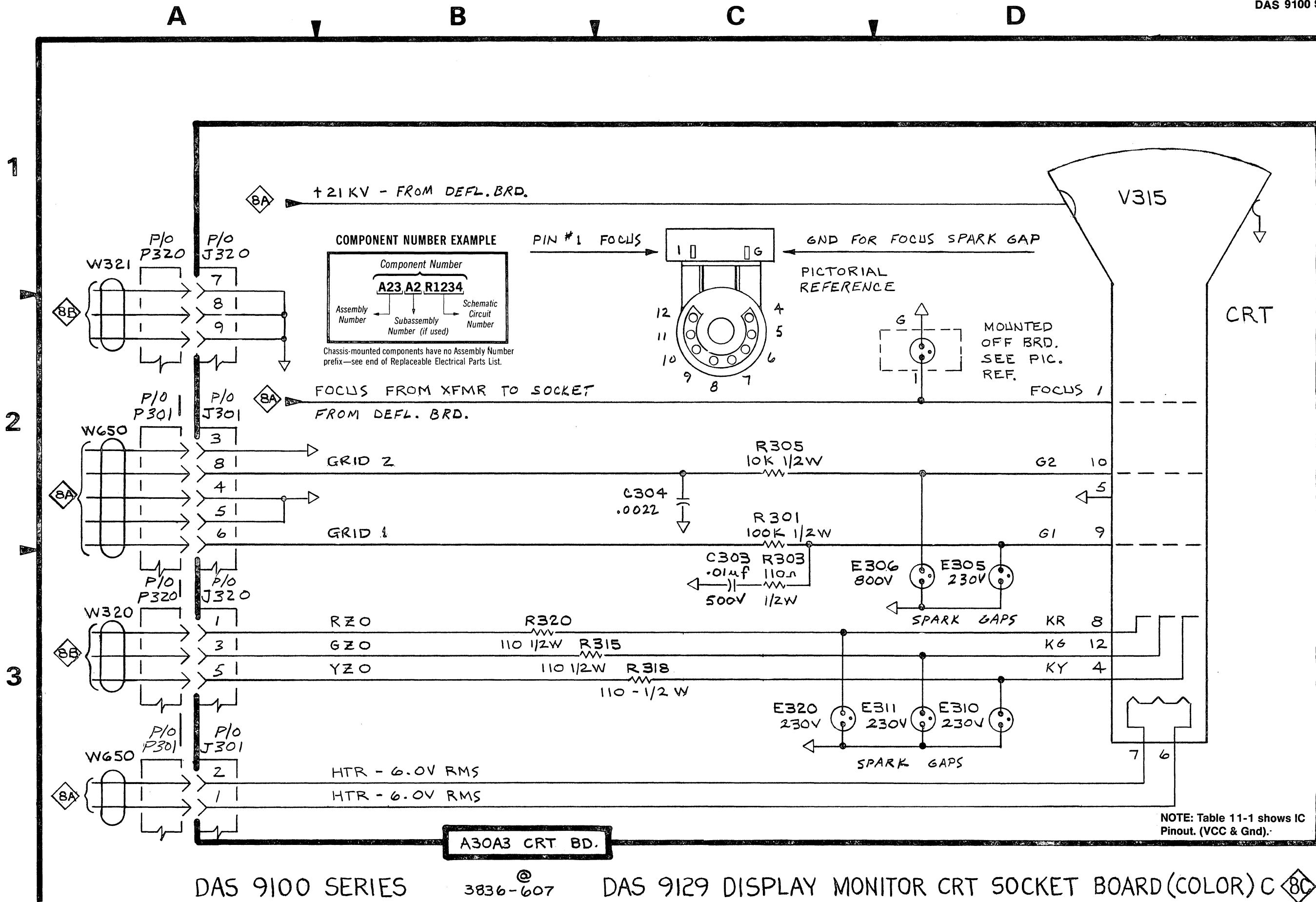
COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-9CC

CRT SOCKET BOARD C 8C		
ASSEMBLY A30A3		
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C303	C3	A2
C304	C2	B3
E305	D3	B2
E306	D3	B3
E310	D3	B1
E311	D3	B3
E320	C3	D3
J301	A3	A3
J320	A3	C3
J320	A1	C3
R301	C2	A3
R303	C3	B2
R305	C2	B3
R315	B3	C3
R318	C3	C3
R320	B3	D3
V315	D3	C2
V315	D1	C2
V315	D2	C2



A30A3 CRT SOCKET BOARD 8C

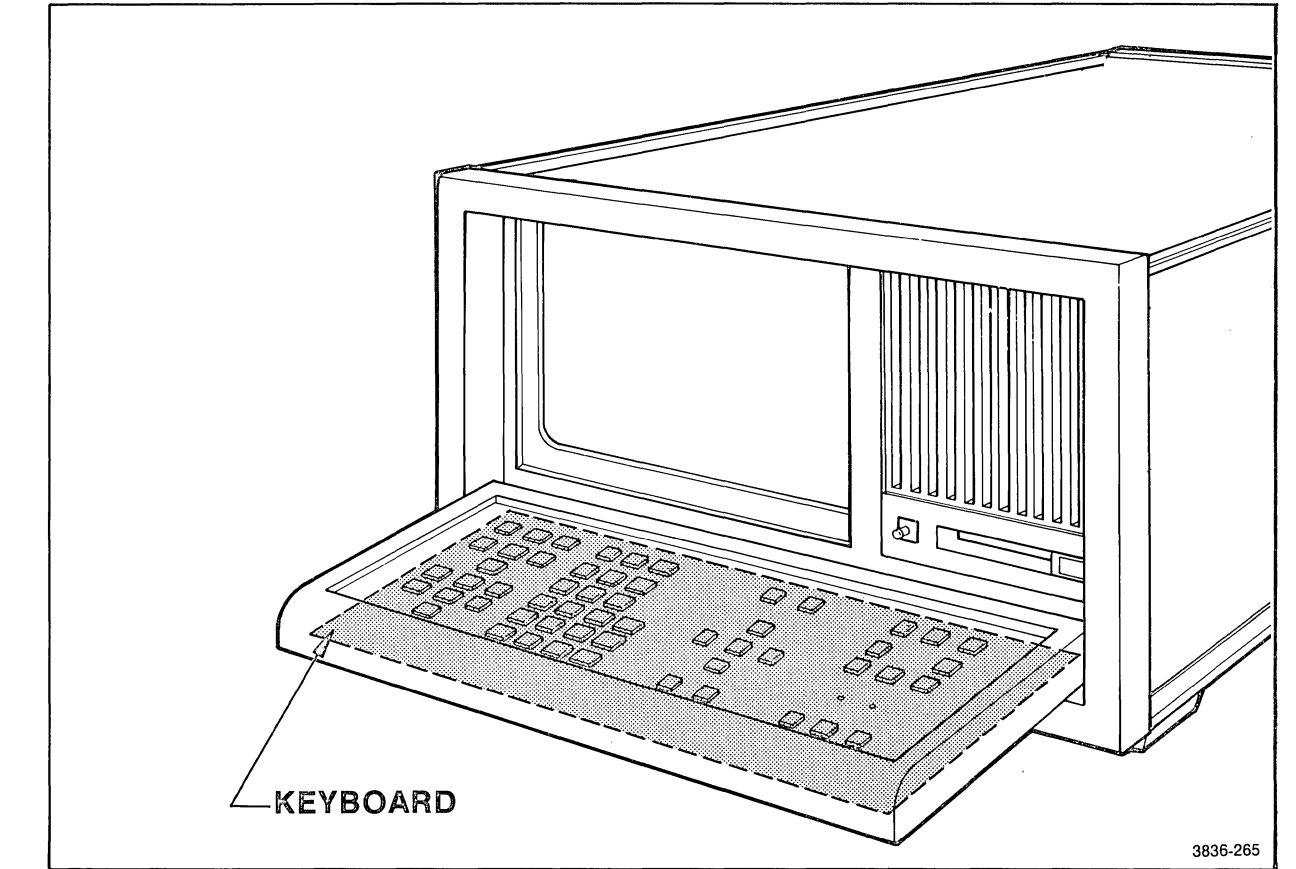
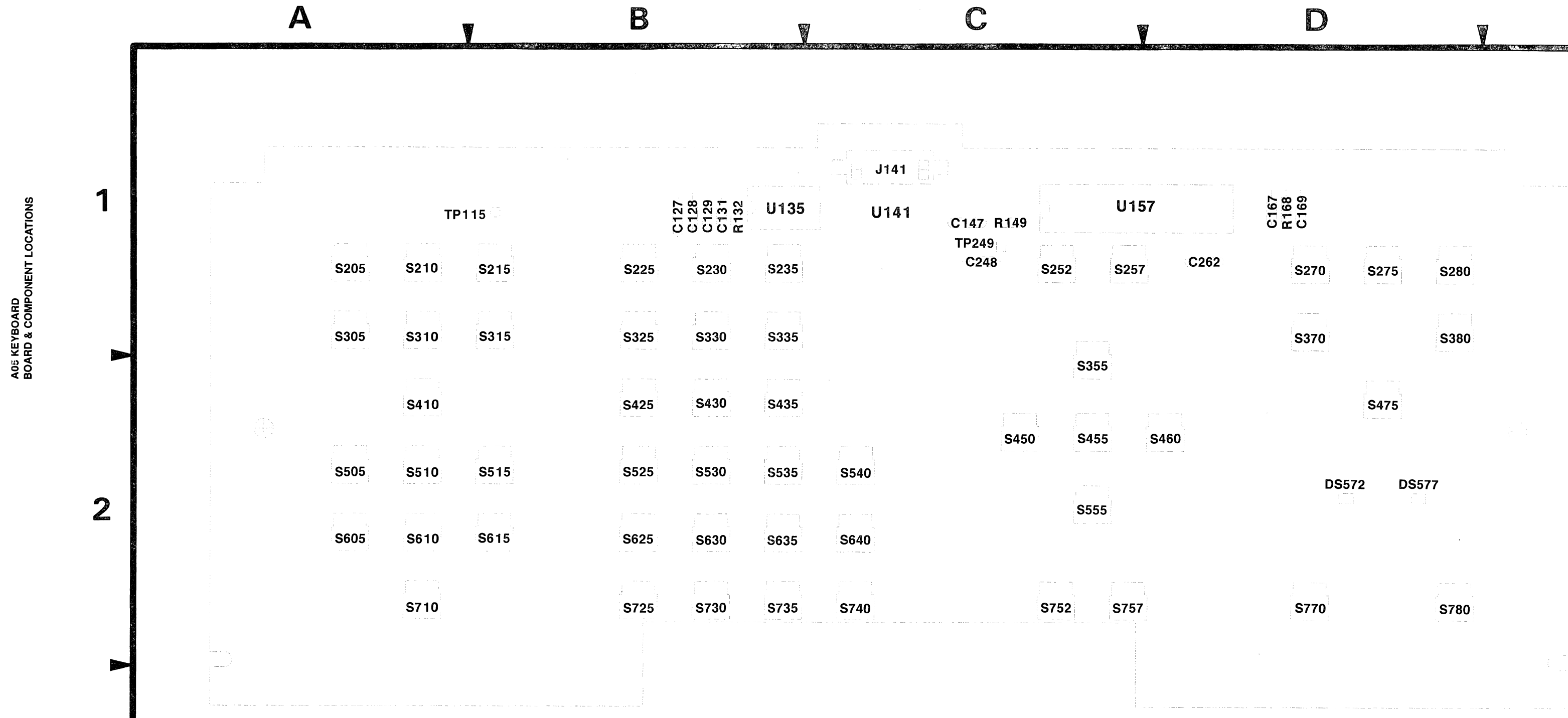
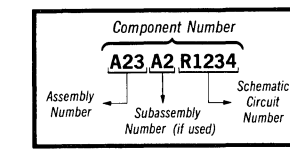


Figure 11-13. Keyboard Location.

Figure 11-12. A05 Keyboard Component Locations.

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

3836-264

3836-265

Table 11-10

KEYBOARD 9

ASSEMBLY A05

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C127	F4	B1	S430	C3	B2
C128	F4	B1	S435	A2	B2
C129	F4	B1	S450	D3	C2
C131	F4	B1	S455	C1	C2
C147	E3	C1	S460	D1	D2
C167	E3	D1	S475	C2	D2
C169	F4	D1	S505	C3	A2
C248	F5	C1	S510	A2	A2
C262	F5	D1	S515	B2	B2
DS572	F2	D2	S525	C4	B2
DS577	F2	D2	S530	C4	B2
J141	F2	C1	S535	B4	B2
R132	F4	B1	S540	C1	C2
R149	E3	C1	S555	D1	C2
R168	E3	D1	S605	B3	A2
S205	A2	A1	S610	D3	A2
S210	C2	A1	S615	C3	B2
S215	B2	B1	S625	D3	B2
S225	A3	B1	S630	D3	B2
S230	D2	B1	S635	C4	B2
S235	B1	B1	S640	C1	C2
S252	A1	C1	S710	B2	A2
S257	D3	C1	S725	F4	B2
S270	C2	D1	S730	A3	B2
S275	C2	D1	S735	B1	B2
S280	C2	D1	S740	B1	C2
S305	C2	A1	S752	D2	C2
S310	A2	A1	S757	D3	C2
S315	B2	B1	S770	D2	D2
S325	A3	B1	S780	D2	D2
S330	A2	B1	TP115	F4	B1
S335	C2	B1	TP249	F4	C1
S355	D1	C2	U135C	F3	B1
S370	D2	D1	U135F	F3	B1
S380	D2	D1	U141	F3	C1
S410	A4	A2	U157	E3	C1
S425	B4	B2			

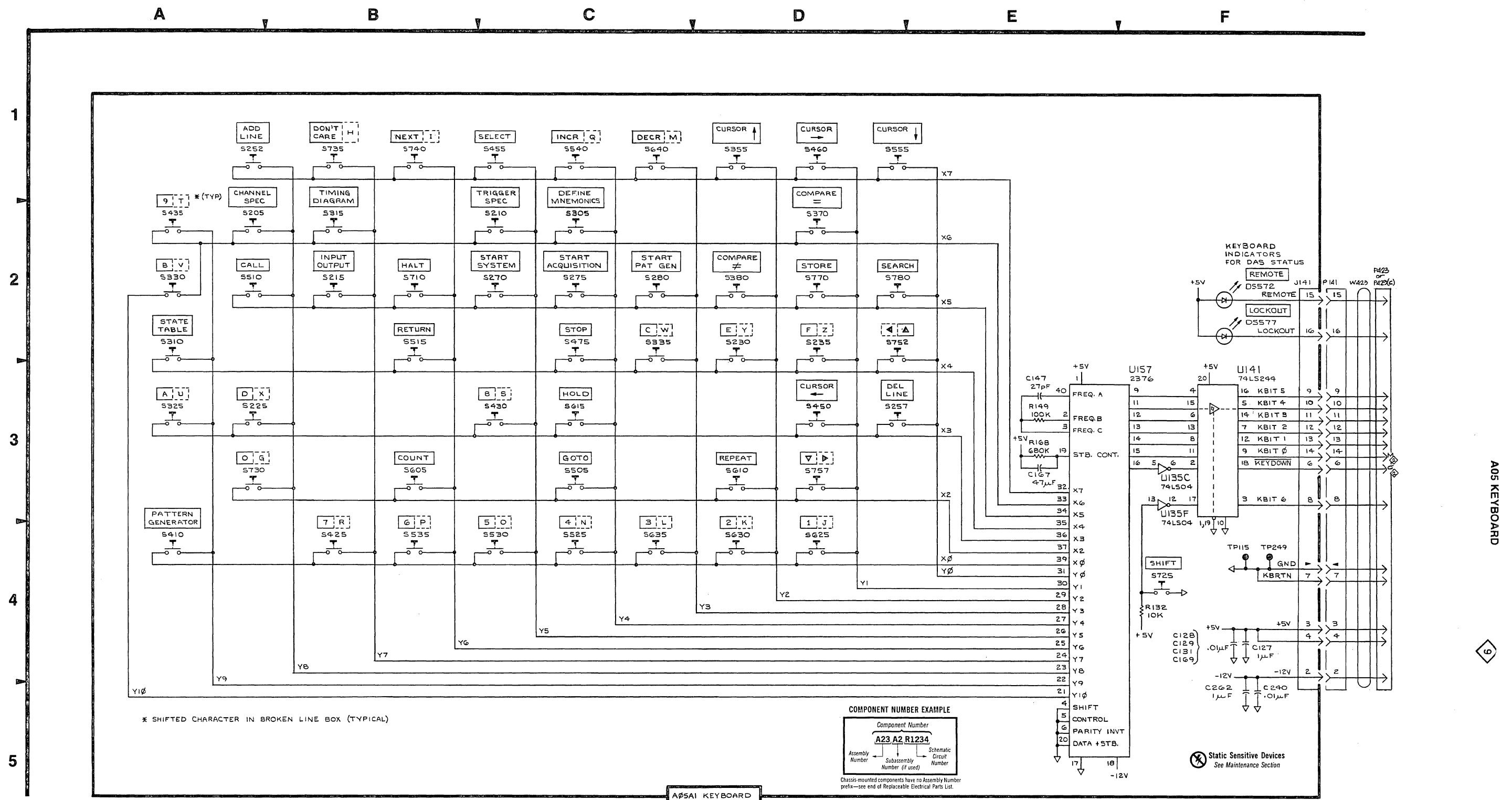
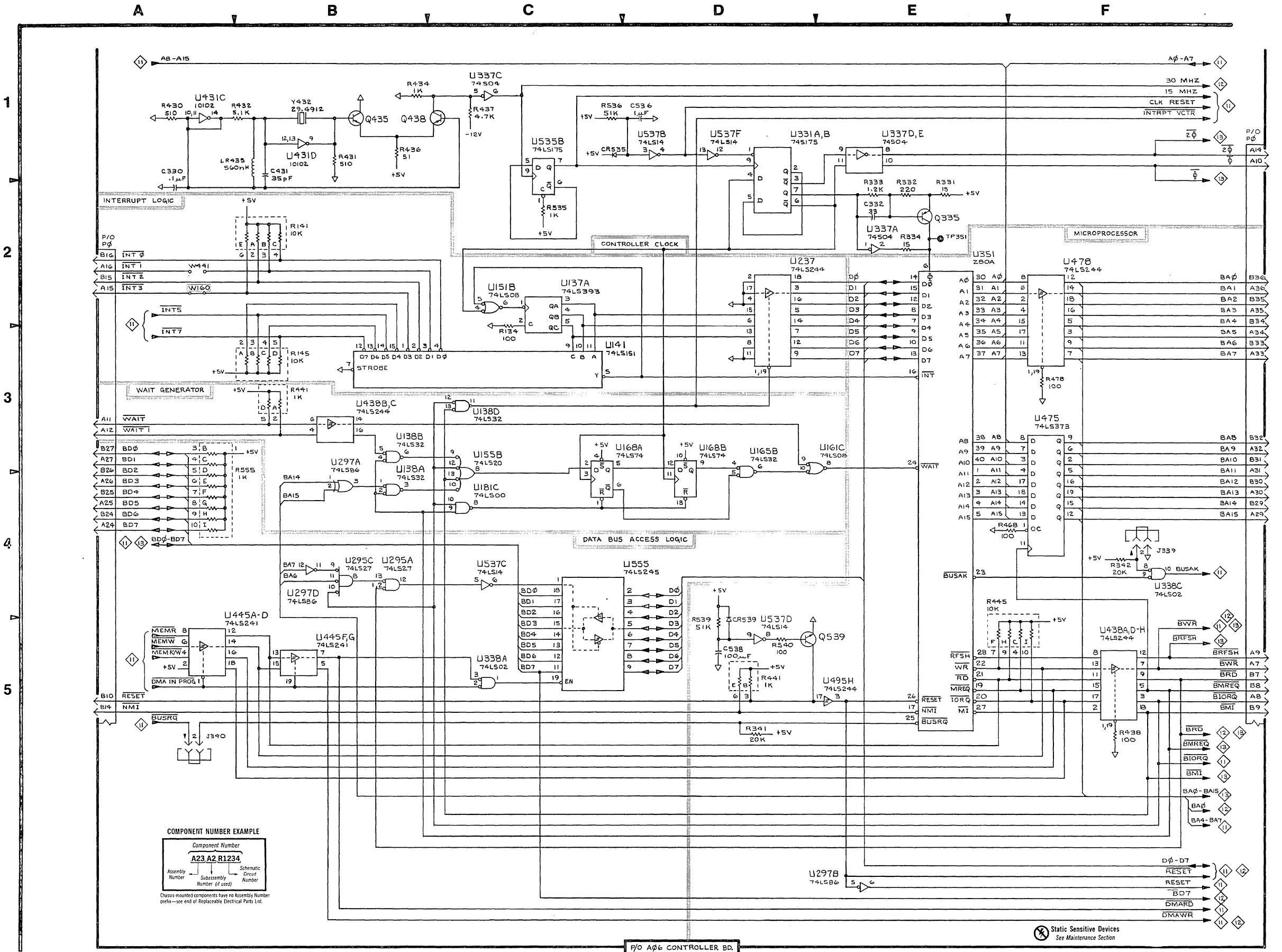


Table 11-11M

CONTROLLER M 10

ASSEMBLY A06 (670-6737-00)

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C330	A2	B2	R555H	A4	D3
C332	E2	B2	R555I	A4	D3
C431	B1	B2	TP351	E2	C2
C536	D1	B3	U137A	C2	C2
C538	D5	C2	U138A	B4	C1
CR535	C1	B2	U138B	B3	C1
CR539	D5	C2	U138D	C3	C1
J339	F4	C2	U141	C3	C1
J340	A5	C2	U151B	C2	C1
LR435	B1	B2	U155B	C4	C1
P0	A2	D3	U161C	D3	D1
P0	F1	D3	U165B	D3	D1
Q335	E2	B2	U168A	C4	D1
Q435	B1	B2	U168B	D4	D1
Q438	C1	B2	U181C	C4	D1
Q539	D5	C2	U237	D2	B1
R134	C3	B1	U295A	B4	E1
R141A	B2	C1	U295C	B4	E1
R141B	B2	C1	U297A	B4	E1
R141C	B2	C1	U297B	E5	E1
R141E	B2	C1	U297D	B4	E1
R145A	B3	C1	U331A	D1	B2
R145B	B3	C1	U331B	D1	B2
R145C	B3	C1	U337A	E2	B2
R145D	B3	C1	U337C	C1	B2
R331	E2	B2	U337D	E1	B2
R332	E2	B2	U337E	E1	B2
R334	E2	B2	U338A	C5	C2
R341	D5	C2	U351	E2	C2
R342	F4	C2	U431C	A1	B2
R430	A1	B2	U431D	B1	B2
R431	B1	B2	U438A	F5	C2
R432	B1	B2	U438B	B3	C2
R434	B1	B2	U438C	B3	C2
R436	B1	B2	U438D	F5	C2
R437	C1	B2	U438E	F5	C2
R438	F5	C2	U438F	F5	C2
R441A	B3	C2	U438G	F5	C2
R441B	D5	C2	U438H	F5	C2
R441D	B3	C2	U445A	A5	C2
R441E	D5	C2	U445B	A5	C2
R445C	F5	C2	U445C	A5	C2
R445F	E5	C2	U445D	A5	C2
R445H	F5	C2	U445F	B5	C2
R445I	F5	C2	U445G	B5	C2
R468	F4	D2	U475	F4	D2
R478	F3	D2	U478	F2	D2
R535	C2	B2	U495H	E5	E2
R536	C1	B3	U535B	C1	B2
R539	D5	C2	U537B	D1	B2
R540	D5	C2	U537C	C4	B2
R555B	A3	D3	U537D	D5	B2
R555C	A3	D3	U537F	D1	B2
R555D	A4	D3	U555	C5	C2
R555E	A4	D3	* W160	A2	C1
R555F	A4	D3	* W441	A2	C2
R555G	A4	D3	Y432	B1	B2



*SEE PARTS LIST FOR SERIAL NUMBER RANGES.

DAS 9100 SERIES

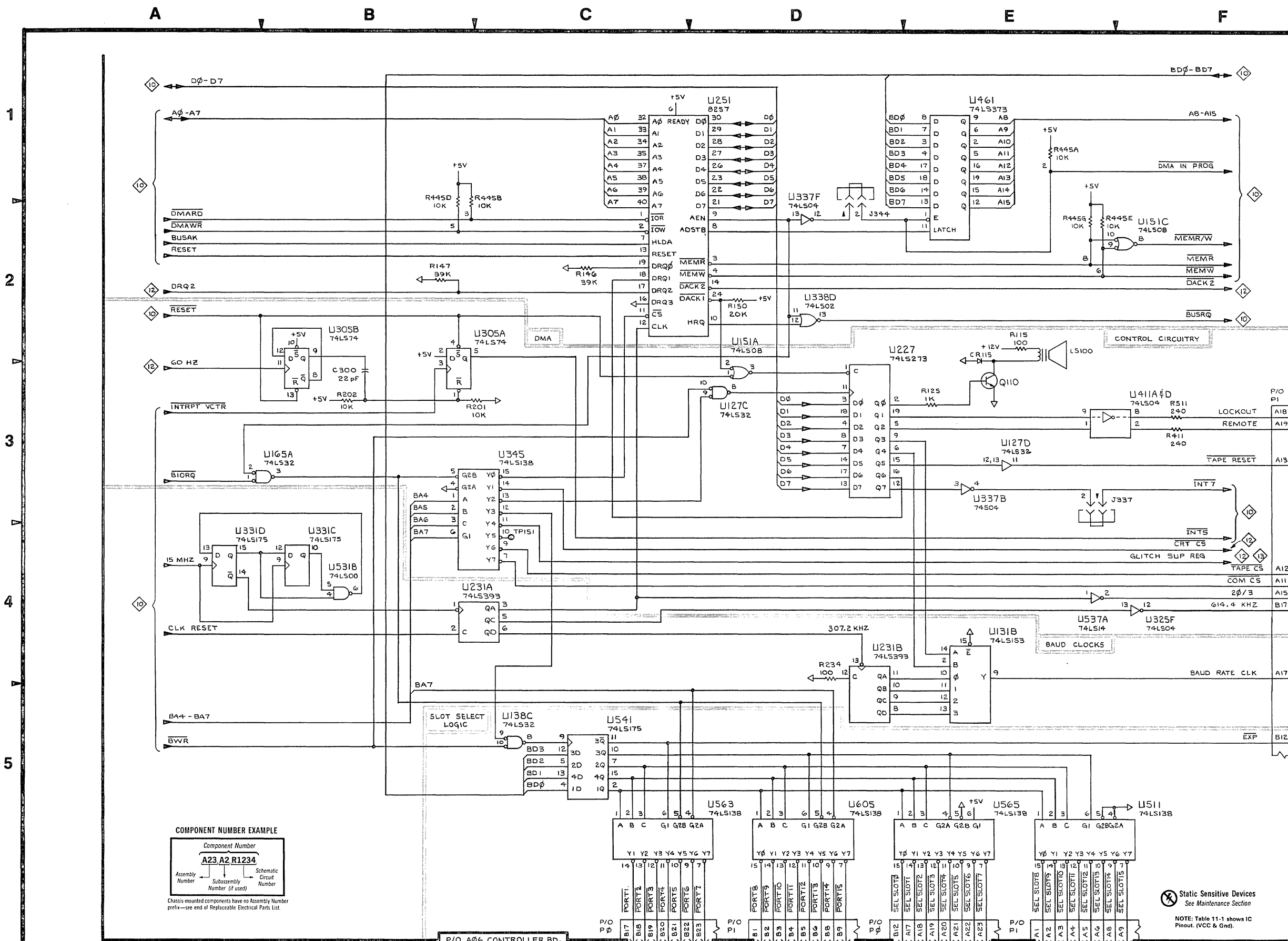
REV. NOV. 1983
3856-210

DAS 9129 CONTROLLER MICROPROCESSOR (COLOR) C 10
DAS 9109 CONTROLLER MICROPROCESSOR (MONOCHROME) M 10

P/O A06 CONTROLLER MICROPROCESSOR

Table 11-12M

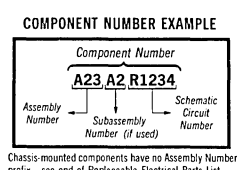
CONTROLLER M 11		
ASSEMBLY A06 (670-6737-00)		
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C300	B3	A2
CR115	E2	A1
J337	E3	C2
J344	D1	C2
LS100	E2	A1
P0	C5	D3
P0	D5	D3
P1	F3	B3
P1	D5	B3
P1	E5	B3
Q110	E3	A1
R115	E2	A1
R125	E3	B1
R146	C2	C1
R147	B2	C1
R150	D2	C1
R201	C3	A2
R202	B3	A2
R234	D4	B1
R411	F3	A2
R445A	E1	C2
R445B	B1	C2
R445D	B1	C2
R445E	E2	C2
R445G	E2	C2
R511	F3	A2
TP151	C4	C1
U127C	D3	B1
U127D	E3	B1
U131B	E4	B1
U138C	C5	C1
U151A	D3	C1
U151C	F2	C1
U165A	B3	D1
U227	D3	B1
U231A	C4	B1
U231B	D5	B1
U251	C2	C1
U305A	B3	A2
U305B	B3	A2
U325F	F4	B2
U331C	B4	B2
U331D	A4	B2
U337B	E3	B2
U337F	D2	B2
U338D	D2	C2
U345	C3	C2
U411A	E3	A2
U411D	E3	A2
U461	E1	D2
U511	E5	A2
U531B	B4	B2
U537A	E4	B2
U541	C5	C2
U563	C5	D3
U565	E5	D3
U605	D5	A3



DAS 9100 SERIES

REV. NOV 1983
3836-211

DAS 9129 CONTROLLER DMA AND SLOT SELECT (COLOR) M 11
DAS 9109 CONTROLLER DMA AND SLOT SELECT (MONOCHROME) M 11



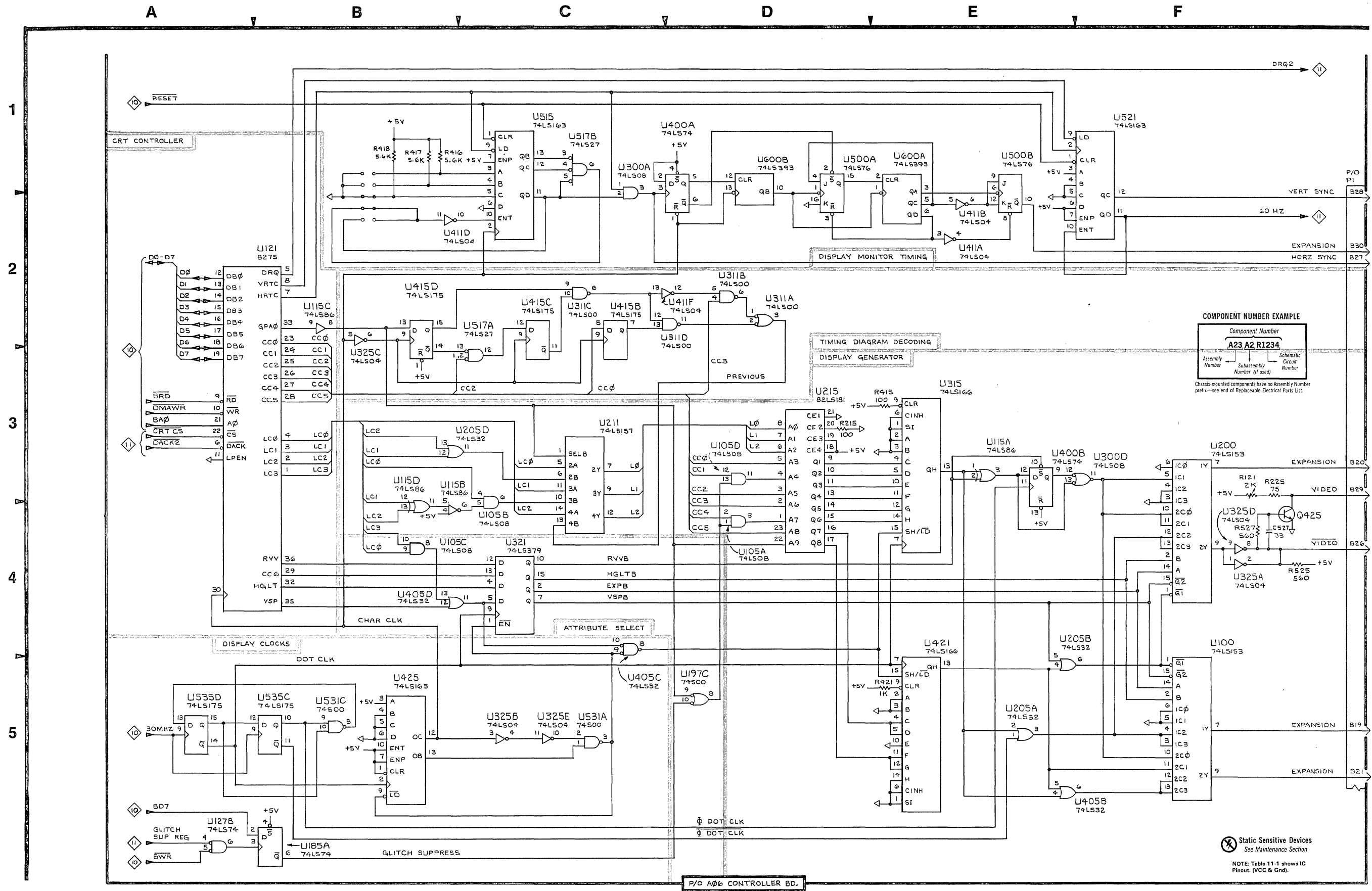
Static Sensitive Devices
See Maintenance Section
NOTE: Table 11-1 shows IC Pinout, (VCC & Gnd)

Table 11-13M

CONTROLLER M 12

ASSEMBLY A06 (670-6737-00)

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C527	F4	B3	U311A	D2	A2
P1	F1	B3	U311B	D2	A2
Q425	F4	B2	U311C	C2	A2
R121	F3	B1	U311D	D2	A2
R215	D3	B1	U315	E3	A2
R225	F3	B1	U321	C4	B2
R415	E3	B2	U325A	F4	B2
R416	B1	A2	U325B	C5	B2
R417	B1	A2	U325C	B2	B2
R418	B1	A2	U325D	F4	B2
R421	E5	B2	U325E	C5	B2
R525	F4	B2	U400A	D1	A2
R527	F4	B3	U400B	E3	A2
S100	B2	A1	U405B	E5	A2
U100	F5	A1	U405C	C4	A2
U105A	D4	A1	U405D	B4	A2
U105B	C4	A1	U411A	E2	A2
U105C	B4	A1	U411B	E2	A2
U105D	D3	A1	U411D	B2	A2
U115A	E3	A1	U411F	D2	A2
U115B	B4	A1	U415B	A2	A2
U115C	B2	A1	U415C	C2	A2
U115D	B4	A1	U415D	B2	A2
U121	B2	B1	U421	E5	B2
U127B	A5	B1	U425	B5	B2
U185A	B5	E1	U500A	D1	A2
U197C	D5	E1	U500B	E1	A2
U200	F4	A1	U515	C1	A2
U205A	E5	A1	U517A	C3	A2
U205B	E5	A1	U517B	C1	A2
U205D	B3	A1	U521	F1	B3
U211	C3	A1	U531A	C5	B2
U215	D3	A1	U531C	B5	B2
U300A	C1	A2	U535C	B5	B2
U300D	F3	A2	U535D	A5	B2



P/O A06 CONTROLLER DISPLAY MONITOR INTERFACE M 12

COMPONENT NUMBER EXAMPLE

Component Number
A23 A2 R1234

Assembly Number Subassembly Number (if used) Schematic Circuit Number (if used)

Chassis mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Static Sensitive Devices
See Maintenance Section

NOTE: Table 11-1 shows IC Pinout, (VCC & Gnd).

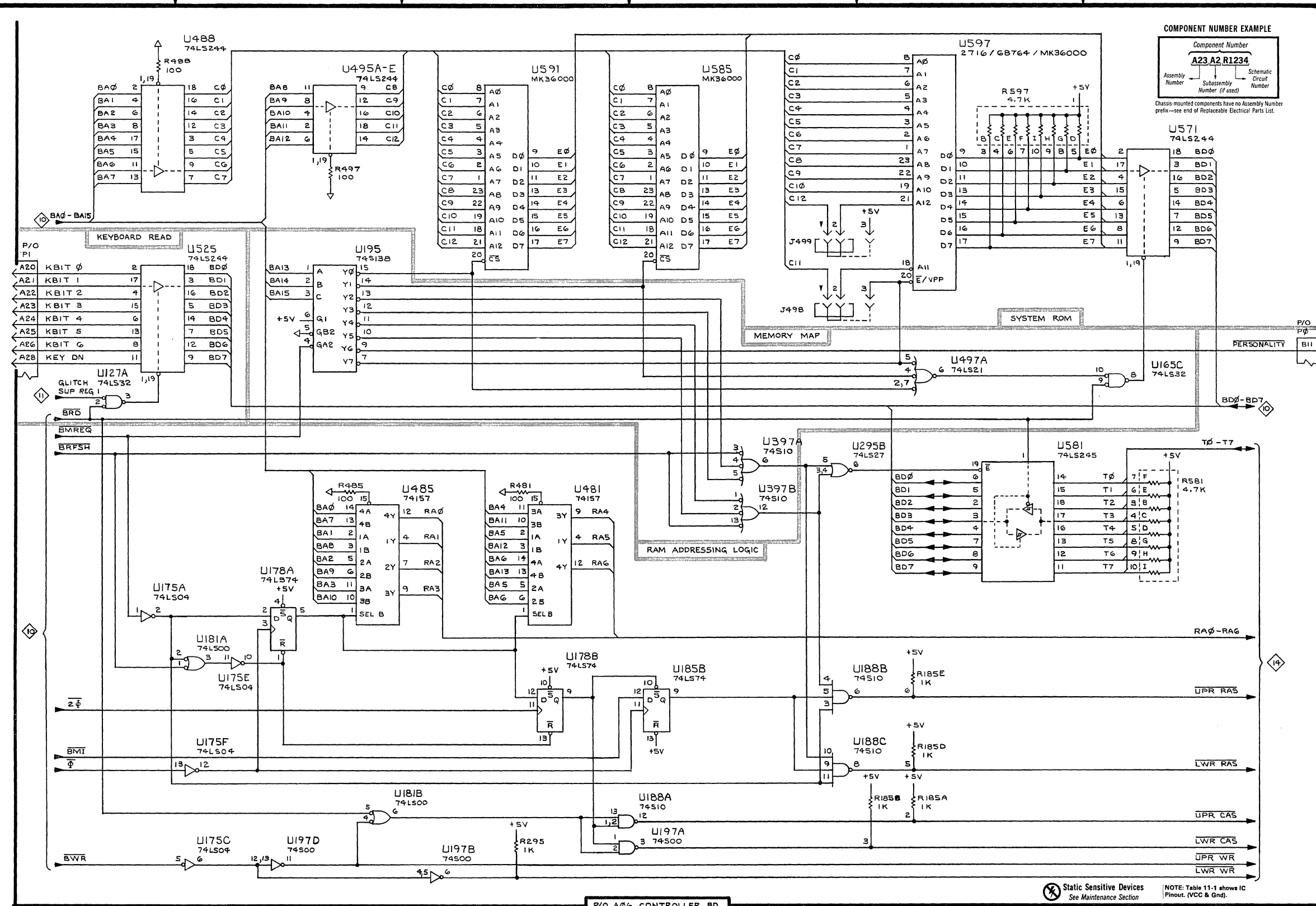
Table 11-14M

CONTROLLER M 13

ASSEMBLY A06 (670-6737-00)

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
J498	D2	E2	U175E	B4	D1
J499	D2	E2	U175F	A5	D1
P0	F2	D3	U178A	B4	D1
P1	A2	B3	U178B	C5	D1
R185A	E5	E1	U181A	B4	D1
R185B	E5	E1	U181B	A5	D1
R185D	E5	E1	U185B	D5	E1
R185E	E4	E1	U188A	C5	E1
R295	C5	E2	U188B	D4	E1
R481	C3	D2	U188C	D5	E1
R485	B3	E2	U195	B2	E1
R488	A1	E2	U197A	C5	E1
R497	B1	E2	U197B	C5	E1
R581B	F3	E3	U197D	A5	E1
R581C	F3	E3	U295B	D3	E1
R581D	F4	E3	U397A	D3	E2
R581E	F3	E3	U397B	D3	E2
R581F	F3	E3	U481	C4	D2
R581G	F4	E3	U485	B4	E2
R581H	F4	E3	U488	A1	E2
R581I	F4	E3	U495A	B1	E2
R597B	E1	E3	U495B	B1	E2
R597C	E1	E3	U495C	B1	E2
R597D	E1	E3	U495D	B1	E2
R597E	E1	E3	U495E	B1	E2
R597F	E1	E3	U497A	E3	E2
R597G	E1	E3	U525	A2	B2
R597H	E1	E3	U571	F2	D3
R597I	E1	E3	U581	E3	D3
U127A	A3	B1	U585	D1	E3
U165C	F3	D1	U591	C1	E3
U175A	A4	D1	U597	E1	E3
U175C	A5	D1			

1
2
3
4
5



COMPONENT NUMBER EXAMPLE
 Component Number
 A23 A2 R1234
 Assembly Number Subassembly Number (if used) Schematic Circuit Number
 Chassis mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

P/O A06 CONTROLLER SYSTEM MEMORY CONTROL M 13

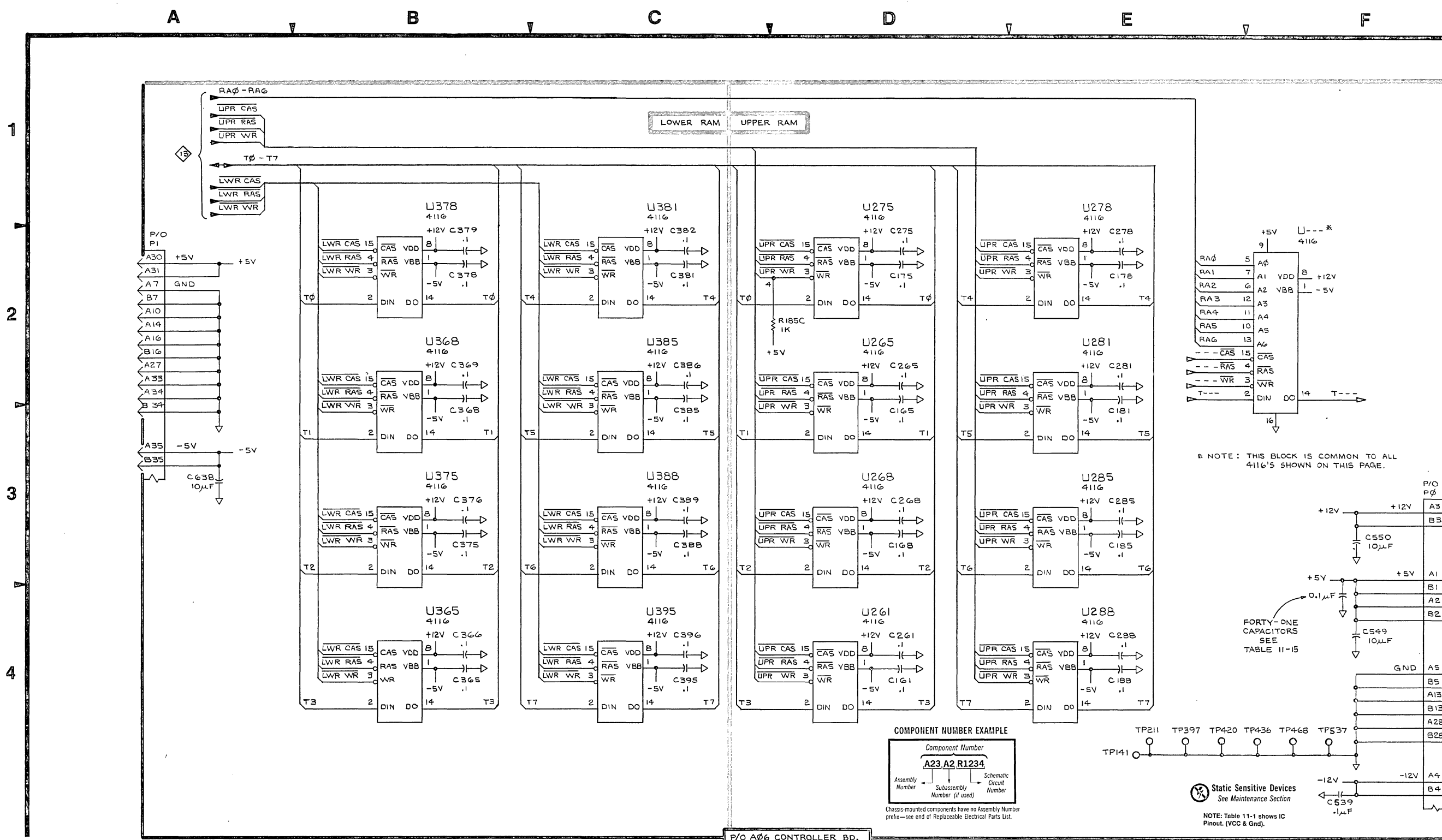
Table 11-15M

CONTROLLER M 14

ASSEMBLY A06 (670-6737-00)

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
*C105	F4	A1	C396	C4	E2
*C121	F4	B1	*C411	F4	A2
*C127	F4	B1	*C415	F4	A2
*C131	F4	B1	*C425	F4	B2
*C137	F4	B1	*C438	F4	C2
*C145	F4	C1	*C445	F4	C2
*C148	F4	C1	*C467	F4	D2
C161	D4	D1	*C468	F4	D2
*C162	F4	D1	*C471	F4	D2
C165	D2	D1	*C475	F4	D2
C168	D3	D1	*C478	F4	D2
C175	D2	D1	*C481	F4	D2
C178	E2	D1	*C487	F4	E2
C181	E2	D1	*C488	F4	E2
C185	E3	E1	*C496	F4	E2
C188	E4	E1	*C521	F4	B2
*C251	F4	C1	*C525	F4	B2
C261	D4	D1	*C537	F4	B3
*C262	F4	D2	C539	F4	B3
C265	D2	D1	*C545	F4	C2
*C266	F4	D2	C549	F4	C3
C268	D3	D1	C550	F3	C3
*C269	F4	D2	*C591	F4	E2
C275	D2	D1	*C597	F4	E2
*C276	F4	D2	C638	A3	B3
C278	E2	D1	P0	F3	D3
*C279	F4	D2	P1	A2	B3
C281	E2	D1	R1850	D2	E1
*C282	F4	D2	TP141	E4	C1
C285	E3	E1	TP211	E4	A1
*C286	F4	E2	TP397	E4	E2
C288	E4	E1	TP420	E4	B2
*C289	F4	E2	TP436	F4	B2
*C321	F4	B2	TP468	F4	D2
*C325	F4	B2	TP537	F4	B3
C337	F4	B2	U261	D4	D1
C361	F4	D2	U265	D3	D1
C365	B4	D2	U268	D3	D1
C366	B4	D2	U275	D2	D1
C368	B2	D2	U278	E2	D1
C369	B2	D2	U281	E3	D1
C375	B3	D2	U285	E3	E1
C376	B3	D2	U288	E4	E1
C378	B2	D2	U365	B4	D2
C379	B2	D2	U368	B3	D2
C381	C2	D2	U375	B3	D2
C382	C2	D2	U378	B2	D2
C385	C2	E2	U381	C2	D2
C386	C2	E2	U385	C3	E2
C388	C3	E2	U388	C3	E2
C389	C3	E2	U395	C4	E2
C395	C4	E2			

*Decoupling capacitors



DAS 9100 SERIES

REV. NOV. 1983
3836-214

670-6737-00 DAS 9109 CONTROLLER SYSTEM RAM (MONOCHROME) M 14

P/O A06 CONTROLLER
SYSTEM RAM

M 14

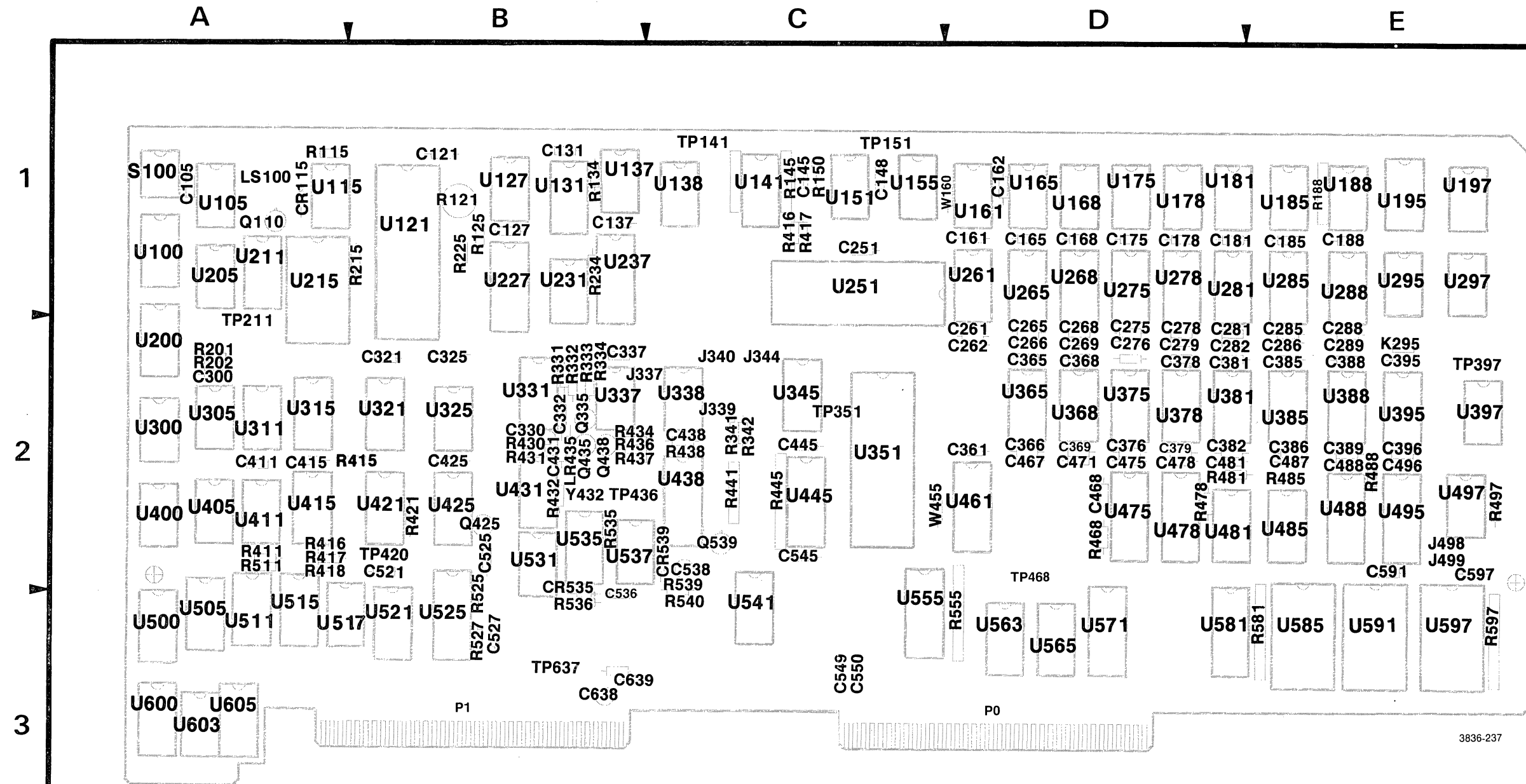
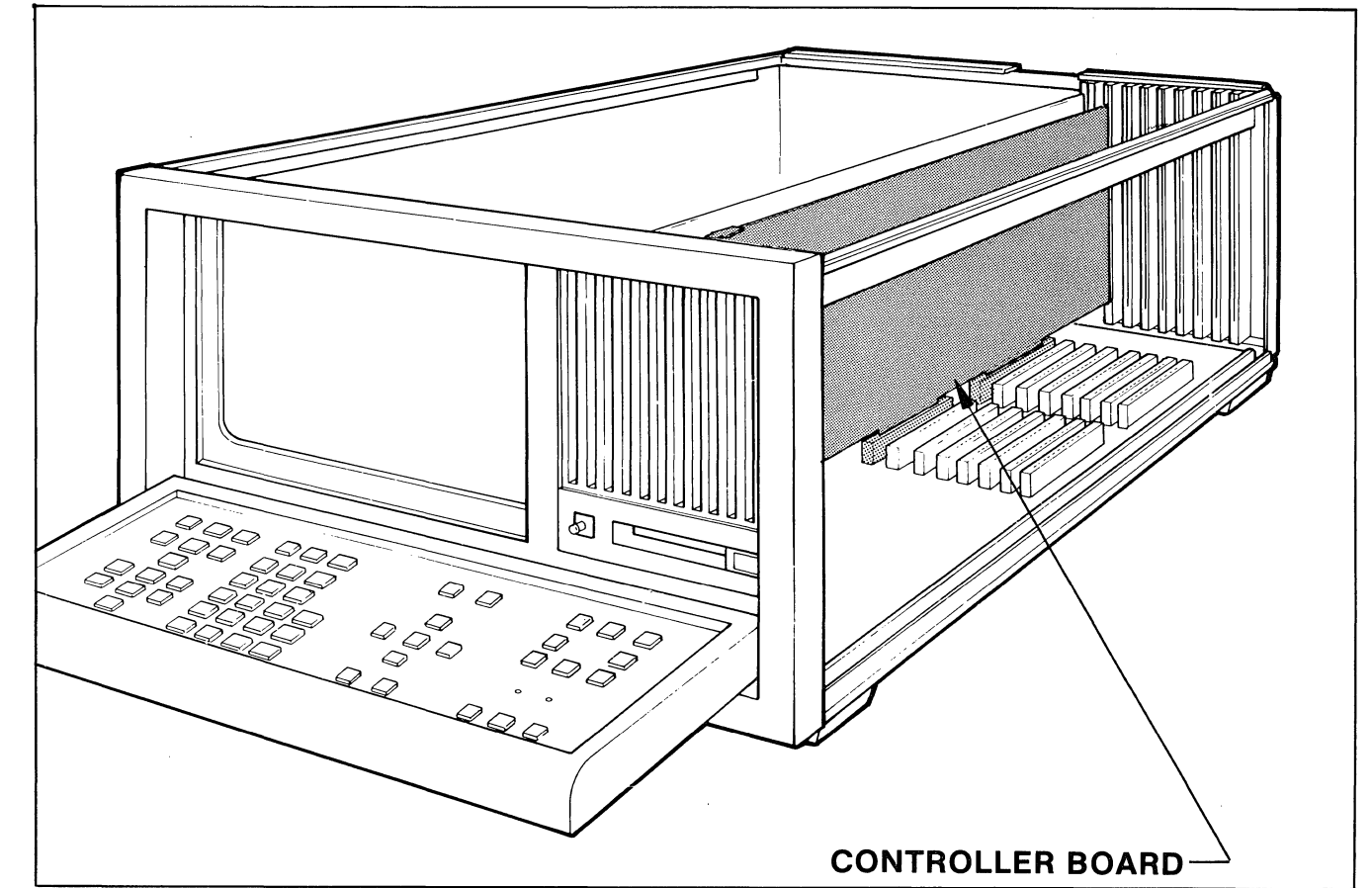


Figure 11-14C. A33 (670-7475-00) Controller Component Locations.



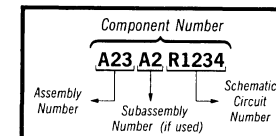
Configuration Guidelines				
Module	Max. per Mainframe	Recommended Bus Slot(s)	Functional in Bus Slot(s)	Comments
Controller	1	0	0	Required
Trigger/Time Base	1	7	7	Required
91A08	4	6(5,4,3)	6(5,4,3)	Required: first 91A08 in slot 6, additional 91A08s in descending slots (5,4,3)
91A32	3	2-6	1-6	
91P16	1	1	1-6	
91P32	2	2-6	1-6	Will not function without a 91P16 installed.

Figure 11-15C. Controller Location (670-7475-00).

NOTE: If the part number of the Controller Board in your DAS9109 Monochrome System is 670-6737-00, use Figure 11-14M and associated schematic.

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-11CM

CONTROLLER C 10, M 10					
ASSEMBLY A33 (670-7475-00)					
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C330	A2	B2	R555H	A4	D3
C332	E2	B2	R555I	A4	D3
C431	B1	B2	TP351	E2	C2
C536	D1	B2	U137A	C2	B1
C538	D5	C2	U138A	B4	C1
CR535	C1	B2	U138B	B3	C1
CR539	D5	C2	U138D	C3	C1
J339	F4	C2	U141	C3	C1
J340	A5	C2	U151B	C2	C1
LR435	B1	B2	U155B	C4	C1
P0	A2	D3	U161C	D4	D1
P0	F1	D3	U165B	D4	D1
Q335	E2	B2	U168A	C4	D1
Q435	B1	B2	U168B	D4	D1
Q438	C1	B2	U181C	C4	D1
Q539	D5	C2	U237	D2	B1
R134	C3	B1	U295A	B4	E1
R141A	B2	C1	U295C	B4	E1
R141B	B2	C1	U297A	B4	E1
R141C	B2	C1	U297B	E5	E1
R141E	B2	C1	U297D	B4	E1
R145A	B3	C1	U331A	D1	B2
R145B	B3	C1	U331B	D1	B2
R145C	B3	C1	U337A	E2	B2
R145D	B3	C1	U337C	C1	B2
R331	E2	B2	U337D	E1	B2
R332	E2	B2	U337E	E1	B2
R333	E2	B2	U338A	C5	C2
R334	E2	B2	U338C	F4	C2
R341	D5	C2	U351	E2	C2
R342	F4	C2	U431C	A1	B2
R430	A1	B2	U431D	B1	B2
R431	B1	B2	U438A	F5	C2
R432	A1	B2	U438B	B3	C2
R434	B1	B2	U438C	B3	C2
R436	B1	B2	U438D	F5	C2
R437	C1	B2	U438E	F5	C2
R438	F5	C2	U438F	F5	C2
R441A	B3	C2	U438G	F5	C2
R441B	D5	C2	U438H	F5	C2
R441D	B3	C2	U445A	A5	C2
R441E	D5	C2	U445B	A5	C2
R445C	F5	C2	U445C	A5	C2
R445F	E5	C2	U445D	A5	C2
R445H	F5	C2	U445F	B5	C2
R445I	F5	C2	U445G	B5	C2
R468	F4	D2	U475	F4	D2
R478	F3	D2	U478	F2	D2
R535	C2	B2	U495H	E5	E2
R536	C1	B3	U535B	C1	B2
R539	D5	C2	U537B	D1	B2
R540	D5	C3	U537C	C4	B2
R555B	A3	D3	U537D	D5	B2
R555C	A3	D3	U537F	D1	B2
R555D	A4	D3	U555	C5	C3
R555E	A4	D3	* W160	A2	C1
R555F	A4	D3	W455	A2	C2
R555G	A4	D3	Y432	B1	B2

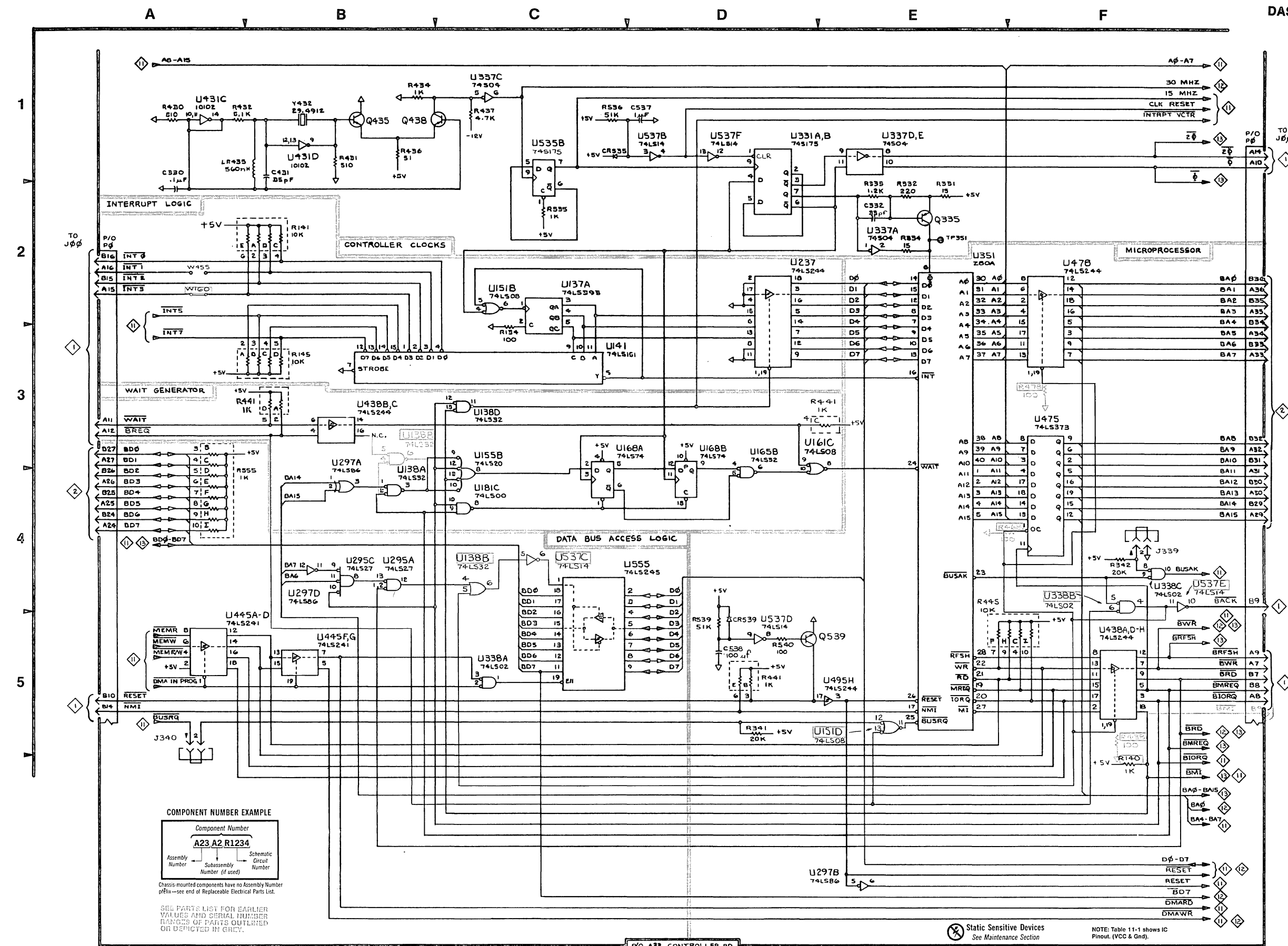


Table 11-12CM

CONTROLLER C 11, M 11					
ASSEMBLY A33 (670-7475-00)					
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C300	B3	A2	U127D	E3	B1
CR115	E2	A1	U131B	E4	B1
J337	E3	B2	U138C	C5	C1
J344	D1	C2	U151A	D3	C1
LS100	E2	A1	U151C	F2	C1
P0	C5	D3	U165A	B3	D1
P0	D5	D3	U227	D3	B1
P1	F3	B3	U231A	C4	B1
P1	D5	B3	U231B	D5	B1
P1	E5	B3	U251	C2	C1
Q110	E3	A1	U305A	B3	A2
R115	E2	A1	U305B	B3	A2
R125	E3	B1	U325F	F4	B2
R146	C2	C1	U331C	B4	B2
R147	B2	C1	U331D	A4	B2
R150	D2	C1	U337B	E3	B2
R201	C3	A2	U337F	D2	B2
R202	B3	A2	U338D	D2	C2
R234	D4	B1	U345	C3	C2
R411	F3	A2	U411A	E3	A2
R445A	E1	C2	U411D	E3	A2
R445B	B1	C2	U461	E1	D2
R445D	B1	C2	U511	E5	A3
R445E	E2	C2	U531B	B4	B2
R445G	E2	C2	U537A	E4	B2
R511	F3	A2	U541	C5	C3
TP151	C4	C1	U563	C5	D3
U127C	D3	B1	U565	E5	D3
			U605	D5	A3

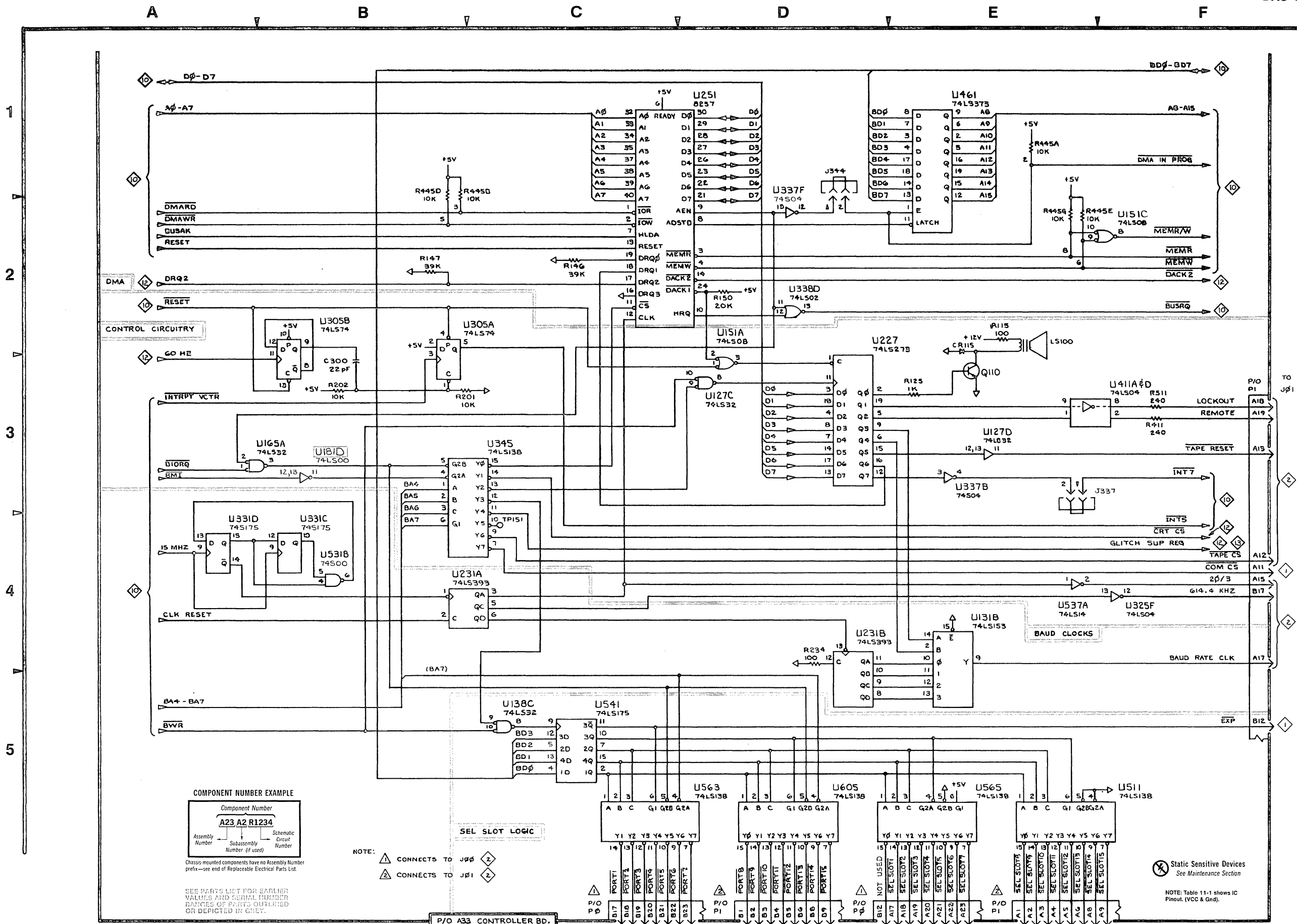


Table 11-13CM

CONTROLLER C 12 , M 12					
ASSEMBLY A33 (670-7475-00)					
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C527	F4	B3	U315	E3	A2
P1	F1	B3	U321	C4	B2
Q425	F4	B2	U325A	F4	B2
R121	F3	B1	U325B	C5	B2
R215	D3	B1	U325C	B2	B2
R225	F3	B1	U325D	F4	B2
R415	E3	B2	U325E	C5	B2
R416	E1	A2	U400A	F2	A2
R417	E1	A2	U400B	E3	A2
R418	E1	A2	U405A	C1	A2
R421	E5	B2	U405B	E5	A2
R525	F4	B2	U405C	C4	A2
R527	F4	B3	U405D	B4	A2
S100	E1	A1	U411B	E2	A2
U100	F5	A1	U411D	B2	A2
U105A	D4	A1	U411F	D2	A2
U105B	C4	A1	U415B	C2	A2
U105C	B4	A1	U415C	C2	A2
U105D	D3	A1	U415D	B2	A2
U115A	E3	A1	U421	E5	B2
U115B	B4	A1	U425	B5	B2
U115C	B2	A1	U500	D1	A3
U115D	B4	A1	U505	E1	A3
U121	B2	B1	U515	C1	A3
U127B	A5	B1	U517A	C3	A3
U185A	B5	E1	U517A	C2	A3
U197C	D5	E1	U517B	C1	A3
U200	F4	A2	U521	F1	B3
U205A	E5	A1	U531A	C5	B2
U205B	E5	A1	U531C	B5	B2
U205D	B3	A1	U531D	C2	B2
U211	C3	A1	U535C	B5	B2
U215	D3	A1	U535D	A5	B2
U300A	C1	A2	U600	D1	A3
U300D	F3	A2	U600A	E2	A3
U311A	D2	A2	U603A	E1	A3
U311B	D2	A2	U603B	E2	A3
U311C	C2	A2	U603C	B2	A3
U311D	D2	A2	U603D	B2	A3

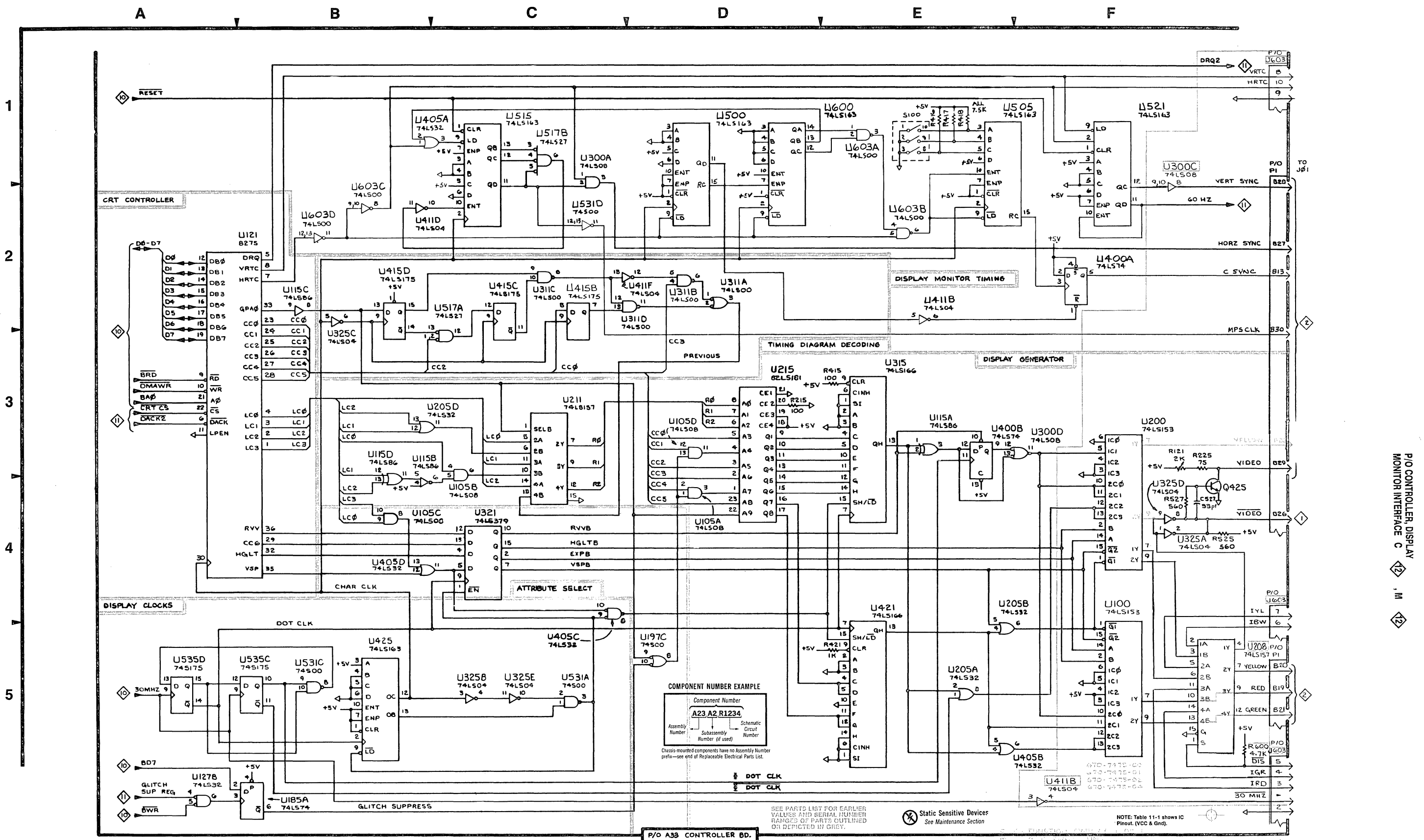


Table 11-14CM

CONTROLLER C 13, M 13

ASSEMBLY A33 (670-7475-00)

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
J498	D2	E2	U175C	B5	D1
J499	D2	E2	U175E	B4	D1
P0	F2	D3	U175F	B5	D1
P1	A2	B3	U178A	B4	D1
R185A	E5	E1	U178B	C5	D1
R185B	E5	E1	U181A	B4	D1
R185C	B5	E1	U181B	B5	D1
R185D	E5	E1	U185B	D5	E1
R185E	E4	E1	U188A	C5	E1
R295	C5	E2	U188B	D4	E1
R481	C3	D2	U188C	D5	E1
R485	B3	E2	U195	B2	E1
R488	A1	E2	U197A	C5	E1
R497	B1	E2	U197B	C5	E1
R581B	F3	E3	U197D	B5	E1
R581C	F3	E3	U295B	D3	E1
R581D	F3	E3	U397A	D3	E2
R581E	F3	E3	U397B	D3	E2
R581F	F3	E3	U481	C4	D2
R581G	F4	E3	U485	B4	E2
R581H	F4	E3	U488	A1	E2
R581I	F4	E3	U495A	B1	E2
R597B	E1	E3	U495B	B1	E2
R597C	E1	E3	U495C	B1	E2
R597D	E1	E3	U495D	B1	E2
R597E	E1	E3	U495E	B1	E2
R597F	E1	E3	U497A	E3	E2
R597G	E1	E3	U525	A2	B3
R597H	E1	E3	U571	F2	D3
R597I	E1	E3	U581	E3	D3
U127A	A3	B1	U585	D1	E3
U165C	F3	D1	U591	C1	E3
U175A	A4	D1	U597	E1	E3

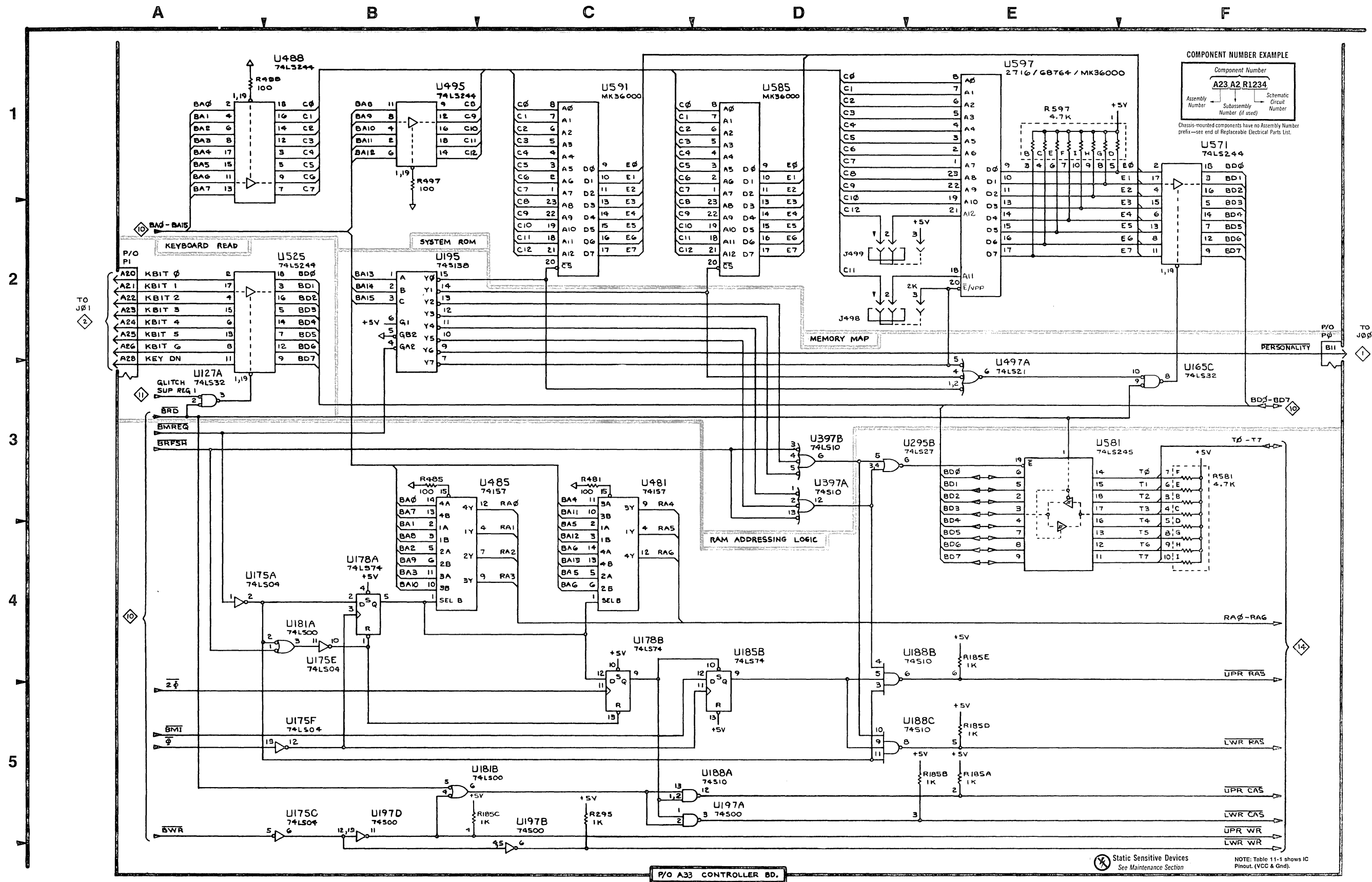
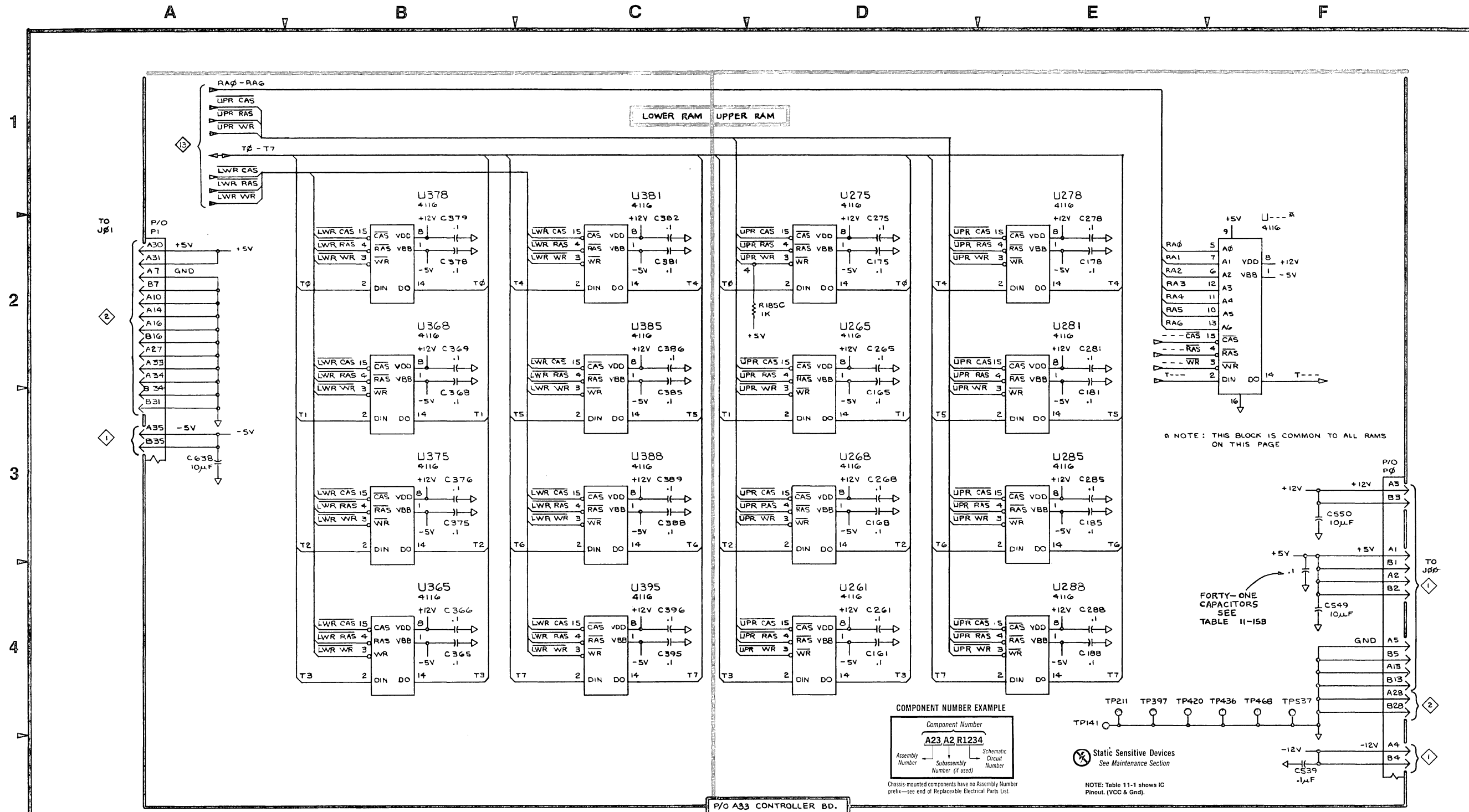


Table 11-15CM

CONTROLLER C 14 , M 14					
ASSEMBLY A33 (670-7475-00)					
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
*C105	F4	A1	*C425	F4	B2
*C121	F4	B1	*C438	F4	C2
*C127	F4	B1	*C445	F4	C2
*C131	F4	B1	*C467	F4	D2
*C137	F4	B1	*C468	F4	D2
*C145	F4	C1	*C471	F4	D2
*C148	F4	C1	*C475	F4	D2
*C161	D4	D1	*C478	F4	D2
*C162	F4	D1	*C481	F4	D2
*C165	D2	D1	*C487	F4	E2
*C168	D3	D1	*C488	F4	E2
*C175	D2	D1	*C496	F4	E2
*C178	E2	D1	*C521	F4	B2
*C181	E2	D1	*C525	F4	B2
*C185	E3	E1	*C545	F4	C2
*C188	E4	E1	C549	F4	C3
*C251	F4	C1	C550	F3	C3
*C251	D4	D1	*C591	F4	E2
*C251	F4	D2	*C597	F4	E2
*C262	D2	D1	*C637	F4	B3
*C265	D2	D1	C638	A3	B3
*C266	F4	D1	C639	F5	B3
*C268	D3	D1	P0	F3	D3
*C269	F4	D2	P1	A2	B3
*C275	D2	D1	R185C	D2	E1
*C276	F4	D2	TP141	E4	C1
*C278	E2	D1	TP211	E4	A1
*C279	F4	D2	TP397	E4	E2
*C281	E2	D1	TP420	E4	B2
*C282	F4	D2	TP436	F4	B2
*C285	E3	E1	TP468	F4	D2
*C286	F4	E2	TP637	F4	B3
*C288	E4	E1	U261	D4	D1
*C289	F4	E2	U265	B2	D1
*C321	F4	B2	U268	D3	D1
*C325	F4	B2	U275	D2	D1
*C337	F4	B2	U278	E2	D1
*C361	F4	D2	U281	E3	D1
*C365	B4	D2	U285	E3	E1
*C366	B2	D2	U288	E4	E1
*C368	B2	D2	U365	B4	D2
*C369	B2	D2	U368	B3	D2
*C375	B3	D2	U375	B3	D2
*C376	B3	D2	U378	B2	D2
*C378	B2	D2	U381	C2	D2
*C379	B2	D2	U385	C3	E2
*C381	C2	D2	U388	C3	E2
*C382	C2	D2	U395	C4	E2
*C385	C2	E2			
*C386	C2	E2			
*C388	C3	E2			
*C389	C3	E2			
*C395	C4	E2			
*C396	C4	E2			
*C411	F4	A2			
*C415	F4	A2			

* DECOUPLING CAPACITORS
* DECOUPLING CAPACITORS
* DECOUPLING CAPACITORS
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DAS 9100 SERIES

3836-214
3836-612
670-7475-00

DAS 9129 CONTROLLER SYSTEM RAM (COLOR) C 14
DAS 9109 CONTROLLER SYSTEM RAM (MONOCHROME) M 14

Static Sensitive Devices
See Maintenance Section

NOTE: Table 11-1 shows IC Pinout, (VCC & Gnd).

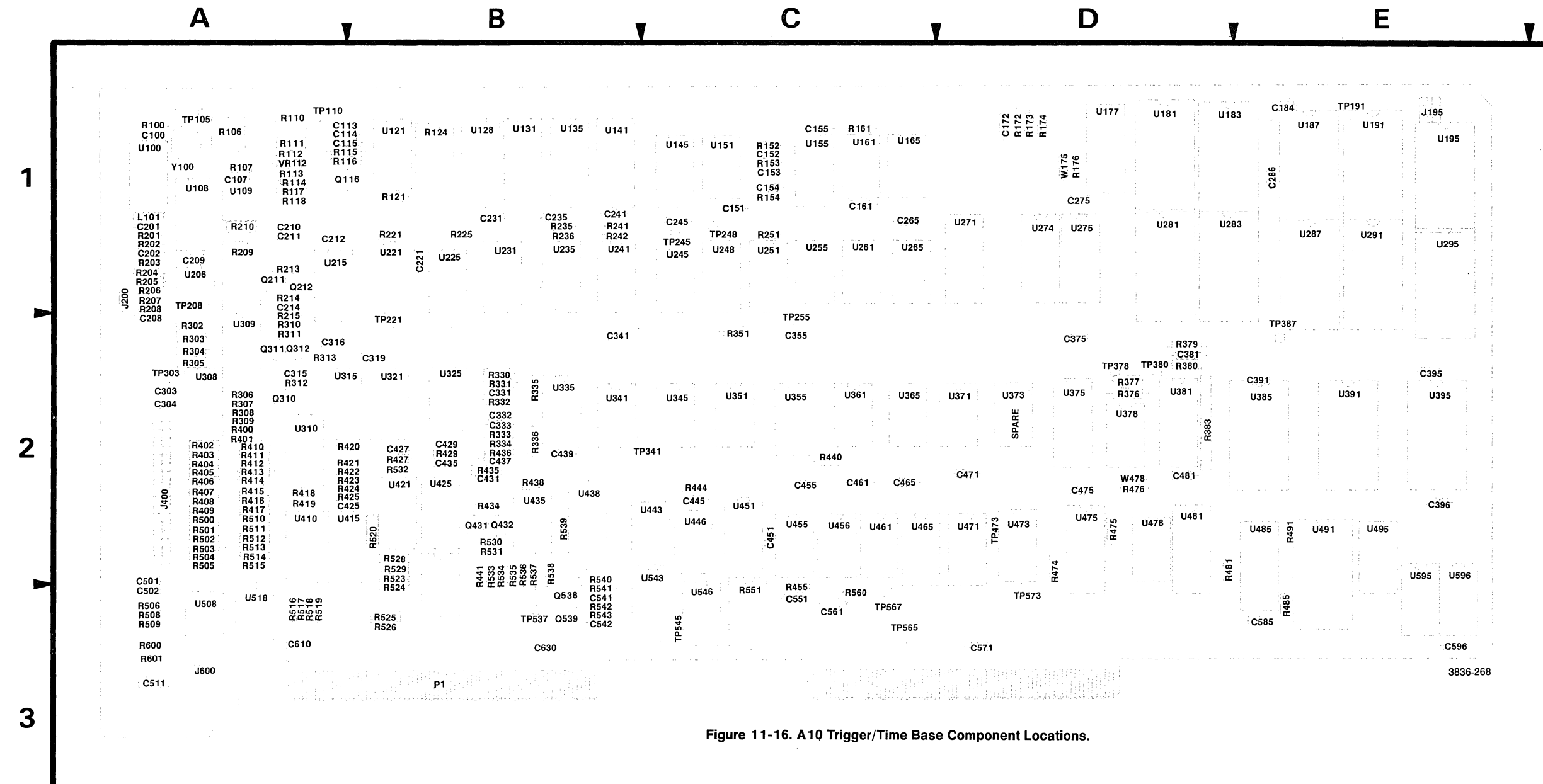
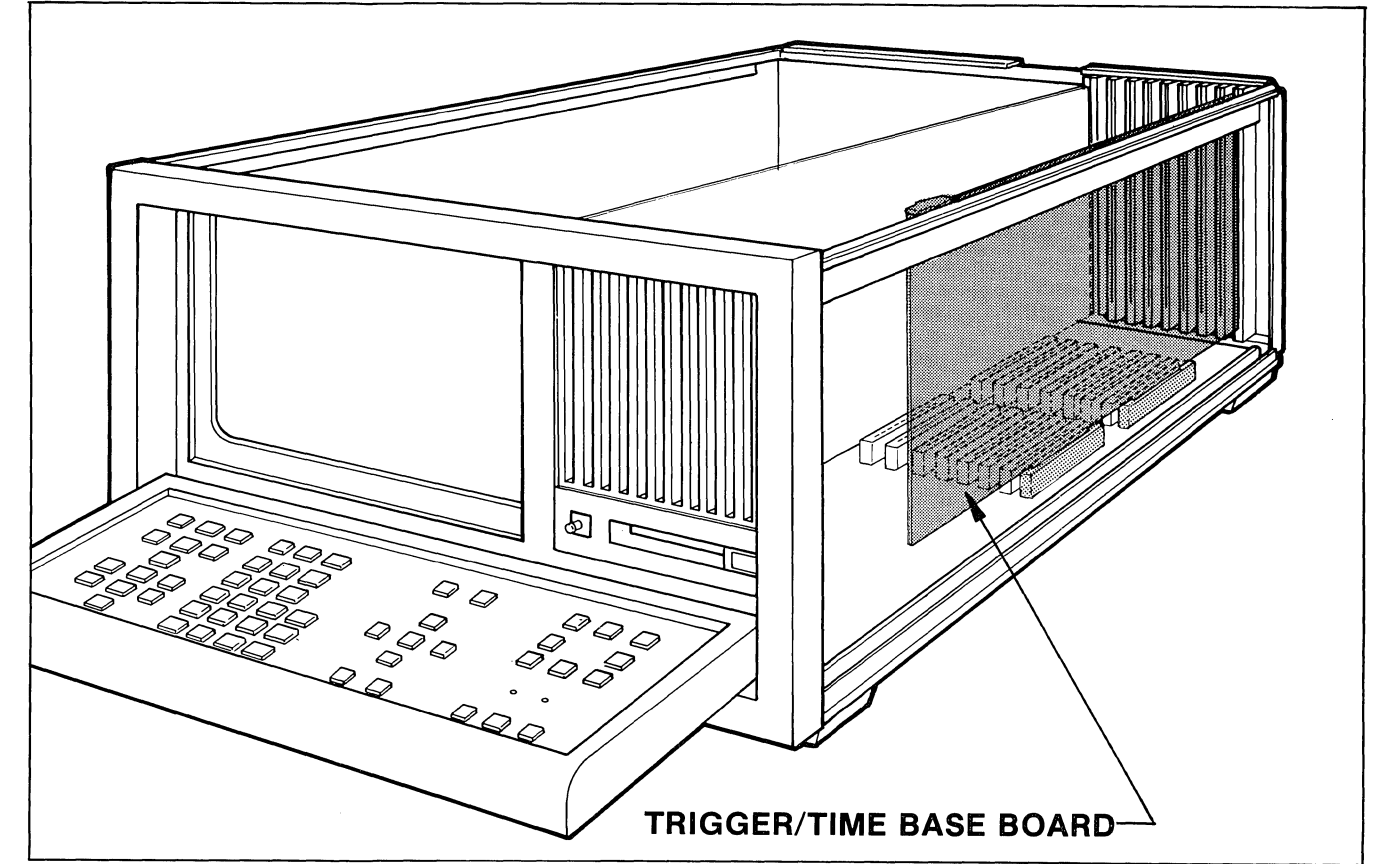


Figure 11-16. A10 Trigger/Time Base Component Locations.



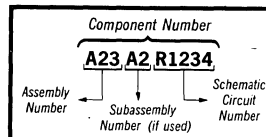
Configuration Guidelines				
Module	Max. per Mainframe	Recommended Bus Slot(s)	Functional in Bus Slot(s)	Comments
Controller	1	0	0	Required
Trigger/Time Base	1	7	7	Required
91A08	4	6(5,4,3)	6(5,4,3)	Required: first 91A08 in slot 6, additional 91A08s in descending slots (5,4,3)
91A32	3	2-6	1-6	
91P16	1	1	1-6	
91P32	2	2-6	1-6	Will not function without a 91P16 installed.

Figure 11-17. Trigger/Time Base Location.

3836-269

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-16
TRIGGER/TIME BASE
ASSEMBLY A10

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C172	B3	D1	U245A	F3	C1
*C511	F5	A3	U275	C1	D1
J400	A2	A2	*U308	B3	A2
J400	A3	A2	U341B	E1	B2
P0	A4	D3	U341D	E4	B2
P0	A1	D3	U375	D3	D2
P0	A2	D3	U378D	E5	D2
P0	A5	D3	U435C	F3	B2
P1	F3	B3	U438B	E4	B2
R172	C3	D1	U438C	D2	B2
R173	C2	D1	U438D	B1	B2
R174	C2	D1	U438E	A1	B2
R176	C2	D1	U438G	E1	B2
*R302	B3	A2	U443A	E3	C2
*R303	B3	A2	U455B	E2	C2
*R304	B3	A2	U456A	E3	C2
*R305	B3	A2	U456B	E3	C2
R438	F3	B2	U456D	E2	C2
R475	B2	D2	U465	C5	C2
R476	C3	Back of Bd	U475	B1	D2
R481	B5	D2	U481	B5	D2
R485	B5	E2	U485	B4	E2
*R491	D5	E3	U491	D5	E2
R525	F3	B3	W175	C2	D1
R526	F3	B3	W478	C3	D2
R560	E2	C3			
*R600	E5	A3			
*R601	E5	A3			
*TP191	D5	E1			
U177	D2	D1			

* SEE PARTS LISTS FOR SERIAL NUMBER RANGE

The colors on this page correspond to the following Trigger/Time Base diagnostic functions:

■ 0 WR&SEQ	■ 4 91A32 SEL
■ 1 A COUNTER	■ 5 91A08 GEN
■ 2 DELAY	■ 6 DAC THRSH
■ 3 91A32 GEN	

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

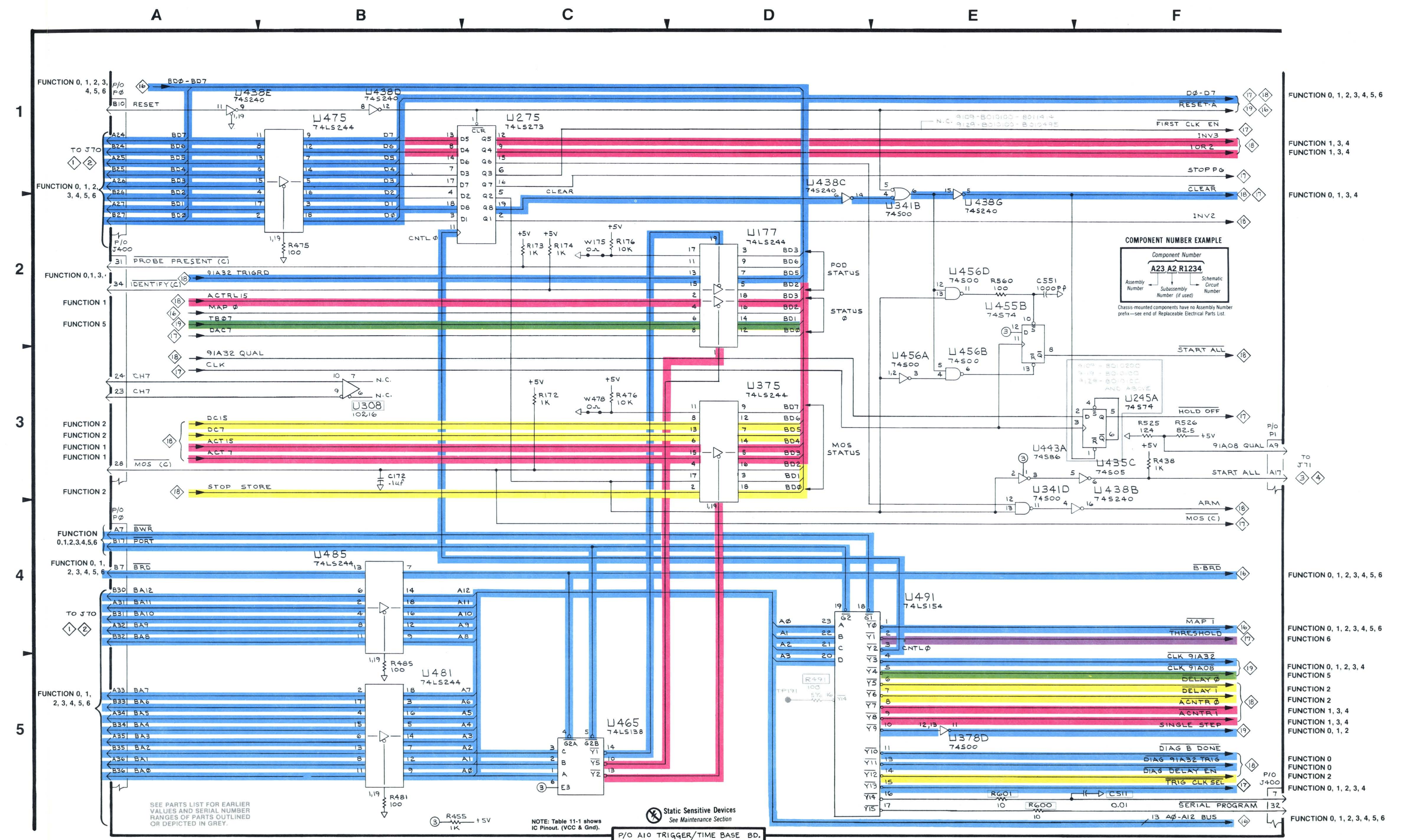


Table 11-17

TRIGGER/TIME BASE		
ASSEMBLY A10		
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION

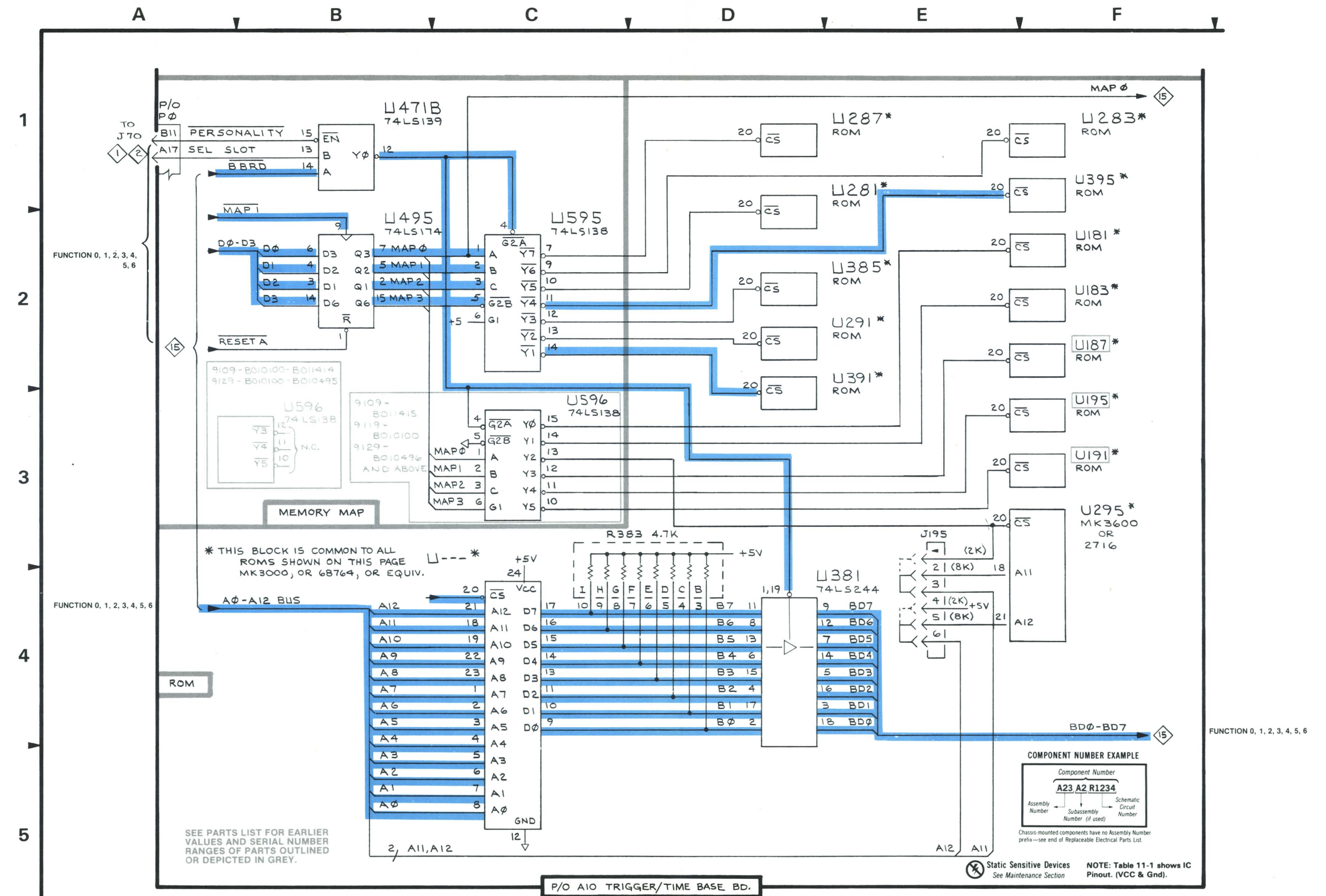
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
J195	E4	E1
P0	A1	D3
R383	D4	D2
U181	F2	D1
U183	F2	D1
*U187	F2	D1
*U191	F3	E1
*U195	F3	E1
U281	D1	D1
U283	F1	D1
U287	D1	E1
U291	D2	E1
U295	F3	E1
U381	D4	D2
U385	D2	E2
U391	D3	E2
U395	F1	E2
U471B	B1	D2
U495	B2	E2
U595	C2	E2
U596	C3	E2

The colors on this page correspond to the following Trigger/Time Base diagnostic functions:

- 0 WR&SEQ no color assigned 4 91A32 SEL
- 1 A COUNTER no color assigned 5 91A08 GEN
- 2 DELAY no color assigned 6 DAC THRSH
- 3 91A32 GEN

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

* SEE PARTS LISTS FOR SERIAL NUMBER RANGE



DAS 9100 SERIES

TRIGGER/TIME BASE ROM

P/O A10 TRIGGER/TIME BASE ROM

Table 11-18

TRIGGER/TIME BASE

ASSEMBLY A10

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C107	C5	A1	R306	F5	A2	TP105	B5	A1
C113	B5	A1	R307	D4	A2	TP110	B5	A1
C114	F2	A1	R308	C4	A2	TP208	D5	A2
C115	B4	A1	R309	C4	A2	TP378	F2	D2
C208	A5	A2	*R376	E2	D2	TP380	F3	D2
C209	B5	A1	*R377	E2	D2	TP473	E2	D2
C210	F2	A1	*R379	E2	D2	TP545	D2	C3
C211	B4	A1	*R380	E2	D2	TP567	F3	C3
C303	F4	A2	R400	C4	A2	TP573	F3	D3
C304	F1	A2	R401	C5	A2	U108	C5	A1
C431	E1	B2	R402	A2	A2	U109	C5	A1
*C435	F4	B2	R403	A2	A2	U121	B4	B1
C501	A4	A2	R404	A2	A2	U128	B3	B1
C502	F4	A3	R405	A2	A2	U131	A4	B1
J200	A5	A1	R406	A3	A2	U206	B5	A1
J400	A5	A2	R407	A3	A2	U309A	D5	A2
J400	F5	A2	R408	A3	A2	U309B	D4	A2
J400	A3	A2	R409	A3	A2	U309C	D4	A2
J400	A2	A2	R410	A2	A2	U309D	D4	A2
J400	A4	A2	R411	A2	A2	U310A	A3	A2
J600	E5	A3	R412	A2	A2	U310B	A3	A2
P0	F1	D3	R413	A2	A2	U310C	A2	A2
P1	F4	B3	R414	A4	A2	U310D	A3	A2
Q116	C2	A1	R415	A4	A2	U378A	F2	D2
Q310	E5	A2	R416	A3	A2	U378B	F2	D2
Q431	D1	B2	R417	A3	A2	U421A	D2	B2
Q432	E1	B2	R427	C2	B2	U421B	D2	B2
R106	C5	A1	R429	C2	B2	U421D	D1	B2
R107	C5	A1	H434	E1	B2	U425B	C1	B2
R110	B4	A1	R435	D1	B2	U425C	F3	C2
R111	C4	A1	R474	D2	E3	U473A	E3	D2
R112	B4	A1	R500	A3	A2	U473B	E3	D2
R113	C2	A1	R501	A3	A2	U478A	E2	D2
*R114	C2	A1	R502	A2	A2	U478B	E3	D2
R115	B5	A1	R503	A2	A2	U478C	F3	D2
R116	B5	A1	R504	A1	A2	U478D	F3	D2
R117	C5	A1	R505	A1	A2	U508C	D5	A3
R118	C5	A1	R506	D4	A3	U508D	E5	A3
*R121	C3	B1	R508	D4	A3	U518A	A1	A3
R124	C2	B1	R509	D5	A3	U518B	A2	A3
R204	B5	A1	R510	A3	A2	U518C	A2	A3
R205	A5	A1	R511	A3	A2	U543B	D3	C3
R206	A5	A1	R512	A3	A2	U546A	D3	C3
R207	A5	A1	R513	A3	A2	U546B	D2	C3
R208	A5	A1	R514	A2	A2	U546C	E3	C3
R209	C3	A1	R515	A2	A2	U546D	E2	C3
R210	C5	A1	R532	D2	B2	VR112	C4	A1
R215	E5	A2						

* SEE PARTS LISTS FOR SERIAL NUMBER RANGE

The colors on this page correspond to the following Trigger/Time Base diagnostic functions:

- █ 0 WR&SEQ
- █ 1 A COUNTER
- █ 2 DELAY
- █ 3 91A32 GEN
- █ 4 91A32 SEL
- █ 5 91A08 GEN
- █ 6 DAC THRSH

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

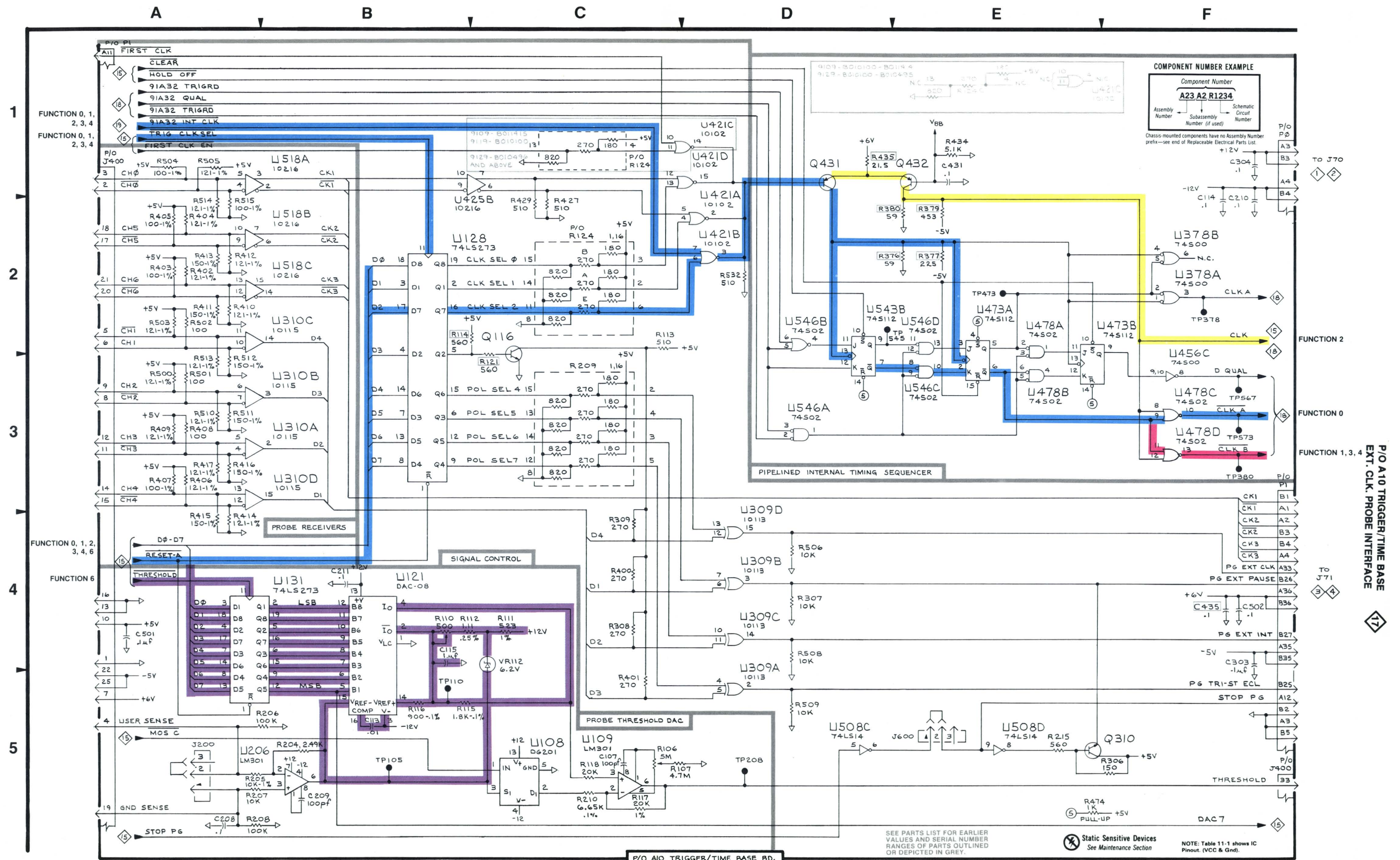


Table 11-19

TRIGGER/TIME BASE
ASSEMBLY A10

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C152	D5	C1	U151C	C5	C1
C153	C6	C1	U155A	C6	C1
C154	C5	C1	U155B	C5	C1
C541	F4	B3	U161	C2	C1
C542	F5	B3	U165	C3	C1
P1	A5	B3	U245B	D6	C1
P1	F5	B3	U248	D2	C1
Q538	F4	B3	U251	B6	C1
Q539	F4	B3	U255	B1	C1
R152	D5	C1	U261	B2	C1
R153	C6	C1	U265A	C3	C1
R154	C5	C1	U265B	C3	C1
R161	F6	C1	U265C	B3	C1
R251	B5	C1	U265D	C3	C1
R351	F6	C2	U271	B2	D1
R440	E5	Back of Board	U274	B3	D1
*R441	A4	C2	U341A	F2	B2
*R444	A4	C2	U341C	F5	B2
R455	F6	C3	U345	E2	C2
R530	E6	B2	U351	E1	C2
R531	E5	B2	U355	F2	C2
R533	A4	B2	U361	E2	C2
R534	A4	B2	U365	F3	C2
R535	A5	B2	U371A	F3	D2
R536	A5	B2	U371B	F3	D2
R537	A5	B2	U371D	F3	D2
R538	A6	B2	*U373A	B4	D2
R539	E5	B2	U378C	E4	D2
R540	F4	B2	U435D	E5	B2
R541	F4	B3	U435E	E5	B2
R542	F4	B3	U443B	E4	C2
R543	F4	B3	*U443C	A4	C2
TP245	D4	C1	U443D	B5	C2
TP248	E6	C1	U446A	B5	C2
TP341	F5	C2	U446B	B4	C2
TP537	F3	B3	U451	B5	C2
U145A	E5	C1	U455A	B6	C2
U145B	D5	C1	U461A	E5	C2
U151A	C6	C1	U461B	E5	C2
U151B	D5	C1	U543A	F4	C3

The colors on this page correspond to the following Trigger/Time Base diagnostic functions:

- 0 WR&SEQ
- 1 A COUNTER
- 2 DELAY
- 3 91A32 GEN
- 4 91A32 SEL
- 5 91A08 GEN
- 6 DAC THRSH

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

* SEE PARTS LISTS FOR SERIAL NUMBER RANGE

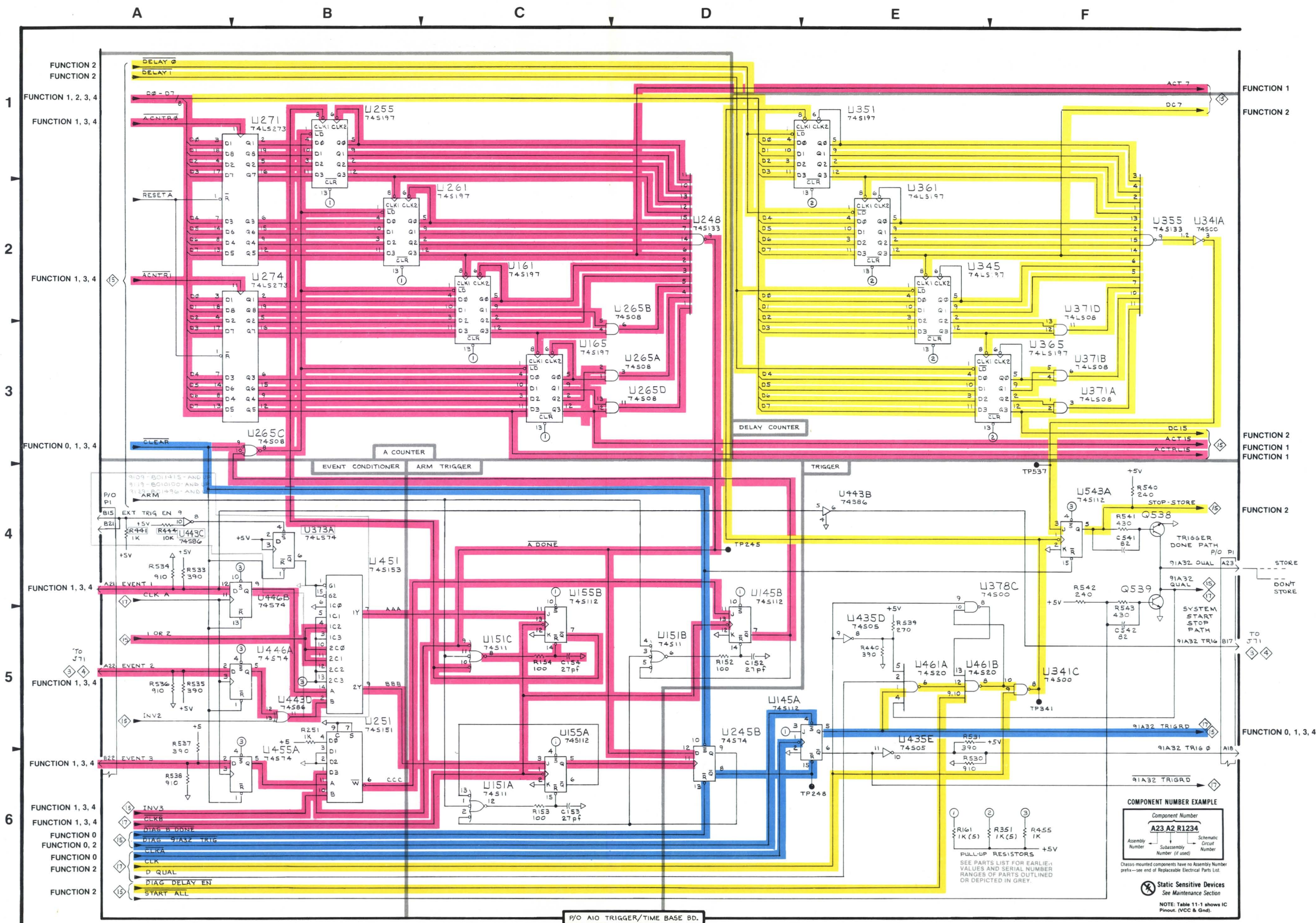


Table 11-20

TRIGGER/TIME BASE

ASSEMBLY A10

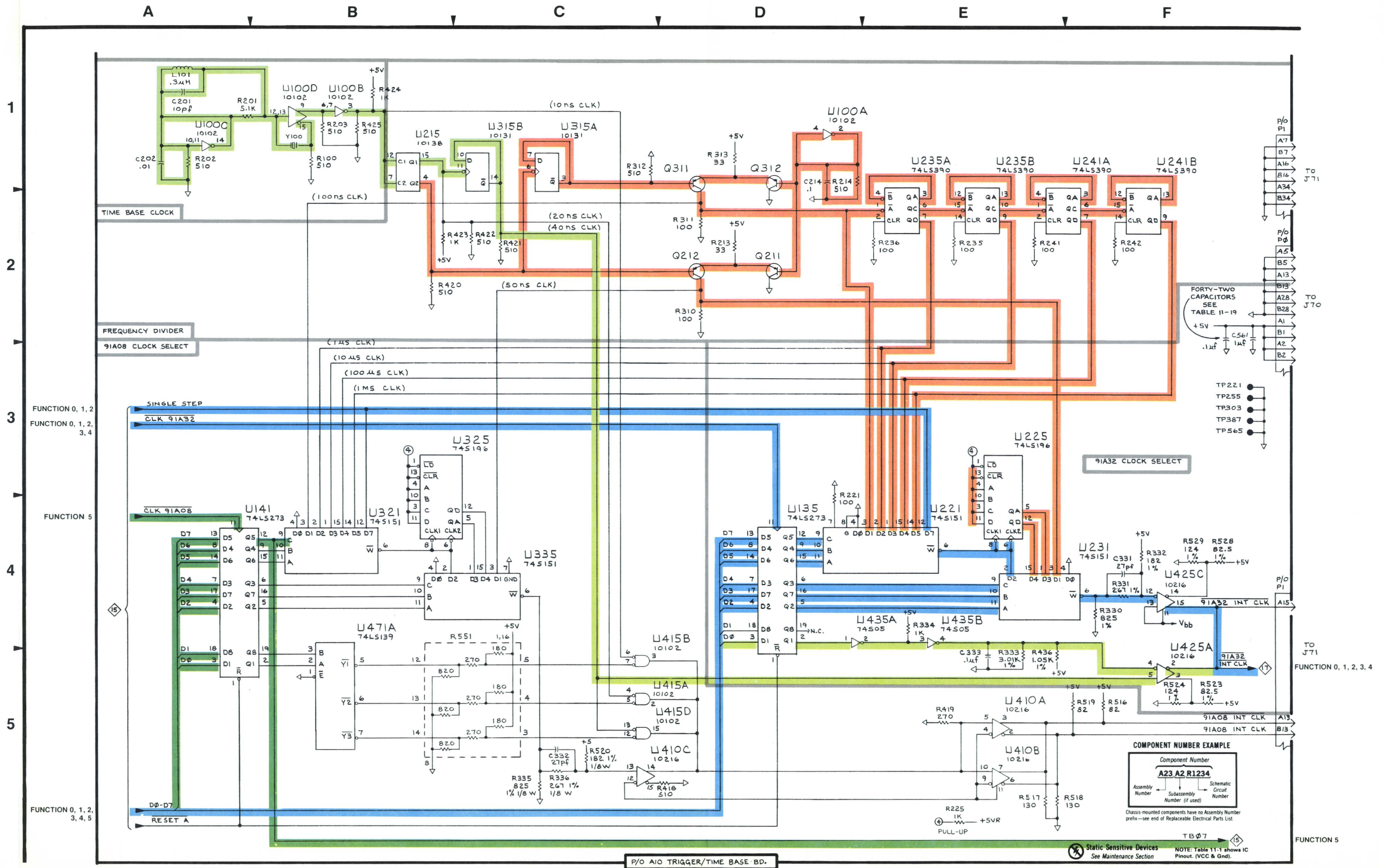
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
*C100	F2	A1	*C585	F2	E3	R517	E5	A3
*C151	F2	C1	*C596	F2	E3	R518	E5	A3
*C155	F2	C1	*C610	F2	A3	R519	F5	A3
*C161	F2	C1	*C630	F2	B3	R520	C5	B2
*C184	F2	E1	L101	A1	A1	R523	F5	B2
C201	A1	A1	P0	D3	B3	R524	F5	B3
C202	A1	A1	P1	F5	B3	R528	F4	B2
*C212	F2	A1	P1	F1	B3	R529	F4	B3
C214	D1	A1	Q211	D2	A1	R551	C5	C3
*C221	F2	B1	Q212	D2	A1	TP221	F3	B2
*C231	F2	B1	Q311	D1	A2	TP255	F3	C2
*C235	F2	B1	Q312	D1	A2	TP303	F3	A2
*C241	F2	B1	R100	B1	A1	TP387	F3	E2
*C245	F2	C1	R201	A1	A1	TP565	F3	C3
*C265	F2	C1	R202	A1	A1	U100A	D1	A1
*C275	F2	D1	R203	B1	A1	U100B	B1	A1
*C284	F2	E1	R213	D2	A1	U100C	A1	A1
*C315	F2	A2	R214	D1	A1	U100D	B1	A1
*C316	F2	A2	R221	D4	B1	U135	D4	B1
*C319	F2	B2	R225	F3	B1	U141	A4	B1
C331	F4	B2	R235	E2	B1	U215	B1	A1
C332	C5	B2	R236	E2	B1	U221	E4	B1
C333	E5	B2	R241	E2	B1	U225	E4	B1
*C341	F2	B2	R242	F2	B1	U231	E4	B1
*C355	F2	C2	R310	D2	A2	U235A	E2	B1
*C375	F2	D2	R311	D2	A2	U235B	E2	B1
*C381	F2	D2	R312	C1	A2	U241A	E2	B1
*C391	F2	E2	R313	D1	A2	U241B	F2	B1
*C395	F2	E2	R330	F4	B2	U315A	C1	A2
*C396	F2	E2	R331	F4	B2	U315B	C1	A2
*C425	F2	A2	R332	F4	B2	U321	B4	B2
*C427	F2	B2	R333	E5	B2	U325	B4	B2
*C429	F2	B2	R334	E4	B2	U335	C4	B2
*C437	F2	B2	R335	C5	B2	U410A	E5	A2
*C439	F2	B2	R336	C5	B2	U410B	E5	A2
*C445	F2	C2	R418	D5	A2	U410C	C5	A2
*C451	F2	C2	R419	E5	A2	U415A	C5	A2
*C455	F2	C2	R420	B2	A2	U415B	C5	A2
*C461	F2	C2	R421	C2	A2	U415D	C5	A2
*C465	F2	C2	R422	C2	A2	U425A	F5	B2
*C471	F2	D2	R423	B2	A2	U425C	F4	B2
*C475	F2	D2	R424	B1	A2	U435A	D4	B2
*C481	F2	D2	R425	B1	A2	U435B	E4	B2
C561	F2	C3	R436	E5	B2	U471A	B5	D2
*C571	F2	D3	R516	F5	A3	Y100	B1	A1

*Decoupling capacitors

The colors on this page correspond to the following Trigger/Time Base diagnostic functions:

- 0 WR&SEQ
- 1 A COUNTER
- 2 DELAY
- 3 91A32 GEN
- 4 91A32 SEL
- 5 91A08 GEN
- 6 DAC THRS

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.



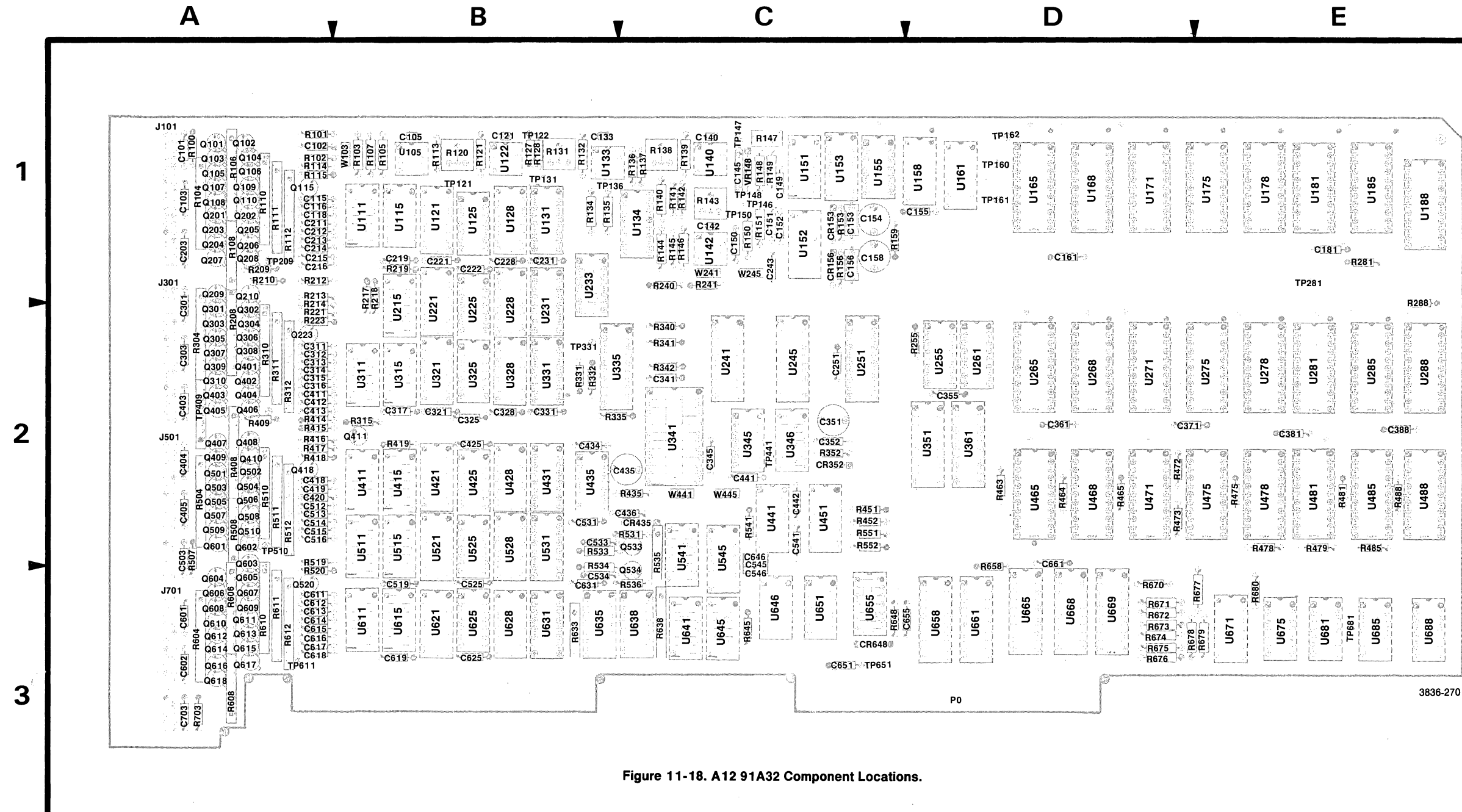
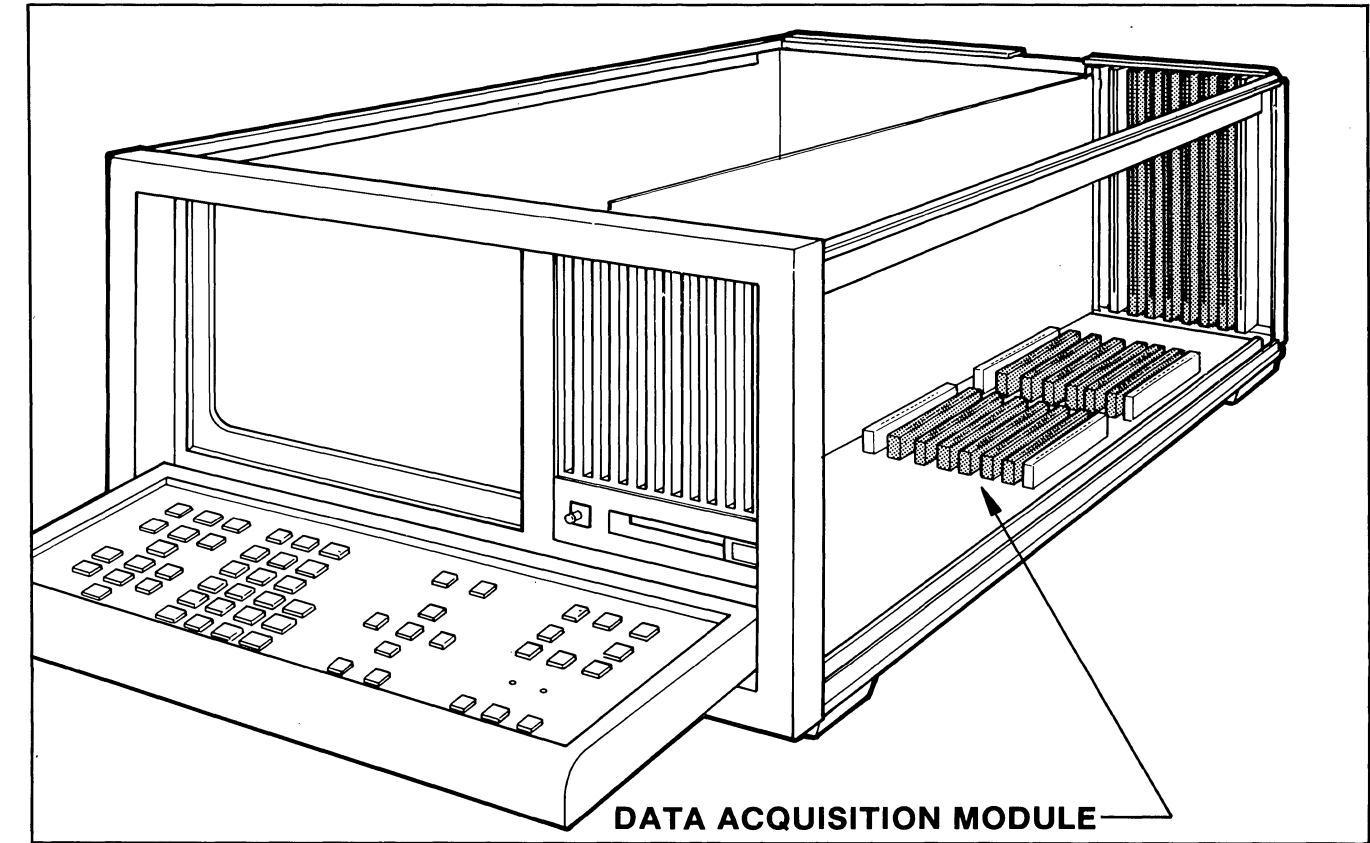


Figure 11-18. A12 91A32 Component Locations.



DATA ACQUISITION MODULE

Configuration Guidelines				
Module	Max. per Mainframe	Recommended Bus Slot(s)	Functional in Bus Slot(s)	Comments
Controller	1	0	0	Required
Trigger/Time Base	1	7	7	Required
91A08	4	6(5,4,3)	6(5,4,3)	Required: first 91A08 in slot 6, additional 91A08s in descending slots (5,4,3)
91A32	3	2-6	1-6	
91P16	1	1	1-6	
91P32	2	2-6	1-6	Will not function without a 91P16 installed.

Figure 11-19. 91A32 Location.

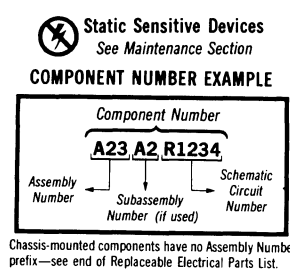


Table 11-21
91A32 DATA ACQUISITION

ASSEMBLY A12

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C101	B4	A1	R331	B5	B2
C102	A5	A1	R332	B5	B2
C105	B5	B1	R335	B5	B2
C121	F4	B1	R340	B4	C2
C133	F4	B1	R341	B5	C2
C140	F5	C1	R342	B5	C2
C142	F5	C1	R414	F1	A2
C145	E5	C1	R415	B4	A2
C151	E5	C1	R416	F1	A2
C152	E4	C1	R670	B3	D3
C301	B4	A2	*TP122	F4	B2
C404	B4	A2	*TP136	F4	B2
C601	B4	A3	*TP146	F5	B2
J101	A5	A1	TP147	D5	C1
J101	F3	A1	TP148	E4	C1
J301	A4	A1	*TP150	F5	C2
J301	F4	A1	U105A	B5	B1
J501	A4	A2	U122	F4	B1
J501	F4	A2	U133	F5	B1
J701	F5	A3	U134	F4	C1
J701	A3	A3	U140	F5	C1
P0	A1	D3	U142	F5	C1
Q411	F1	B2	U152	E4	C1
R101	A5	A1	U241	C3	C2
R102	A5	A1	U245	C5	C2
R103	B5	B1	U335	C4	C1
R105	B5	B1	U341	E2	C2
R107	B5	B1	U346B	F2	C2
R113	F4	B1	U411A	D3	B2
R120	F4	B1	U411B	D3	B2
R121	F3	B1	U411C	D2	B2
R127	F3	B1	U411D	D3	B2
R128	F4	B1	U415A	D2	B2
R131	F4	B1	U415B	D3	B2
R132	F4	B1	U415C	D2	B2
R134	F3	B1	U415D	D3	B2
R135	F4	B1	U435E	D3	B2
R136	F4	C1	U441	F2	C2
R137	F5	C1	U451	E3	C2
R138	F5	C1	U658	B1	D3
R139	F4	C1	U661	D4	D3
R140	F4	C1	U665	D5	D3
R141	F5	C1	U668	A1	D3
R142	F5	C1	U669	B2	D3
R143	F5	C1	VR148	E5	C1
R144	F5	C1	W103	E4	C1
R145	F5	C1			
R146	F5	C1			
R147	E4	C1			
R148	E4	C1			
R149	E4	C1			
R150	E4	C1			
R151	E4	C1			
R213	B5	A1			
R214	B5	A1			
R240	B4	C1			
R241	B4	C1			
R215	B5	B2			

* SEE PARTS LISTS FOR SERIAL NUMBER RANGE

The colors on this page correspond to the following 91A32 diagnostic functions:

- █ 0 MEM ADDR
- █ 1 ACQ MEM
- █ 2 WRD REC
- █ 3 DAC THRSH

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

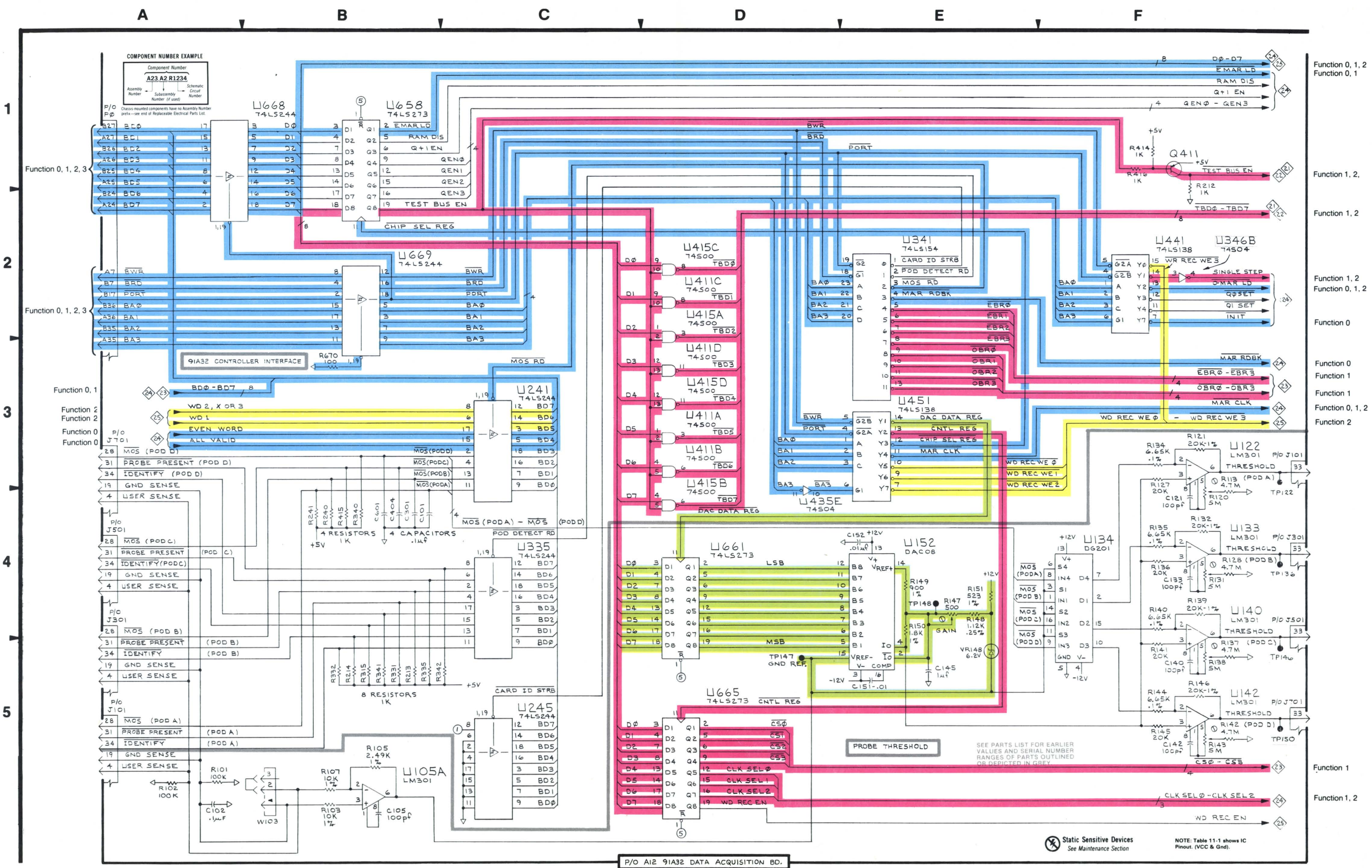


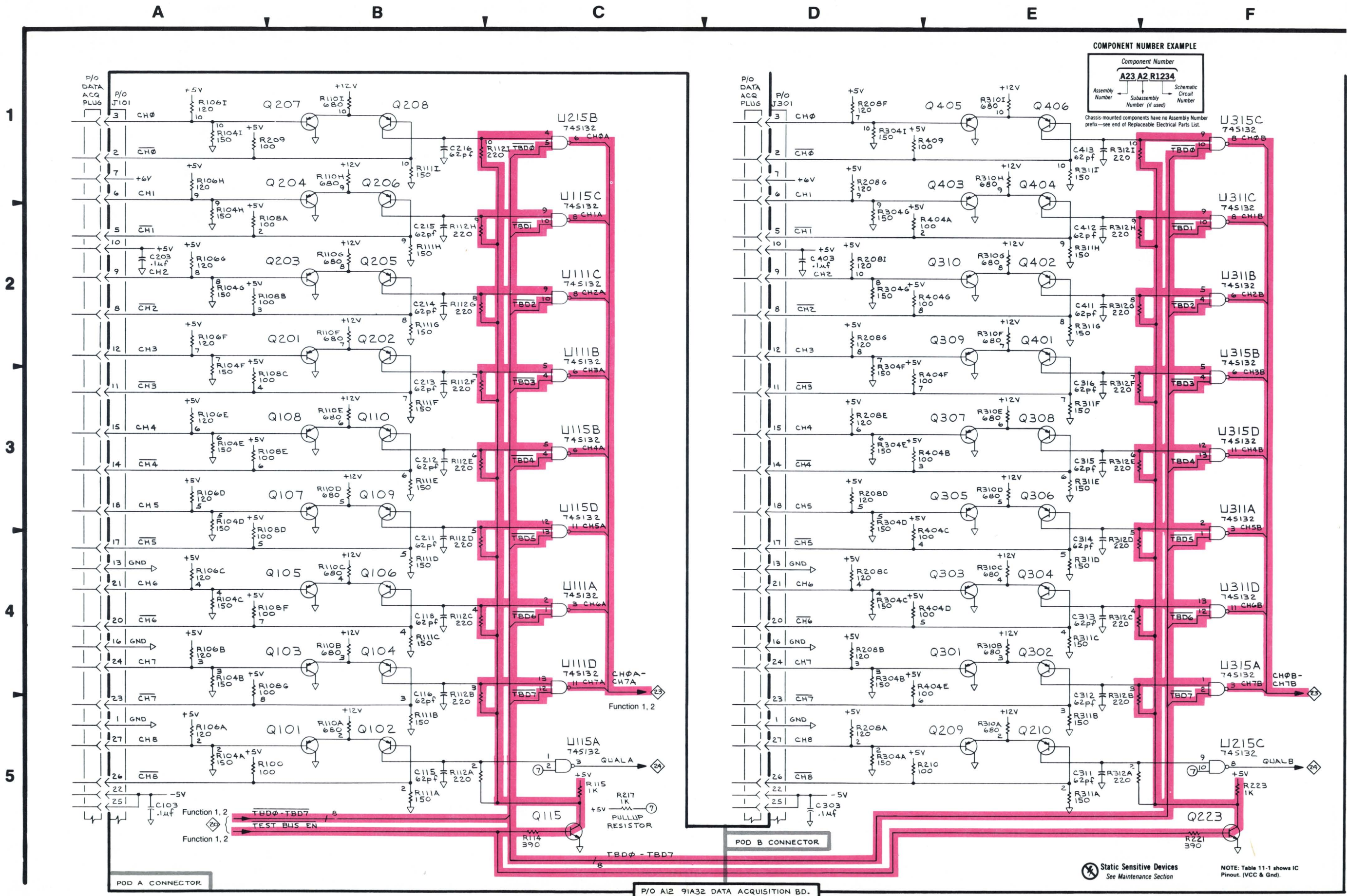
Table 11-22

91A32 DATA ACQUISITION

ASSEMBLY A12

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C103	A5	A1	R104C	A4	A1	R221	F5	A2
C115	B5	A1	R104D	A3	A1	R223	F5	A2
C116	B5	A1	R104E	A3	A1	R304A	D5	A2
C118	B4	A1	R104F	A3	A1	R304B	D4	A2
C203	A2	A1	R104G	A2	A1	R304C	D4	A2
C211	B4	A1	R104H	A2	A1	R304D	D3	A2
C212	B3	A1	R104I	A1	A1	R304E	D3	A2
C213	B3	A1	R106A	A4	A1	R304F	D3	A2
C214	B2	A1	R106B	A4	A1	R304G	D2	A2
C215	B2	A1	R106C	A4	A1	R304H	D2	A2
C216	B1	A1	R106D	A3	A1	R304I	D1	A2
C303	D5	A2	R106E	A3	A1	R310A	E5	A2
C311	E5	A2	R106F	A2	A1	R310B	E4	A2
C312	E5	A2	R106G	A2	A1	R310C	E4	A2
C313	E4	A2	R106H	A1	A1	R310D	E3	A2
C314	E4	A2	R106I	A1	A1	R310E	E3	A2
C315	E3	A2	R108A	A2	A1	R310F	E2	A2
C316	E3	A2	R108B	A2	A1	R310G	E2	A2
C403	D2	A2	R108C	A3	A1	R310H	E1	A2
C411	E2	A2	R108D	A4	A1	R310I	E1	A2
C412	E2	A2	R108E	A3	A1	R311A	E5	A2
C413	E1	A2	R108F	A4	A1	R311B	E5	A2
J101	A1	A1	R108G	A4	A1	R311C	E4	A2
J301	D1	A1	R110A	B5	A1	R311D	E4	A2
Q101	B5	A1	R110B	B4	A1	R311E	E3	A2
Q102	B5	A1	R110C	B4	A1	R311F	E3	A2
Q103	B4	A1	R110D	B3	A1	R311G	E2	A2
Q104	B4	A1	R110E	B3	A1	R311H	E2	A2
Q105	B4	A1	R110F	B2	A1	R311I	E1	A2
Q106	B4	A1	R110G	B2	A1	R312B	E5	A2
Q107	B3	A1	R110H	B1	A1	R312B	E5	A2
Q108	B3	A1	R110I	B1	A1	R312C	E4	A2
Q109	B3	A1	R111A	B5	A1	R312D	E4	A2
Q110	B3	A1	R111B	B5	A1	R312E	E3	A2
Q115	C5	A1	R111C	B4	A1	R312F	E2	A2
Q201	B2	A1	R111D	B4	A1	R312G	E2	A2
Q202	B2	A1	R111E	B3	A1	R312H	E2	A2
Q203	B2	A1	R111F	B3	A1	R312I	E1	A2
Q204	B1	A1	R111G	B2	A1	R404A	D2	A2
Q205	B2	A1	R111H	B2	A1	R404B	D3	A2
Q206	B1	A1	R111I	B1	A1	R404C	D4	A2
Q207	B1	A1	R112A	B5	A1	R404D	D4	A2
Q208	B1	A1	R112B	B5	A1	R404E	D4	A2
Q209	E5	A1	R112C	B4	A1	R404F	D3	A2
Q210	E5	A1	R112D	B4	A1	R404G	D2	A2
Q223	F5	A2	R112E	B3	A1	R409	D1	A2
Q301	E4	A2	R112F	B3	A1	U111A	C4	B1
Q302	E4	A2	R112G	B2	A1	U111B	C3	B1
Q303	E4	A2	R112H	B1	A1	U111C	C2	B1
Q304	E4	A2	R112I	B1	A1	U111D	C2	B1
Q305	E3	A2	R114	C5	A1	U115A	C5	B1
Q306	E3	A2	R115	C5	A1	U115B	C3	B1
Q307	E3	A2	R208A	D5	A2	U115C	C2	B1
Q308	E3	A2	R208B	D4	A2	U115D	C1	B1
Q309	E2	A2	R208C	D4	A2	U215B	C1	B2
Q310	E2	A2	R208D	D3	A2	U215C	F5	B2
Q401	E2	A2	R208E	D3	A2	U311A	F4	B2
Q402	E2	A2	R208F	D1	A2	U311B	F2	B2
Q403	E1	A2	R208G	D1	A2	U311C	F2	B2
Q404	E1	A2	R208H	D2	A2	U311D	F4	B2
Q405	E1	A2	R208I	D2	A2	U315B	F3	B2
Q406	E1	A2	R209	D1	A1	U315C	F1	B2
R100	A5	A1	R210	D5	A1	U315D	F3	B2
R104A	A5	A1	R217	C5	B1	U315D	F4	B2
R104B	A4	A1						

The colors on this page correspond to the following 91A32 diagnostic functions:
 Not shown on this page 0 MEM ADDR
 Not shown on this page 1 ACC MEM
 Not shown on this page 2 WRD REC
 Not shown on this page 3 DAC THRSH
 The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.



P/O A12 91A32 DATA ACQ.
 POD A & B RECEIVERS

Function 1, 2

Static Sensitive Devices
 See Maintenance Section

NOTE: Table 11.1 shows IC Pinout. (VCC & Gnd).

Table 11-23
91A32 DATA ACQUISITION

ASSEMBLY A12

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C405	A5	A2	R417	B5	A2	R608F	D4	A3
C418	B5	A2	R418	C5	A2	R608G	D4	A3
C419	B4	A2	R504A	A4	A2	R610A	E4	A3
C420	B4	A2	R504B	A4	A2	R610B	E4	A3
C503	A2	A2	R504C	A3	A2	R610C	E3	A3
C512	B3	A2	R504D	A3	A2	R610D	E3	A3
C513	B3	A2	R504E	A3	A2	R610F	E2	A3
C514	B2	A2	R504G	A2	A2	R610G	E2	A3
C515	B2	A2	R504H	A2	A2	R610H	E1	A3
C516	B1	A2	R504I	A1	A2	R610I	E1	A3
C602	D5	A3	R507	A1	A2	R611A	E5	A3
C611	E5	A3	R508A	A2	A2	R611B	E4	A3
C612	E4	A3	R508B	A2	A2	R611C	E4	A3
C613	E4	A3	R508C	A3	A2	R611D	E3	A3
C614	E3	A3	R508D	A4	A2	R611E	E3	A3
C615	E3	A3	R508E	A3	A2	R611F	E2	A3
C616	E2	A3	R508F	A4	A2	R611G	E2	A3
C617	E2	A3	R508G	A4	A2	R611H	E1	A3
C618	E1	A3	R510A	B4	A2	R612A	E5	A3
C703	D2	A3	R510B	B4	A2	R612B	E4	A3
J501	A1	A2	R510C	B3	A2	R612C	E4	A3
J701	D1	A3	R510D	B3	A2	R612D	E3	A3
Q407	B4	A2	R510E	B2	A2	R612E	E3	A3
Q408	B4	A2	R510G	B2	A2	R612F	E2	A3
Q409	B4	A2	R510H	B1	A2	R612G	E2	A3
Q410	B4	A2	R510I	B1	A2	R612H	E1	A3
Q418	C5	A2	R511A	B5	A2	R703	D1	A3
Q501	B3	A2	R511B	B4	A2	U511A	C4	B2
Q502	B3	A2	R511C	B4	A2	U511B	C2	B2
Q503	B3	A2	R511D	B3	A2	U511C	C1	B2
Q504	B3	A2	R511E	B3	A2	U511D	C4	B2
Q505	B2	A2	R511F	B2	A2	U515B	C3	B2
Q506	B2	A2	R511G	B2	A2	U515C	C2	B2
Q507	B2	A2	R511H	B1	A2	U515D	C3	B2
Q508	B2	A2	R512A	B5	A2	U515D	C4	B2
Q509	B1	A2	R512B	B4	A2	U611A	F4	B3
Q510	B1	A2	R512C	B4	A2	U611B	F3	B3
Q520	F5	A3	R512D	B3	A2	U611C	F2	B3
Q601	B1	A2	R512E	B3	A2	U611D	F4	B3
Q602	B1	A2	R512F	B2	A2	U615A	F4	B3
Q603	E4	A2	R512G	B2	A2	U615B	F2	B3
Q604	E4	A3	R512H	B1	A2	U615C	F1	B3
Q605	E4	A3	R519	F5	A2	U615D	F3	B3
Q606	E4	A3	R520	F5	A3			
Q607	E3	A3	R604A	D4	A3			
Q608	E3	A3	R604C	D4	A3			
Q609	E3	A3	R604D	D3	A3			
Q610	E3	A3	R604E	D3	A3			
Q611	E2	A3	R604F	D3	A3			
Q612	E2	A3	R604G	D2	A3			
Q613	E2	A3	R604H	D2	A3			
Q614	E2	A3	R604I	D1	A3			
Q615	E1	A3	R606A	D4	A3			
Q616	E1	A3	R606B	D4	A3			
Q617	E1	A3	R606D	D3	A3			
Q618	E1	A3	R606E	D3	A3			
R212	B5	A1	R606F	D2	A3			
R408B	A4	A2	R606G	D2	A3			
R408C	A4	A2	R606H	D1	A3			
R408D	A3	A2	R606I	D1	A3			
R408E	A3	A2	R608A	D2	A3			
R408F	A2	A2	R608B	D2	A3			
R408G	A2	A2	R608C	D3	A3			
R408H	A1	A2	R608D	D3	A3			
R408I	A1	A2	R608E	D4	A3			

The colors on this page correspond to the following 91A32 diagnostic functions:
 Not shown on this page 0 MEM ADDR
 Not shown on this page 1 ACQ MEM
 Not shown on this page 2 WRD REC
 Not shown on this page 3 DAC THRSH
 The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

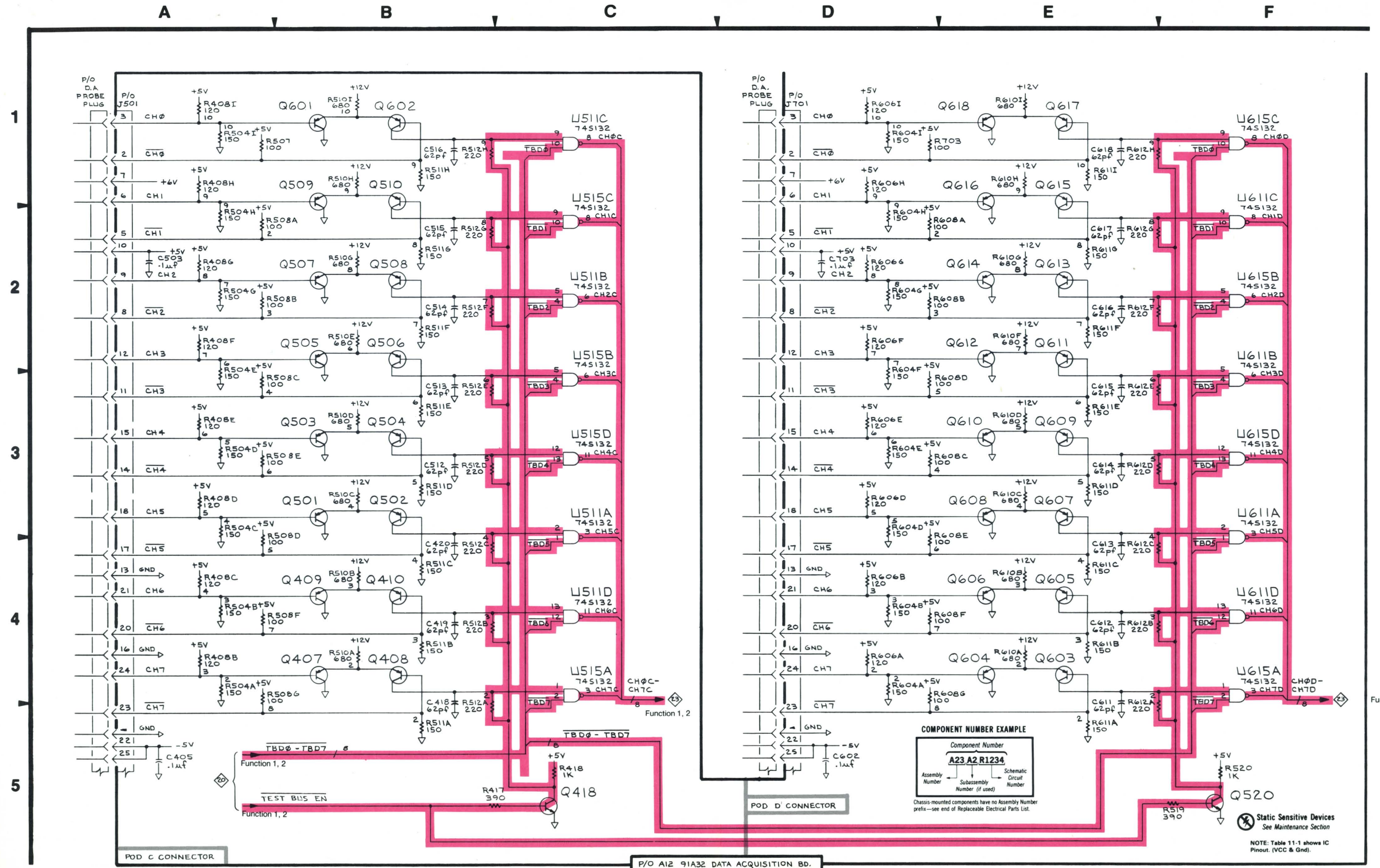


Table 11-24

91A32 DATA ACQUISITION

ASSEMBLY A12

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
R218	A5	B1	U328	E3	B2
R219	E5	B1	U331	C3	B2
R281	D3	E1	*U345A	F2	C2
R288	F3	E1	*U345B	D2	C2
R419	B5	B2	U351	D1	D2
U121	A2	B1	U361	F1	D2
U125	B2	B1	U421	A4	B2
U128	E2	B1	U425	B4	B2
U131	C2	B1	U428B	E4	B2
U165	C1	D1	U428C	E4	B2
U168	C2	D1	U428F	E4	B2
U171	C3	D1	U431B	C4	B2
U175	C3	E1	U431C	C4	B2
U178	C4	E1	U431F	C4	B2
U181	C4	E1	U521A	A4	B2
U185	C5	E1	U521B	A4	B2
U188	C5	E1	U521C	A5	B2
U221B	A1	B2	U521D	A5	B2
U221C	A3	B2	U521E	A4	B2
U221D	A3	B2	U521F	A4	B2
U221E	A1	B2	U525A	B4	B2
U225A	B1	B2	U525B	B4	B2
U225C	B3	B2	U525C	B5	B2
U225D	B3	B2	U525D	B5	B2
U225E	B1	B2	U525E	B4	B2
U228B	E1	B2	U525F	B4	B2
U228C	E3	B2	U528A	E4	B2
U228D	E3	B2	U528B	E4	B2
U228F	E1	B2	U528C	E5	B2
U231B	C1	B2	U528D	E5	B2
U231C	C3	B2	U528E	E4	B2
U231D	C3	B2	U528F	E4	B2
U231F	C1	B2	U531A	C4	B2
U265	F1	D2	U531B	C4	B2
U268	F2	D2	U531C	C5	B2
U271	F3	D2	U531D	C5	B2
U275	F3	E2	U531E	C4	B2
U278	F4	E2	U531F	C4	B2
U281	F4	E2	U621	A5	B3
U285	F5	E2	U625	B5	B3
U288	F5	E2	U628	E5	B3
U321	A3	B2	U631	C5	B3
U325	B3	B2			

The colors on this page correspond to the following 91A32 diagnostic functions:
 Not shown on this page 0 MEM ADDR
 1 ACQ MEM
 2 WRD REC
 Not shown on this page 3 DAC THRSH

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

* SEE PARTS LISTS FOR SERIAL NUMBER RANGE



COMPONENT NUMBER EXAMPLE

Component Number
A23 A2 R1234

Assembly Number Subassembly Number (if used) Schematic Circuit Number

Chassis mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Static Sensitive Devices
 See Maintenance Section

NOTE: Table 11-1 shows IC Pinout (VCC & Gnd).

Table 11-25
91A32 DATA ACQUISITION

ASSEMBLY A12

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
*C149	A3	C1	P1	A1	B3	U155A	F4	C1
C150	F4	C1	Q533	B2	C2	U155B	F5	C1
C153	F4	C1	Q534	B2	C3	U158	B5	D1
C154	F4	C1	R153	F5	C1	U161	B4	D1
*C155	A3	D1	R156	F4	C1	U233A	C2	B1
C156	F3	C1	R159	D4	C1	U233B	C2	B1
C158	F3	C1	R255	D4	D2	U251	D4	C2
*C161	A3	D1	R352	E4	C2	U255	C4	D2
*C181	A3	E1	R435	E5	C2	U261	C4	D2
*C219	A3	B1	R451	E3	C2	U346A	F4	C2
*C221	A3	B1	R452	E3	C2	U346C	E3	C2
*C222	A3	B1	R531	C2	C2	U346D	D1	C2
*C228	A3	B1	R533	B2	B2	U346E	F5	C2
*C231	A3	B1	R534	B2	B3	U346F	F4	C2
C243	F3	C1	R536	C3	C3	U435A	E4	B2
*C251	A3	C2	R551	E1	C2	U435B	F5	B2
*C317	A3	B2	R552	E1	C2	U435C	E5	B2
*C321	A3	B2	R633C	B2	B3	U635	A2	B3
*C325	A3	B2	R638A	B2	C3	U638	B2	C3
*C328	A3	B2	R638B	B3	C3	U641	D1	C3
*C331	A3	B2	R638C	B3	C3	U645C	D2	C3
*C341	A3	C2	R638D	B3	C3	U645D	E2	C3
C345	E4	C2	R638E	B3	C3	U646A	D3	C3
C351	E4	C2	R638F	B3	C3	U646B	D3	C3
C352	E4	C2	R638G	B3	C3	U651A	D2	C3
*C355	A3	D2	R645	D1	C3	U655A	E2	C3
*C361	A3	D2	R648	D5	C3	U655B	E2	C3
*C371	A3	D2	R658	D4	D2	W241	F4	C1
*C381	A3	E2	R671	A1	D3	W245	F3	C1
*C388	A3	E2	R672	B1	D3	W441	F4	C2
*C425	A3	B2	R673	B1	D3	W445	F4	C2
C434	E5	B2	R674	A1	D3			
C435	E5	C2	R675	B1	D3			
C436	E4	C2	R676	B1	D3			
*C441	A3	C2	R677	A1	D3			
C442	E3	C2	R678	B1	D3			
*C519	A3	B3	R679	B1	E3			
*C525	A3	B3	TP121	E5	B1			
*C531	A3	B2	TP131	E4	B1			
C533	B2	B2	TP160	F4	D1			
C534	B2	B3	TP161	A4	D1			
C541	E1	C2	TP162	F5	D1			
**C545	B2	C2	TP209	A4	A1			
**C546	B2	C2	TP281	A4	E1			
*C619	A3	B3	TP331	A4	B2			
*C625	A3	B3	TP409	A4	A2			
*C631	A3	B3	TP441	A4	C2			
**C646	B2	C2	TP510	A4	A2			
*C651	A3	C3	TP611	A4	A3			
C655	D5	C3	TP651	A4	C3			
*C661	A3	D2	TP681	A4	E3			
CR153	F5	C1	U151A	F3	C1			
CR156	F4	C1	U151B	F4	C1			
CR352	E4	C2	U153A	F2	C1			
CR435	E5	C2						
CR648	D5	C3						
P0	A3	D3						

*Decoupling capacitors
** SEE PARTS LISTS FOR SERIAL NUMBER RANGE

The colors on this page correspond to the following 91A32 diagnostic functions:

- 0 MEM ADDR
- 1 ACD MEM
- 2 WRD REC
- 3 DAC THRS

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

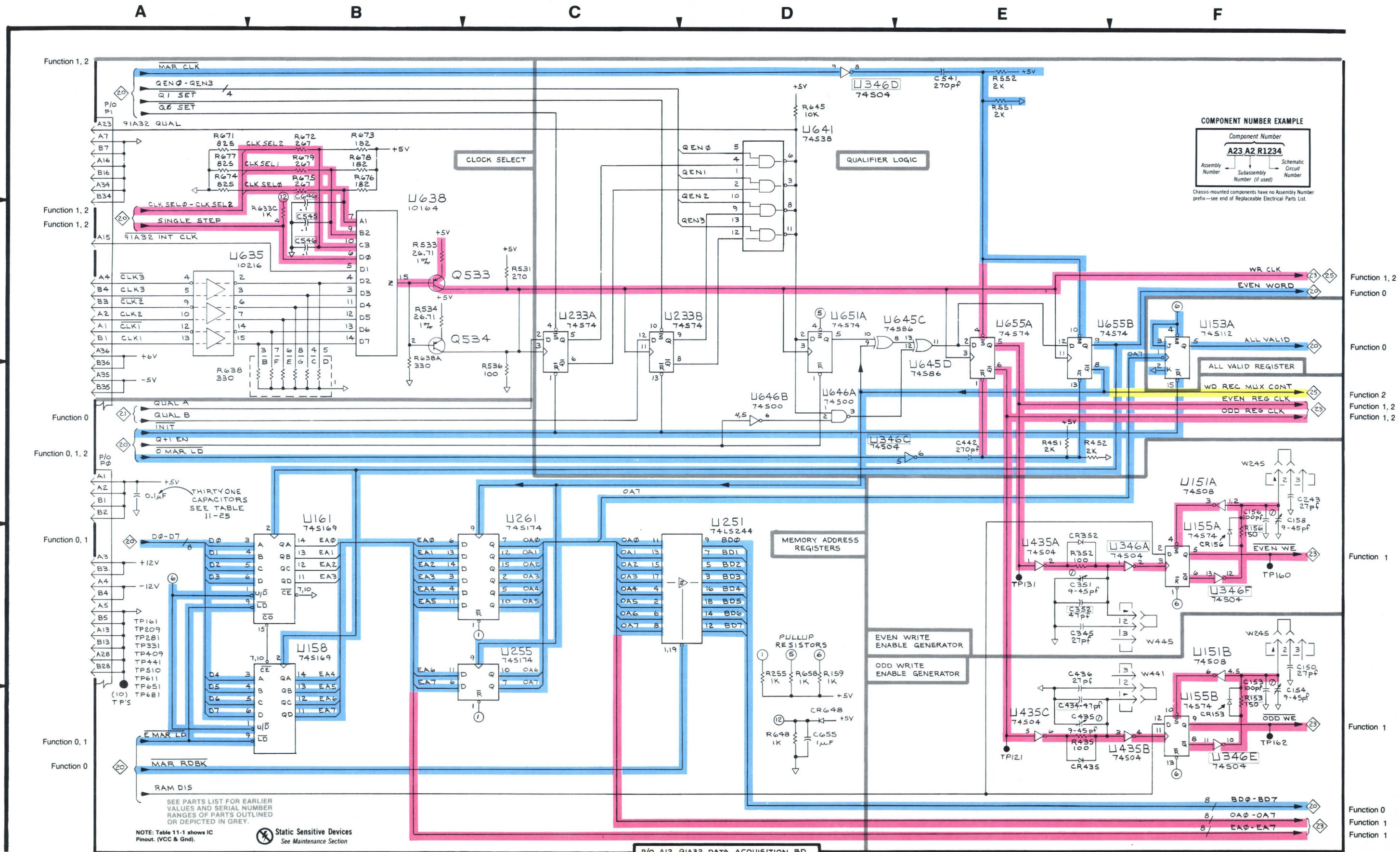


Table 11-26

91A32 DATA ACQUISITION 25

ASSEMBLY A12

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
P1	F3	B3	U475	B4	E2
R463	A3	D2	U478	C2	E2
R464	A4	D2	U481	C4	E2
R465	D5	D2	U485	D2	E2
R472	B3	D2	U488	D4	E2
R473	B4	D2	U541A	F3	C2
R475	D5	E2	U541B	F4	C2
R478	C3	E2	U541C	F4	C2
R479	C4	E2	U541D	F4	C2
R481	D5	E2	U545	F4	C2
R485	D3	E2	U645A	F3	C3
R488	D4	E2	U671	E4	E3
R535A	F3	C2	U675A	E1	E3
R535B	F3	C2	U675B	E3	E3
R535D	F4	C2	U681A	E2	E3
R535E	F4	C2	U681B	E4	E3
R541	F5	C2	U685A	E2	E3
R680	E5	E3	U685B	E4	E3
U465	A2	D2	U688A	E3	E3
U468	A4	D2	U688B	E4	E3
U471	B2	D2			

The colors on this page correspond to the following 91A32 diagnostic functions:

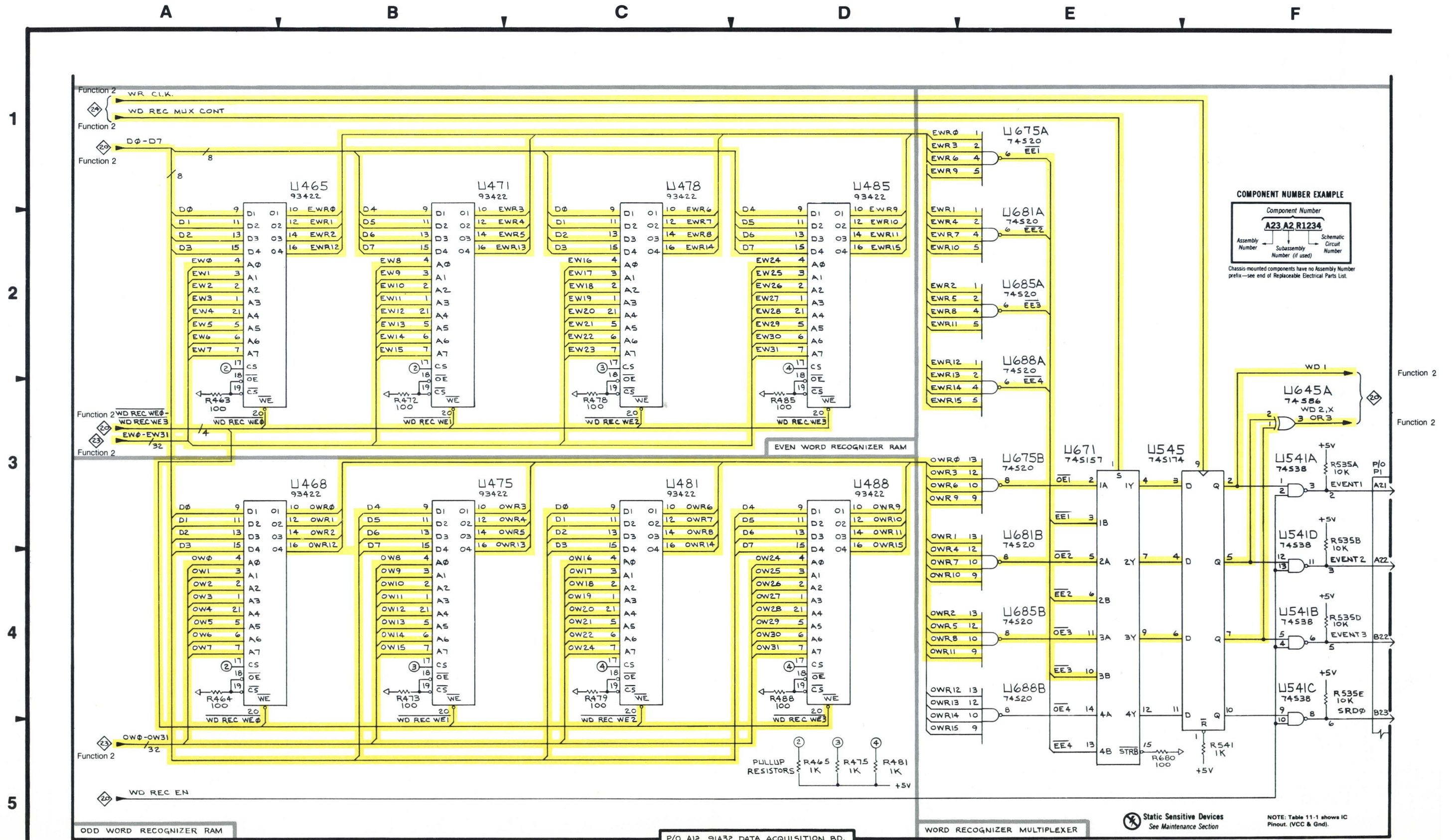
Not shown on this page 0 MEM ADDR

Not shown on this page 1 ACQ MEM

2 WRD REC

Not shown on this page 3 DAC THRS

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.



Static Sensitive Devices
See Maintenance Section

NOTE: Table 11-1 shows IC Pinout. (VCC & Gnd).

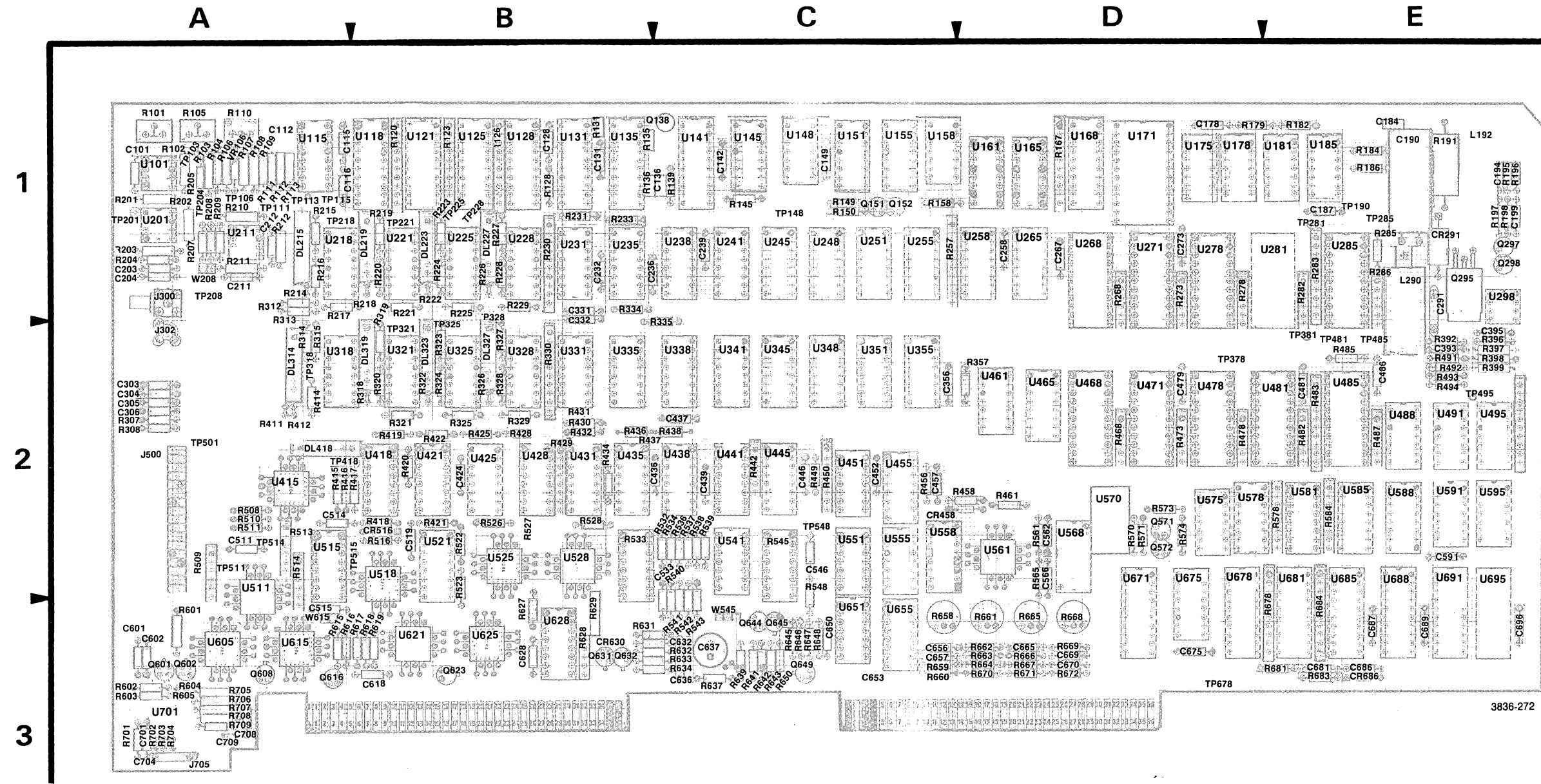
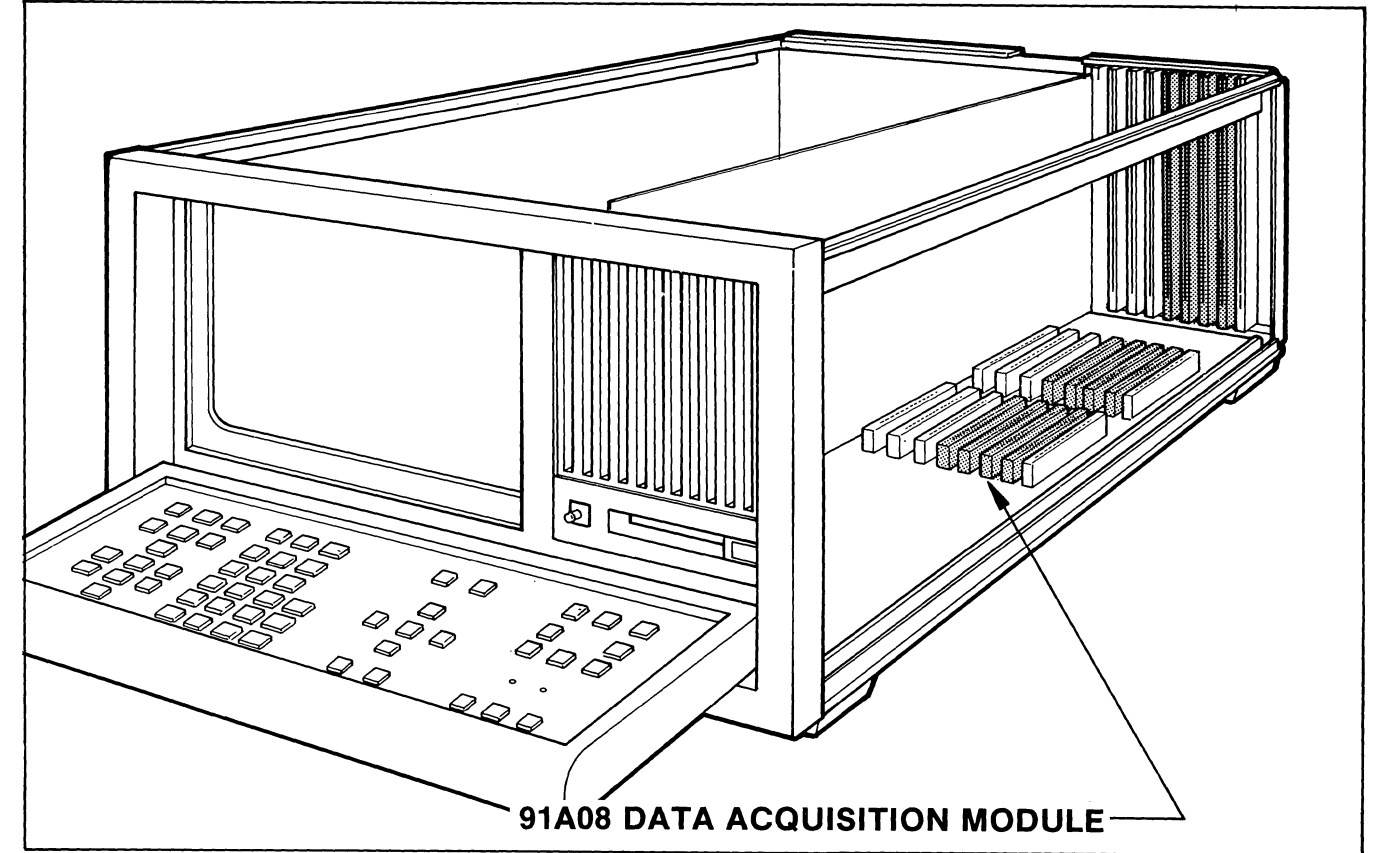


Figure 11-20. A13 91A08 Component Locations.

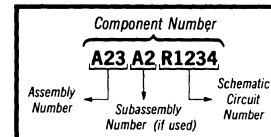


Module	Max. per Mainframe	Configuration Guidelines		Comments
		Recommended Bus Slot(s)	Functional in Bus Slot(s)	
Controller	1	0	0	Required
Trigger/Time Base	1	7	7	Required
91A08	4	6(5,4,3)	6(5,4,3)	Required: first 91A08 in slot 6, additional 91A08s in descending slots (5,4,3)
91A32	3	2-6	1-6	
91P16	1	1	1-6	
91P32	2	2-6	1-6	Will not function without a 91P16 installed.

Figure 11-21. 91A08 Location.

⚡ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-27

91A08 DATA ACQUISITION MODULE

ASSEMBLY A13

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C101	D4	A1	R392	A5	E2	*R112	D5	A1
C112	D5	A1	R396	B5	E2	R113	D5	A1
C115	C5	A1	R397	A5	E2	R167A	C1	D1
*C116	C4	A1	R398	A5	E2	R167B	C1	D1
*C128	C4	B1	R399	A5	E2	R167C	C1	D1
*C131	C4	B1	R449	A2	C2	R167D	C1	D1
*C136	C4	C1	R450A	A2	C2	R167E	C2	D1
*C142	C4	C1	R491	D2	E2	R167F	C1	D1
*C149	C4	C1	R492	D3	E2	R167G	C2	D1
*C184	B5	E1	R493	E3	E2	R167H	C1	D1
*C187	C4	E1	R494	E3	E2	R191	B5	E1
*C190	C5	E1	R516	C4	B2	R195	B5	E1
C194	A5	E1	R548	C5	C2	R196	B5	E1
C199	B5	E1	R637	F2	C3	R197	B5	E1
C203	E5	A1	R678A	B2	E2	R198	B5	E1
C204	B4	A1	R678B	B3	E2	R201	D5	A1
C211	A4	A1	R678E	B2	E2	R202	E5	A1
C212	C4	A1	R678G	B1	E2	R203	E5	A1
C232	A5	B1	R681	B1	E3	TP208	F3	A1
C236	A5	B1	R683	B5	E3	TP378	F3	D2
*C239	C4	C1	R684A	F2	E2	TP501	F3	A2
*C258	C4	D1	R684B	F2	E2	TP514	F3	A2
C267	C1	D1	R684C	F2	E2	TP515	F3	B2
*C273	C4	D1	R684D	F2	E2	TP548	F3	C2
C291	B5	E1	R684E	F2	E2	TP678	F3	D3
C303	F3	A2	R684F	F2	E2	U101	D5	A1
C304	F5	A2	R684G	F3	E2	U115	D4	A1
C305	F2	A2	R684H	F2	E2	U118	C5	B1
*C306	C4	A2	TP103	D4	A1	U161	D2	D1
*C331	C4	B1	TP106	C4	A1	U165	D1	D1
C332	A5	B1	TP111	D5	A1	U168	C1	D1
*C356	C4	C2	TP115	F3	A1	U171	E4	D1
C393	A5	E2	TP148	F3	C1	U175D	F4	D1
C395	B5	E2	TP190	F3	E1	U201	E5	A1
C424	A5	B2	TP201	E5	A1	U211	C4	A1
*C436	C4	B2	TP204	D5	A1	U298A	A5	E1
*C437	C4	C2	*C650	C4	C3	U298B	A5	E1
C439	A5	C2	C653	F3	C3	U461A	D2	D2
*C446	C4	C2	C670	A5	D3	U461B	D2	D2
*C452	C4	C2	*C675	C4	D3	U461C	E1	D2
C457	C4	C2	C681	B1	E3	U461D	E1	D2
*C479	C4	D2	C686	B4	E3	U488A	E2	E2
*C481	C4	E2	*C687	C4	E3	U488B	E2	E2
C486	A5	E2	*C689	C4	E3	U488C	E2	E2
C511	F5	A2	*C696	C4	E3	U488D	E2	E2
*C515	A5	A3	C708	A5	A3	U491	E1	E2
*C519	C4	B2	CR291	B5	E1	U495	E2	E2
*C533	C4	C2	CR458	C4	B2	U555	B2	C2
*C546	C4	D2	CR516	C4	B2	U575E	E3	D2
C566	A5	D2	CR686	B4	E3	U575F	D3	D2
*C591	C4	E2	J500	A1	A2	U671A	A3	D3
*C618	C4	B3	J500	F5	A2	U671B	A3	D3
*C628	C4	B3	J500	A4	A2	U671C	A3	D3
C636	F2	C3	L192	B4	E1	U671H	A3	D3
C637	F2	C3	L290	B5	E1	U675	E4	D3
*R204	E5	A1	P0	F1	D3	U678	B3	D3
R205	D4	A1	P0	A3	D3	U681	B1	E2
R207	B4	A1	P1	F4	B3	U685	F1	E2
R208	B4	A1	Q295	B5	E1	U695	C3	E2
R209	A4	A1	Q297	B5	E1	VR106	D4	A1
R210	D5	A1	Q298	B5	E1	W208	B4	A1
R211	B4	A1	R101	E5	A1			
R212	B4	A1	R102	D5	A1			
R257A	D1	C1	R103	D4	A1			
R257B	D1	C1	R104	D4	A1			
R257D	D2	C1	R105	D4	A1			
R257E	D2	C1	R106	D4	A1			
R257F	D2	C1	R107	D4	A1			
R257G	D2	C1	R108	D4	A1			
R257H	D1	C1	*R109	D5	A1			
R257I	D1	C1	R110	D5	A1			
R307	A3	A2	R111	D5	A1			
R308	A3	A2						

*Decoupling capacitors

* SEE PARTS LISTS FOR SERIAL NUMBER RANGE

The colors on this page correspond to the following 91A08 diagnostic functions:

- █ 0 MEM ADDR
- █ 1 DIFF CNTR
- █ 2 DELAY CNTR
- █ 3 WRD REC
- █ 4 ACQ MEM
- █ 5 DAC THRSH

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

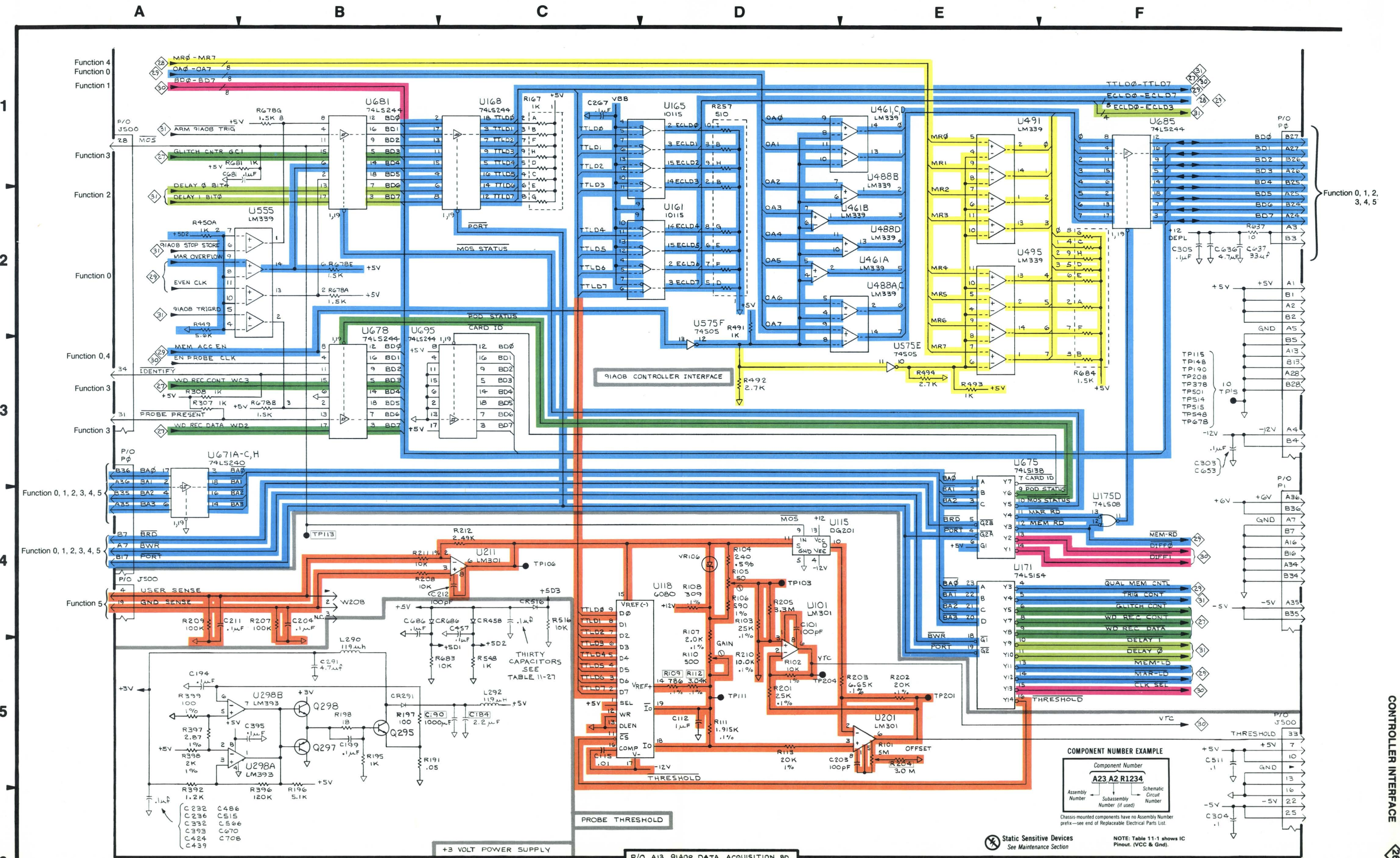


Table 11-28

91A08 DATA ACQUISITION MODULE

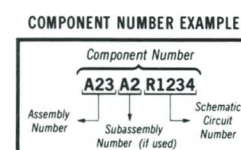
ASSEMBLY A13

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
*DL215	C4	A1	R218	B3	B1	R3301	E4	B2
*DL219	C3	B1	R219	C3	B1	R334	A5	B1
*DL223	C2	B1	R220	B3	B1	R335	E4	C2
*DL227	C1	B1	R221	B3	B1	R411	B3	A2
*DL314	C3	A2	R222	B2	B1	R412	B3	A2
*DL319	C3	B2	R223	C2	B1	R414	B3	A2
*DL323	C2	B2	R224	B2	B1	R421	B5	B2
*DL327	C2	B2	R225	B2	B1	R422	B5	B2
J500	A1	A2	R226	A1	B1	R429F	B5	B2
P0	A1	D3	R227	C1	B1	R429G	B5	B2
R120A	F3	B1	R228	A1	B1	TP218	C4	A1
R120B	F2	B1	R229	A1	B1	TP221	C3	B1
R120C	F2	B1	R230A	B4	B1	TP225	C2	B1
R120D	F3	B1	R230B	D5	B1	TP228	C1	B1
R120E	F3	B1	R230D	D5	B1	TP318	C3	A2
R120F	F2	B1	R230E	D4	B1	TP321	C3	B2
R120H	F3	B1	R230F	D4	B1	TP325	C2	B2
R120I	F3	B1	R230G	B5	B1	TP328	C2	B2
R123A	D3	B1	R230H	B5	B1	U121	F2	B1
R123B	D2	B1	R233	B4	B1	U125	D2	B1
R123C	D2	B1	R315	A2	B1	U128	E2	B1
R123D	D3	B1	R318	A2	B2	U218	F5	A1
R123E	D3	B1	R319	C3	B2	U218	B4	A1
R123F	D2	B1	R320	A3	B2	U221	D5	B1
R123H	D3	B1	R321	A2	B2	U221	B3	B1
R123I	D3	B1	R322	B1	B2	U225	B2	B1
R126A	E3	B1	R323	C2	B2	U225	C4	B1
R126B	E2	B1	R324	B2	B2	U228	A1	B1
R126C	E2	B1	R325	B1	B2	U228	B4	B1
R126D	E3	B1	R326	B2	B2	U318	F4	A2
R126E	E3	B1	R327	C2	B2	U318	B3	A2
R126F	E2	B1	R328	B2	B2	U321	D4	B2
R126H	E3	B1	R329	B2	B2	U321	A3	B2
R126I	E3	B1	R330D	F5	B2	U325	B5	B2
R128	A4	B1	R330E	F4	B2	U325	B2	B2
R214	B3	A1	R330F	F4	B2	U328	C5	B2
R215	C4	A1	R330G	E5	B2	U328	B2	B2
R216	A4	A1	R330H	E5	B2	U671D	B1	D3
R217	B3	A1	R330I	F5	B2	U671G	B1	D3

The colors on this page correspond to the following 91A08 diagnostic functions:

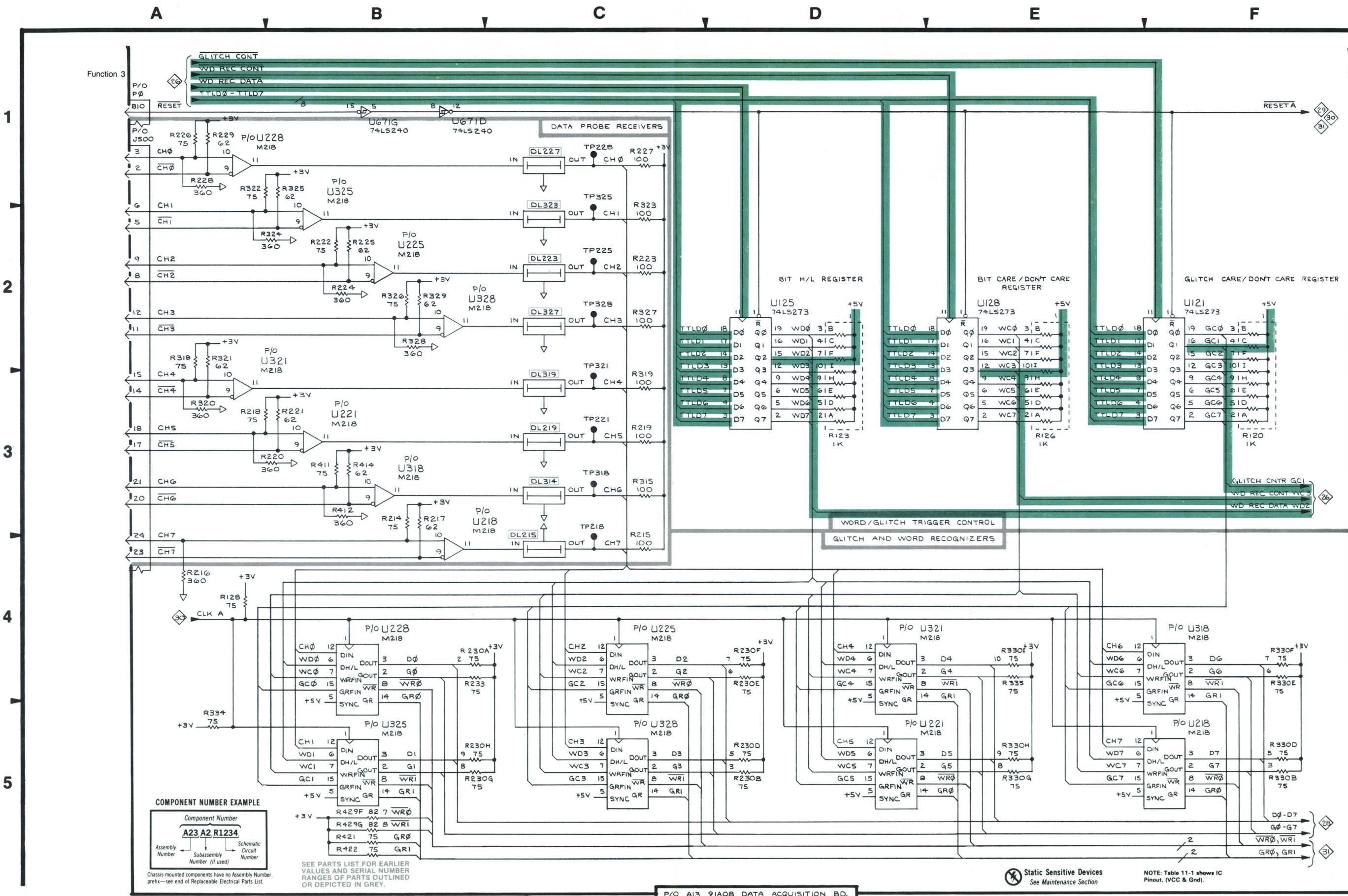
- 0 MEM ADDR
- 1 DIFF CNTR
- 2 DELAY CNTR
- 3 WRD REC
- 4 ACQ MEM
- 5 DAC THRSH

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.



Class mounted components have no Assembly Number, prefix—see end of Replaceable Electrical Parts List.

SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.



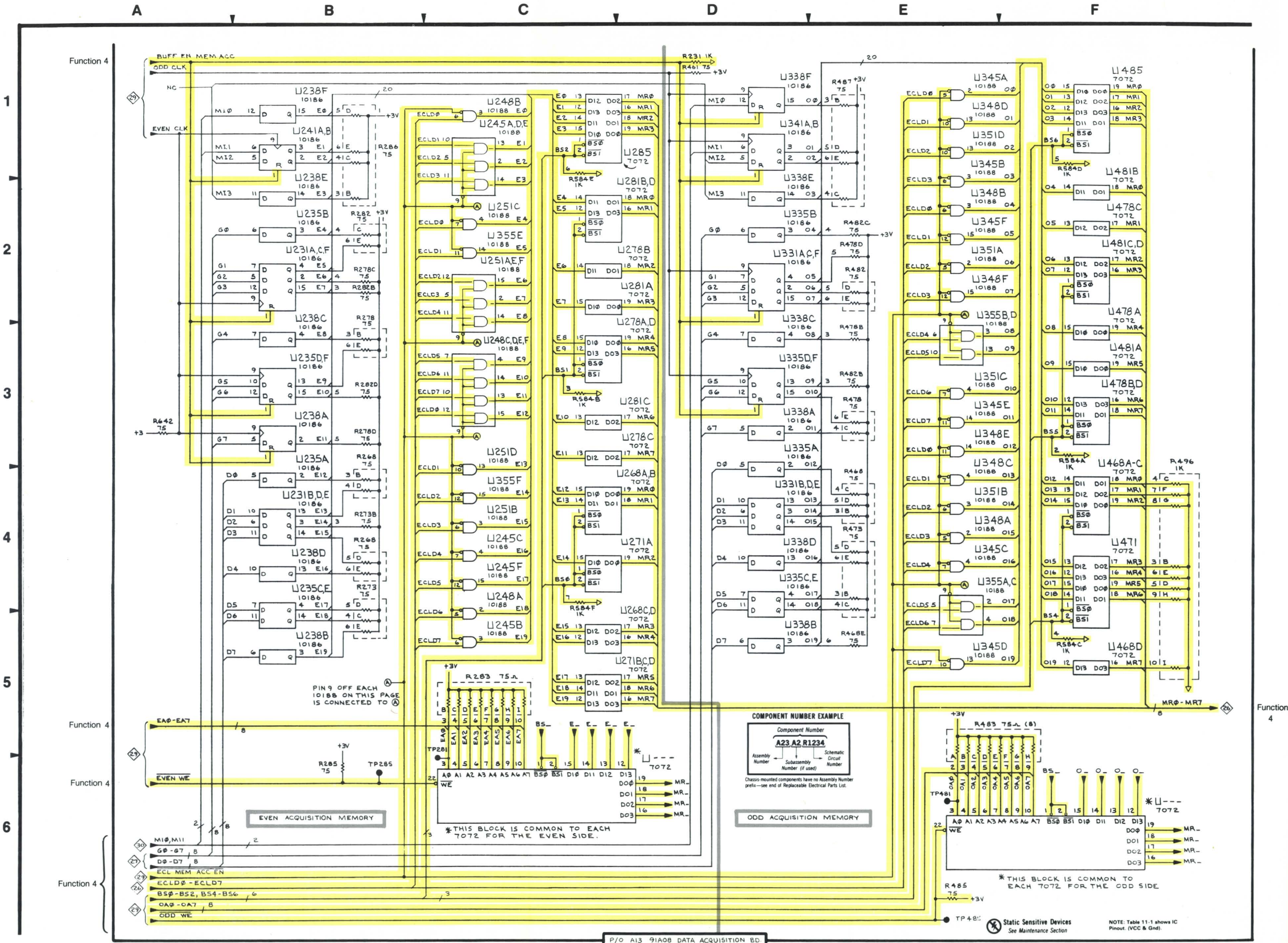
* SEE PARTS LISTS FOR SERIAL NUMBER RANGE

Table 11-29
91A08 DATA ACQUISITION MODULE

ASSEMBLY A13								
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
R231	D1	B1	R496F	F4	E2	U278D	C3	D1
R268B	B4	D1	R496G	F4	E2	U281A	C2	E1
R268D	B4	D1	R496H	F4	E2	U281B	C2	E1
R268E	B4	D1	R496I	F5	E2	U281C	C3	E1
R273B	B4	D1	R584A	F3	E2	U281D	C2	E1
R273C	B5	D1	R584B	C3	E2	U285	C1	E1
R273D	B4	D1	R584C	F5	E2	U331A	D2	B2
R273E	B5	D1	R584D	F1	E2	U331B	D4	B2
R278B	B3	D1	R584E	C1	E2	U331C	D2	B2
R278C	B2	D1	R584F	C4	E2	U331D	D4	B2
R278D	B3	D1	R642	A3	C3	U331E	D4	B2
R278E	B3	D1	TP281	C6	E1	U331F	D2	B2
R282B	B2	E1	TP285	B6	E1	U335A	D4	B2
R282C	B2	E1	TP481	E6	E2	U335B	D2	B2
R282D	B3	E1	TP485	E6	E2	U335C	D4	B2
R282E	B2	E1	U231A	B2	B1	U335D	D3	B2
R283B	C5	E1	U231B	B4	B1	U335E	D4	B2
R283C	C5	E1	U231C	B2	B1	U335F	D3	B2
R283D	C5	E1	U231D	B4	B1	U338A	D3	C2
R283E	C5	E1	U231E	B4	B1	U338B	D5	C2
R283F	C5	E1	U231F	B2	B1	U338C	D3	C2
R283G	C5	E1	U235A	B4	B1	U338D	D4	C2
R283H	C5	E1	U235B	B2	B1	U338E	D2	C2
R283I	C5	E1	U235C	B5	B1	U338F	D1	C2
R285	B6	E1	U235D	B3	B1	U341A	D1	C2
R286B	B2	E1	U235E	B5	B1	U341B	D1	C2
R286C	B1	E1	U235F	B3	B1	U345A	E1	C2
R286D	B1	E1	U238A	B3	C1	U345B	E1	C2
R286E	B1	E1	U238B	B5	C1	U345C	E4	C2
R461	D1	D2	U238C	B3	C1	U345D	E5	C2
R468B	E4	D2	U238D	B4	C1	U345E	E3	C2
R468C	E4	D2	U238E	B2	C1	U345F	E2	C2
R468D	E4	D2	U238F	B1	C1	U348A	E4	C2
R468E	E5	D2	U241A	B1	C1	U348B	E2	C2
R473B	E4	D2	U241B	B1	C1	U348C	E4	C2
R473C	E4	D2	U245A	C1	C1	U348D	E1	C2
R473D	E4	D2	U245B	C5	C1	U348E	E3	C2
R473E	E4	D2	U245C	C4	C1	U348F	E2	C2
R478B	E3	D2	U245D	C1	C1	U351A	E2	C2
R478C	E3	D2	U245E	C1	C1	U351B	E4	C2
R478D	E2	D2	U245F	C4	C1	U351C	E3	C2
R478E	E3	D2	U248A	C5	C1	U351D	E1	C2
R482B	E3	E2	U248B	C1	C1	U355A	E4	C2
R482C	E2	E2	U248C	C3	C1	U355B	E3	C2
R482D	E2	E2	U248D	C3	C1	U355C	E4	C2
R482E	E2	E2	U248E	C3	C1	U355D	E3	C2
R483A	E5	E2	U248F	C3	C1	U355E	C2	C2
R483B	E5	E2	U251A	C2	C1	U355F	C4	C2
R483C	E5	E2	U251B	C4	C1	U468A	F4	D2
R483D	E5	E2	U251C	C2	C1	U468B	F4	D2
R483E	E5	E2	U251D	C4	C1	U468C	F4	D2
R483F	F5	E2	U251E	C2	C1	U468D	F5	D2
R483G	F5	E2	U251F	C2	C1	U471	F4	D2
R483H	F5	E2	U268A	C4	D1	U478A	F3	D2
R485	E6	E2	U268B	C4	D1	U478B	F3	D2
R487B	E1	E2	U268C	C5	D1	U478C	F2	D2
R487C	E2	E2	U268D	C5	D1	U478D	F3	D2
R487D	E1	E2	U271A	C4	D1	U481A	F3	E2
R487E	E1	E2	U271B	C5	D1	U481B	F2	E2
R496B	F4	E2	U271C	C5	D1	U481C	F2	E2
R496C	F4	E2	U271D	C5	D1	U481D	F2	E2
R496D	F4	E2	U278A	C3	D1	U485	F1	E2
R496E	F4	E2	U278B	C2	D1			
R496F	F4	E2	U278C	C3	D1			

The colors on this page correspond to the following 91A08 diagnostic functions:
 Not shown on this page 0 MEM ADDR
 Not shown on this page 1 DIFF CNTR
 Not shown on this page 2 DELAY CNTR
 Not shown on this page 3 WRD REC
 4 ACQ MEM
 Not shown on this page 5 DAC THRSH

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.



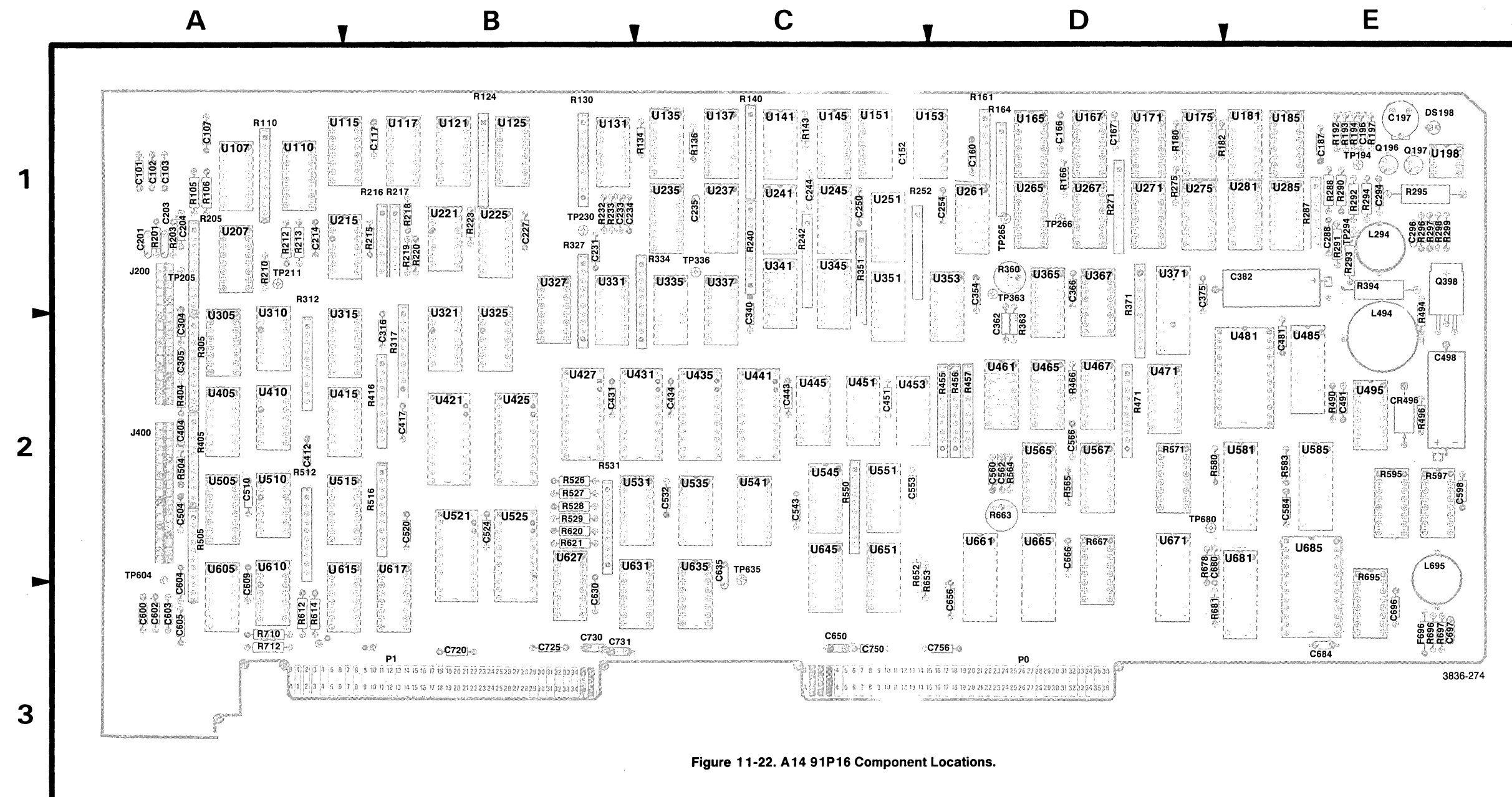
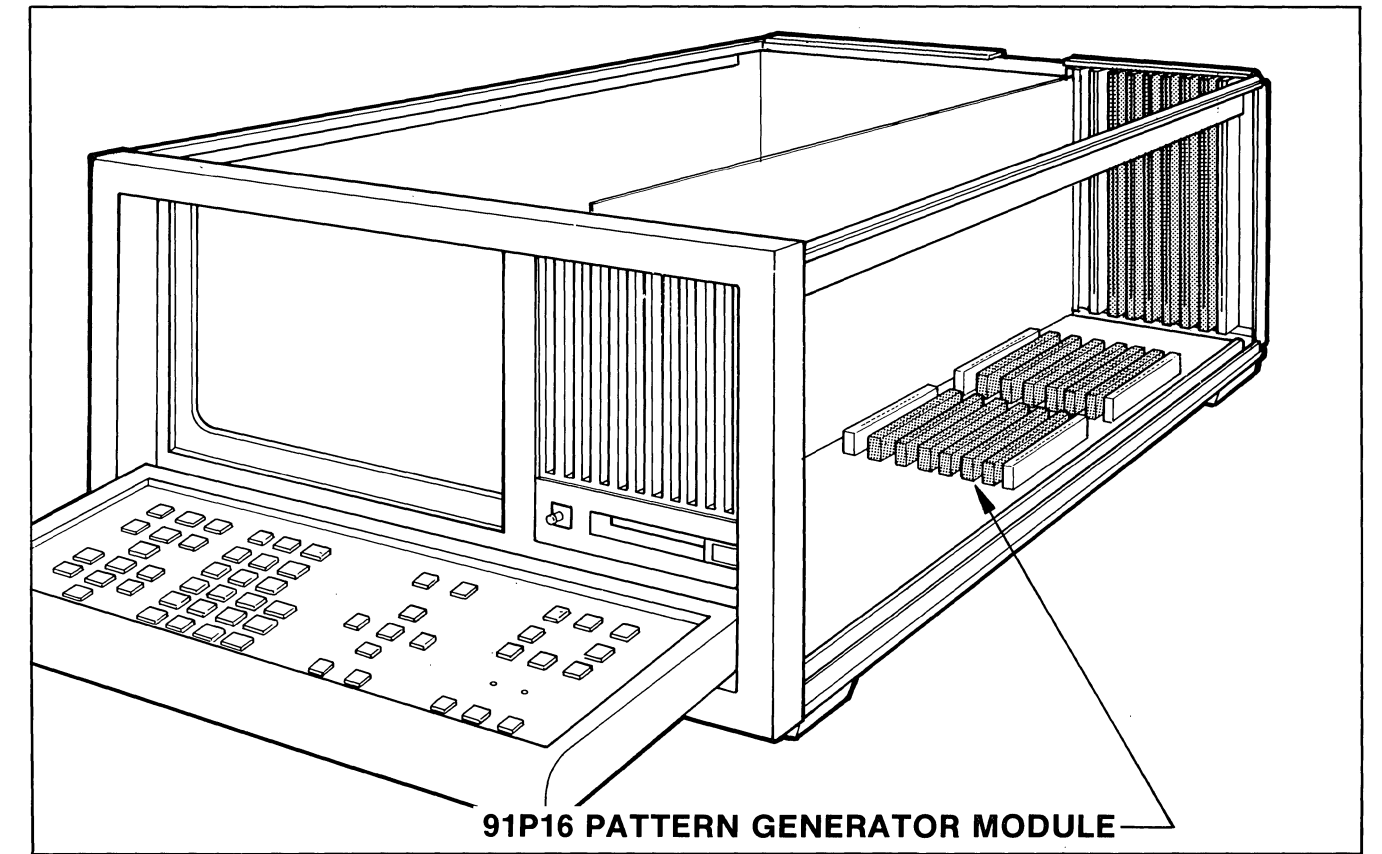


Figure 11-22. A14 91P16 Component Locations.



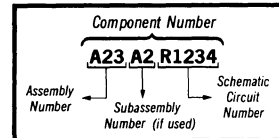
91P16 PATTERN GENERATOR MODULE

Configuration Guidelines				
Module	Max. per Mainframe	Recommended Bus Slot(s)	Functional in Bus Slot(s)	Comments
Controller	1	0	0	Required
Trigger/Time Base	1	7	7	Required
91A08	4	6(5,4,3)	6(5,4,3)	Required: first 91A08 in slot 6, additional 91A08s in descending slots (5,4,3)
91A32	3	2-6	1-6	
91P16	1	1	1-6	
91P32	2	2-6	1-6	Will not function without a 91P16 installed.

Figure 11-23. 91P16 Location.

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

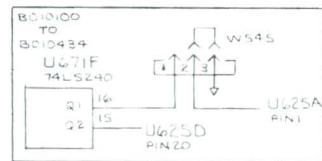
Table 11-32

91A08 DATA ACQUISITION MODULE 31 B

ASSEMBLY A13

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C632	E2	B3	R648	E2	C3
CR630	F2	B3	U135	B1	B1
P1	A3	B3	U145	F4	C1
P1	F1	B3	U148A	F4	C1
Q151	E3	C1	U148B	F4	C1
Q152	E3	C1	U148C	F4	C1
Q631	F2	B3	U148E	F4	C1
Q632	F2	B3	U148F	F5	C1
R145	E4	C1	U151	F5	C1
R149	E3	C1	U155	F3	C1
R150	E3	C1	U158A	F3	C1
R158	F3	C1	U158B	F5	C1
R419	C2	B2	U158C	F5	C1
R420	C2	B2	U158D	F3	C1
R425	C2	B2	U158E	F3	C1
R428	D4	B2	U158F	F3	C1
R429A	D4	B2	U421A	C1	B2
R429B	C3	B2	U425A	C2	B2
R429C	E3	B2	U428	D4	B2
R429D	D4	B2	U431A	D5	B2
R429E	E5	B2	U431C	C3	B2
*R430	B2	B2	U431D	C3	B2
*R431	B3	B2	U438A	D3	C2
R432C	D3	B2	U438B	B3	C2
*R436	B1	B2	U438C	B3	C2
R437F	B1	B2	U451A	C5	C2
*R438	B1	C2	U451C	B3	C2
R450B	B1	C2	U455A	B5	C2
R450E	E4	C2	U511A	C4	A2
R450F	B3	C2	U511B	C4	A2
R450G	B5	C2	U515A	B4	A2
R458	B5	D2	U515B	C4	A2
R513A	D3	A2	U518B	E4	B2
R513D	C4	A2	U521A	E1	B2
R513E	C4	A2	U521B	E2	B2
R514A	C4	A2	U525A	E2	B2
R514B	B4	A2	U528A	D1	B2
R514C	C4	A2	U528B	D2	B2
R522	E3	B2	U541C	D5	C2
R523	E2	B2	U541E	A3	C2
R526	D4	B2	U621C	B4	B3
R533B	B3	B2	U621D	C4	B3
R533D	C1	B2	U621E	C4	B3
R536	B3	C2	U625A	E2	B3
R539	B3	C2	U625B	D4	B3
R540	D1	C2	U625C	D2	B3
R541	D5	C2	U625D	D2	B3
R542	D5	C2	U625F	D2	B3
R543	D5	C2	U628A	B2	B3
R545C	C5	C2	U628B	B2	B3
*R546	B2	C2	U628A	B2	B3
R618	B4	B3	U671F	B1	D3
R619	E5	B3	W545	B1	C3
R628B	C2	B3	W615	E5	A3
R628F	D2	B3			
*R629E	C2	B3			
R631	F2	B3			
R632	E2	B3			
R633	E1	B3			
R634	F1	B3			

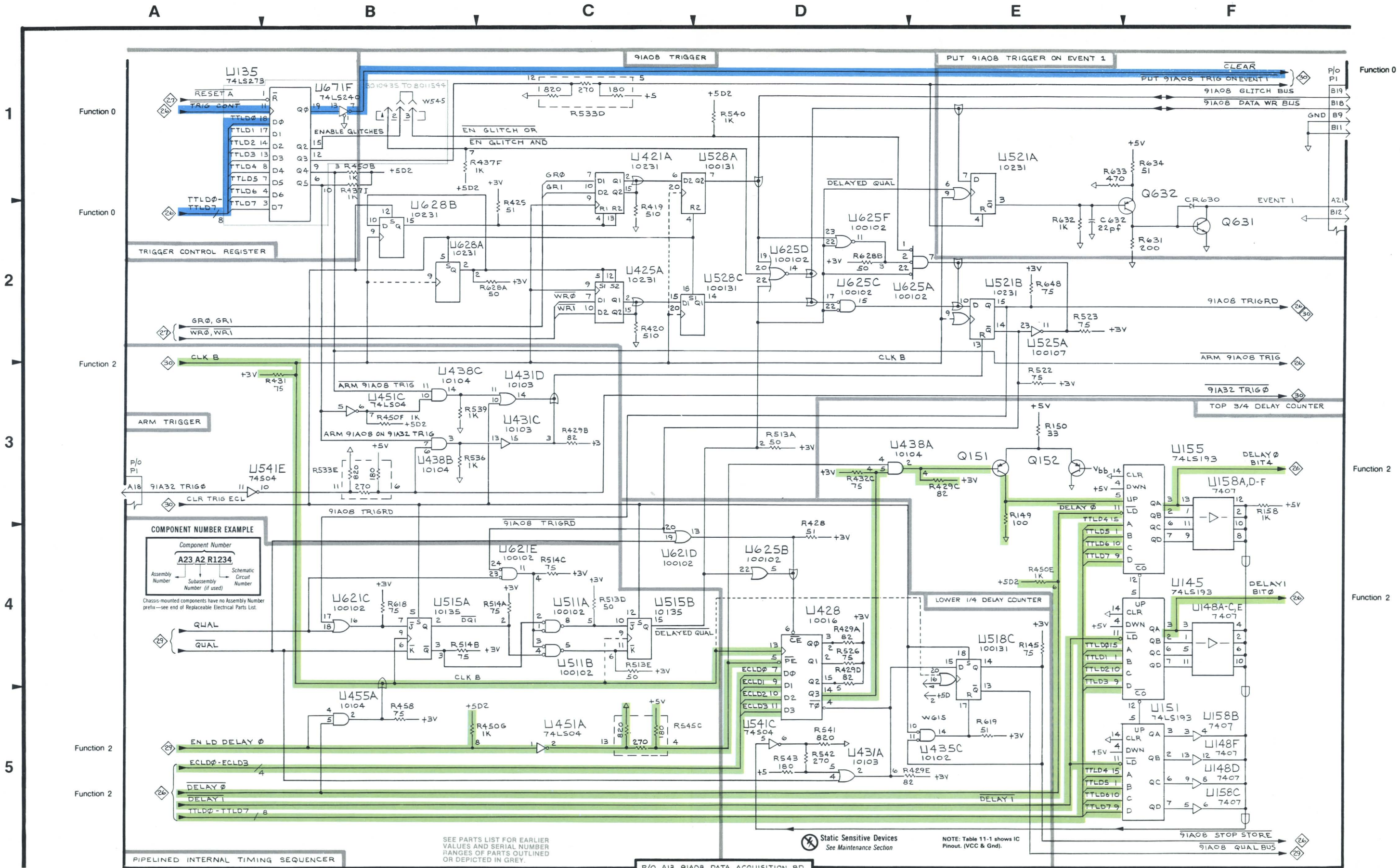
*SEE PARTS LIST FOR SERIAL NUMBER RANGES.



The colors on this page correspond to the following 91A08 diagnostic functions:

- █ 0 MEM ADDR
- █ 1 DIFF CNTR
- █ 2 DELAY CNTR
- █ 3 WRD REC
- █ 4 ACQ MEM
- █ 5 DAC THRSH

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.



DAS 9100 SERIES

3836-231
REV. NOV. 83

91A08 TRIGGER 31 B

Table 11-33

91P16 PATTERN GENERATOR

ASSEMBLY A14

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C201	B4	A1	R496	C5	E2
C203	B4	A1	R504	B3	A2
C296	A4	E1	R571A	F3	D2
C305	B4	A2	R571B	D5	D2
C382	A5	E1	R571C	D5	D2
C404	B4	A2	R571D	F3	D2
C498	C5	E2	R571E	F3	D2
C684	D1	E3	R571F	F3	D2
C697	C5	E3	R580	E3	D2
CR496	B5	E2	R583	E5	E2
DS198	C4	E1	R595	F4	E2
F696	C4	E3	R597	E1	E2
J200	A4	A1	R667	D5	D2
J200	A3	A1	R678	A2	D2
J400	A4	A2	R681	A2	D3
J400	A3	A2	R695A	E2	E3
L294	A4	E1	R695B	E2	E3
L494	B5	E2	R695C	E2	E3
L695	C5	E2	R695D	E2	E3
P0	A1	D3	R695E	E1	E3
P0	A4	D3	R695F	E2	E3
Q196	B5	E1	R696	C5	E3
Q197	B5	E1	R697	C5	E3
Q398	C5	E1	U181	SPARE	E1
R201	B3	A1	U198	B5	E1
R203	B3	A1	U225A	A3	B1
R291	A5	E1	U371	C3	D1
R293	B5	E1	U481	B1	E2
R295	B5	E1	U485	C1	E2
R296	B5	E1	U495	D3	E2
R297	B5	E1	U581	E3	E2
R298	B5	E1	U585	E4	E2
R299	A4	E1	U661	C4	D2
R394	A5	E1	U665	D5	D2
R404	B3	A2	U671	A2	D2
R490	D3	E2	U681	A1	E3
R494	B5	E1	U685	D1	E3

The colors on this page correspond to the following 91P16 diagnostic functions:

- █ 0 PC
- █ 1 VECTOR RAM
- █ 2 MICRO RAM
- █ 3 ADVANCE
- █ 4 GOTO
- █ 5 CALL
- █ 6 RETURN
- █ 7 STACK RAM
- █ 8 CLOCK

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

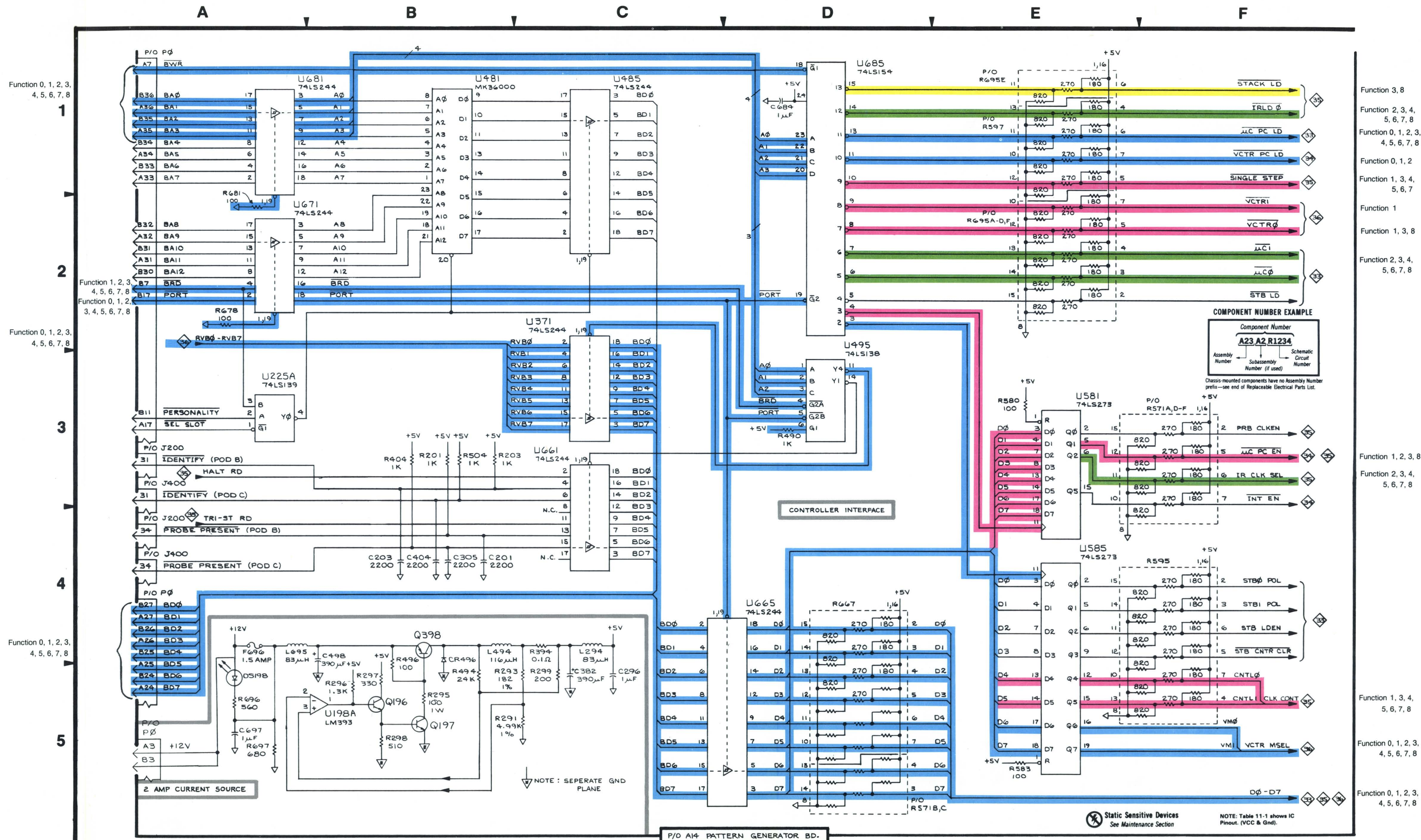


Table 11-35

91P16 PATTERN GENERATOR

ASSEMBLY A14

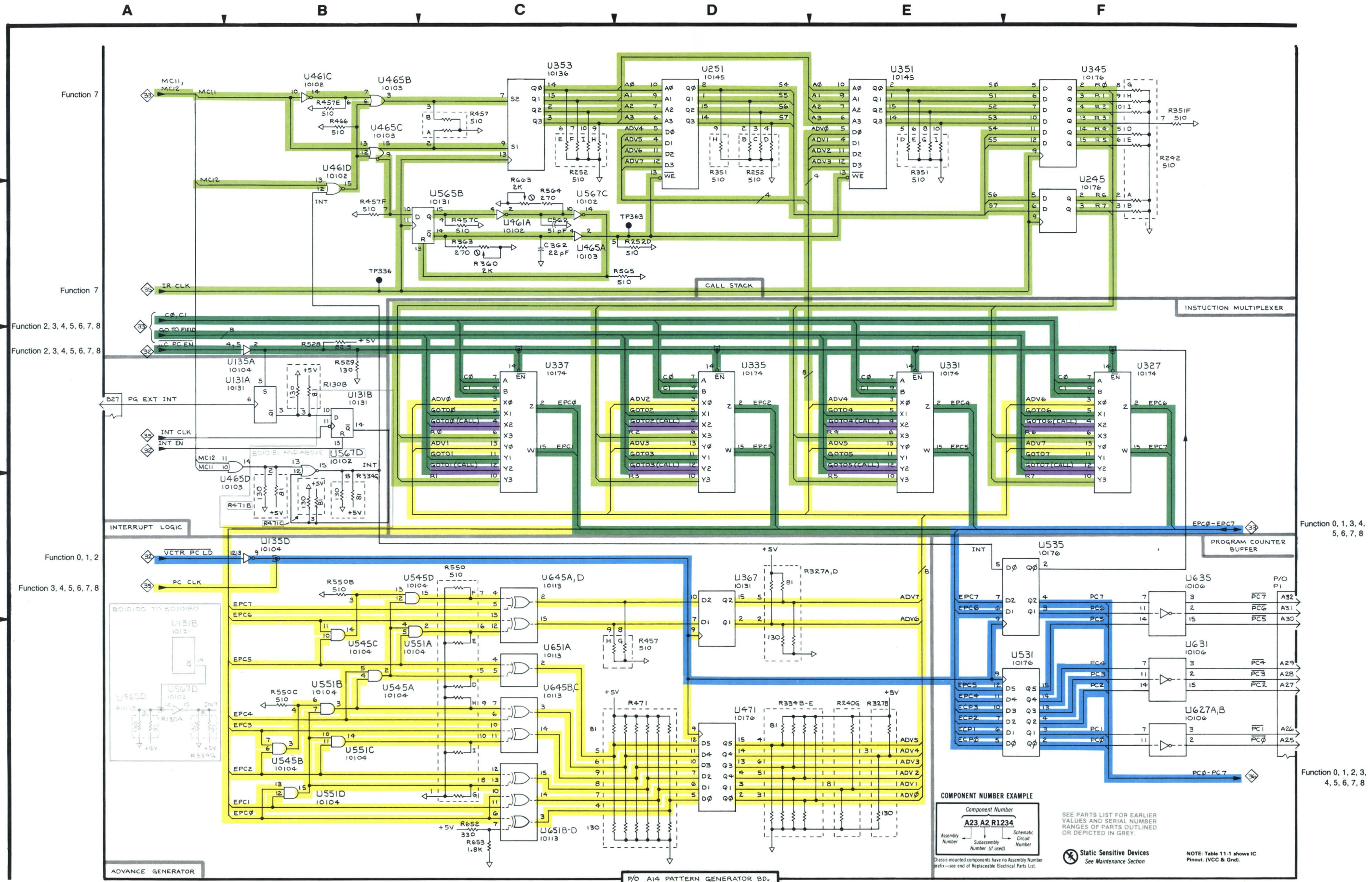
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C362	C2	D2	R653	C5	C2
C562	C2	D2	R663	C2	D2
P1	F4	B3	TP336	B2	C1
R130A	B4	B1	TP363	D2	D1
R130B	B3	B1	U131A	B3	B1
R240G	E5	C1	U131B	B3	B1
R242A	F2	C1	U135A	B3	C1
R242B	F2	C1	U135D	B4	C1
R242D	F1	C1	U245	F2	C1
R242E	F1	C1	U251	D1	C1
R242G	F1	C1	U327	F3	B1
R242H	F1	C1	U331	E3	B1
R242I	F1	C1	U335	D3	C1
R252B	D1	C1	U337	C3	C1
R252C	D1	C1	U345	F1	C1
R252D	D2	C1	U351	E1	C1
R252E	D1	C1	U353	C1	D1
R252F	C1	C1	U367	D4	D1
R252H	C1	C1	U461A	C2	D2
R252I	C1	C1	U461C	B1	D2
R252J	C1	C1	U461D	B2	D2
R327A	D4	B1	U465A	C2	D2
R327B	E5	B1	U465B	B1	D2
R327D	D4	B1	U465C	B1	D2
R334B	D5	C1	U465D	A3	D2
R334C	D5	C1	U471	D5	D2
R334D	D5	C1	U531	F5	C2
R334E	D5	C1	U535	F4	C2
R334G	B4	C1	U545A	B5	C2
R351D	E1	C1	U545B	B5	C2
R351E	E1	C1	U545C	B5	C2
R351F	F1	C1	U545D	B4	C2
R351G	E1	C1	U551A	B5	C2
R351H	D1	C1	U551B	B5	C2
R351I	E1	C1	U551C	B5	C2
R360	C2	D1	U551D	B5	C2
R363	C2	D2	U565B	C2	D2
R457A	C1	D2	U567C	C2	D2
R457B	C1	D2	U567D	B3	D2
R457C	C2	D2	U627A	F5	B3
R457E	B1	D2	U627B	F5	B3
R457F	B2	D2	U631	F5	C3
R457G	D5	D2	U635	F4	C3
R457H	C5	D2	U645	C5	C2
R466	B1	D2	U645A	C4	C2
R471	D5	D2	U651	C5	C2
R471B	B4	D2	U651A	C5	C2
R471C	B4	D2			
R528	B3	B2			
R529	B3	B2			
R550B	B4	C2			
R550C	B5	C2			
R550D	C5	C2			
R550E	C5	C2			
R550F	C4	C2			
R550G	C5	C2			
R550H	C5	C2			
R550I	C5	C2			
R564	C2	D2			
R565	D2	D2			
R652	C5	C2			

* SEE PARTS LISTS FOR SERIAL NUMBER RANGE

The colors on this page correspond to the following 91P16 diagnostic functions:

- 0 PC
- 1 VECTOR RAM
- 2 MICRO RAM
- 3 ADVANCE
- 4 GOTO
- 5 CALL
- 6 RETURN
- 7 STACK RAM
- 8 CLOCK

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.



DAS 9100 SERIES

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91P16 STACK AND INSTRUCTION MULTIPLEXER

P/O A14 91P16 PATTERN GEN. STACK & INSTR. MULTIPLEXER

Table 11-36

91P16 PATTERN GENERATOR

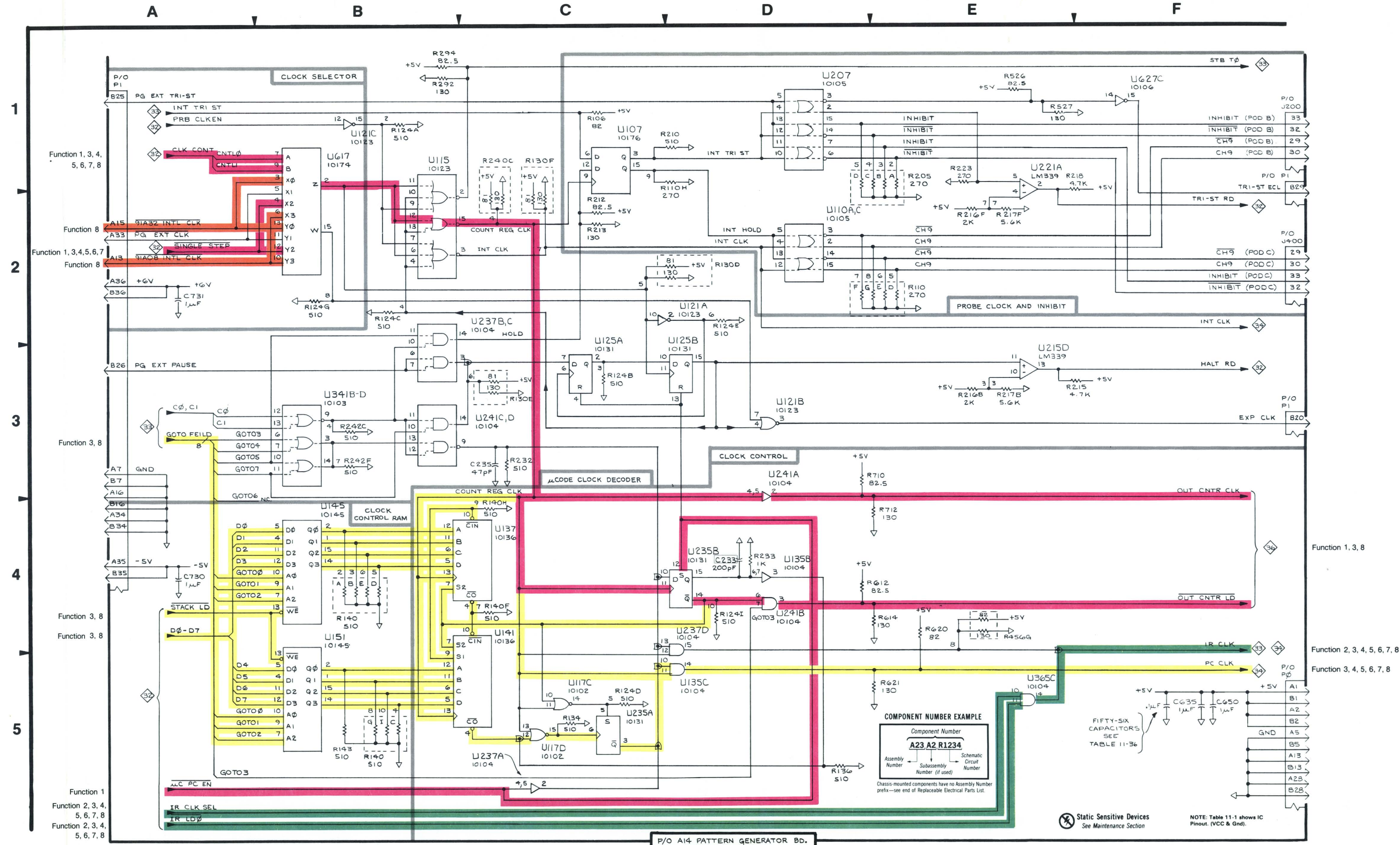
ASSEMBLY A14

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
*C680	F5	D2	*C167	F5	D1	R526	E1	B2
*C696	F5	E3	*C187	F5	E1	R527	E1	B2
*C720	F5	B3	*C204	F5	A1	R612	D4	A3
*C725	F5	B3	*C214	F5	A1	R614	E4	A3
C730	A4	B3	*C227	F5	B1	R620	E4	B2
C731	A2	B3	*C231	F5	B1	R621	E5	B2
*C750	F5	C3	*C233	D4	B1	R710	D3	A3
*C756	F5	D3	*C234	F5	B1	R712	E4	A3
J200	F1	A1	C235	C3	C1	U107	C1	A1
J400	F2	A2	*C244	F5	C1	U110	D2	A1
P0	F5	D3	*C250	F5	C1	U115	B2	B1
P1	F1	B3	*C254	F5	D1	U117C	C5	B1
P1	F3	B3	*C288	F5	E1	U117D	C5	B1
P1	A1	B3	*C294	F5	E1	U121A	C2	B1
R106	C1	A1	*C304	F5	A2	U121B	D3	B1
R110C	E2	A1	*C316	F5	B2	U121C	B1	B1
R110D	E2	A1	*C340	F5	C1	U125A	C3	B1
R110E	D2	A1	*C354	F5	D1	U125B	D3	B1
R110F	E2	A1	*C366	F5	D1	U135B	D4	C1
R110H	D1	A1	*C375	F5	D1	U135C	D5	C1
R124A	B1	B1	*C412	F5	A2	U137	C4	C1
R124B	C3	B1	*C417	F5	B2	U141	C5	C1
R124C	B2	B1	*C431	F5	B2	U145	B4	C1
R124D	C5	B1	*C434	F5	C2	U151	B5	C1
R124E	D2	B1	*C443	F5	C2	U207	D1	A1
R124G	B2	B1	*C451	F5	C2	U215	E3	B1
R124I	D4	B1	*C481	F5	E2	U221A	E1	B1
R130D	D2	B1	*C491	F5	E2	U235A	C5	C1
R130E	C3	B1	*C504	F5	A2	U235B	D4	C1
R130F	C2	B1	*C510	F5	A2	U237A	C5	C1
R134	C5	C1	*C520	F5	B2	U237B	B3	C1
R136	D5	C1	*C524	F5	B2	U237C	B3	C1
R140A	B4	C1	*C532	F5	C2	U237D	D4	C1
R140B	B4	C1	*C543	F5	C2	U241A	D4	C1
R140C	B5	C1	*C553	F5	C2	U241B	D4	C1
R140D	B4	C1	*C560	F5	D2	U241C	B3	C1
R140E	B4	C1	*C566	F5	D2	U241D	B3	C1
R140F	C4	C1	*C584	F5	E2	U341	B3	C1
R140G	B5	C1	*C598	F5	E2	U365C	E5	D1
R140H	C4	C1	*C602	F5	A3	U617	B2	B3
R140I	B5	C1	*C604	F5	A3	U627C	F1	B3
R143	B5	C1	*C605	F5	A3			
R205A	E1	A1	*C609	F5	A3			
R205B	E1	A1	*C630	F5	B3			
R205C	E1	A1	C635	F5	C2			
R205D	D1	A1	C650	F5	C3			
R210	D1	A1	*C656	F5	F5			
R212	C2	A1	*C666	F5	F5			
R213	C2	A1	R217F	E2	B1			
R215	F3	B1	R218	F2	B1			
R216B	E3	B1	R223	E1	B1			
R216F	E2	B1	R232	C3	B1			
R217B	E3	B1	R233	D4	B1			
*C103	F5	A1	R240C	C2	C1			
*C107	F5	A1	R242C	B3	C1			
*C117	F5	B1	R242F	B3	C1			
*C152	F5	C1	R292	E1	E1			
*C160	F5	D1	R294	B1	E1			
*C166	F5	D1	R456G	E4	D2			

The colors on this page correspond to the following 91A16 diagnostic functions:

- 0 PC
- 1 VECTOR RAM
- 2 MICRO RAM
- 3 ADVANCE
- 4 GOTO
- 5 CALL
- 6 RETURN
- 7 STACK RAM
- 8 CLOCK

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.



* Decoupling capacitors * SEE PARTS LISTS FOR SERIAL NUMBER RANGE

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91P16 TIMING CIRCUITS

Table 11-37

91P16 PATTERN GENERATOR

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ASSEMBLY A14

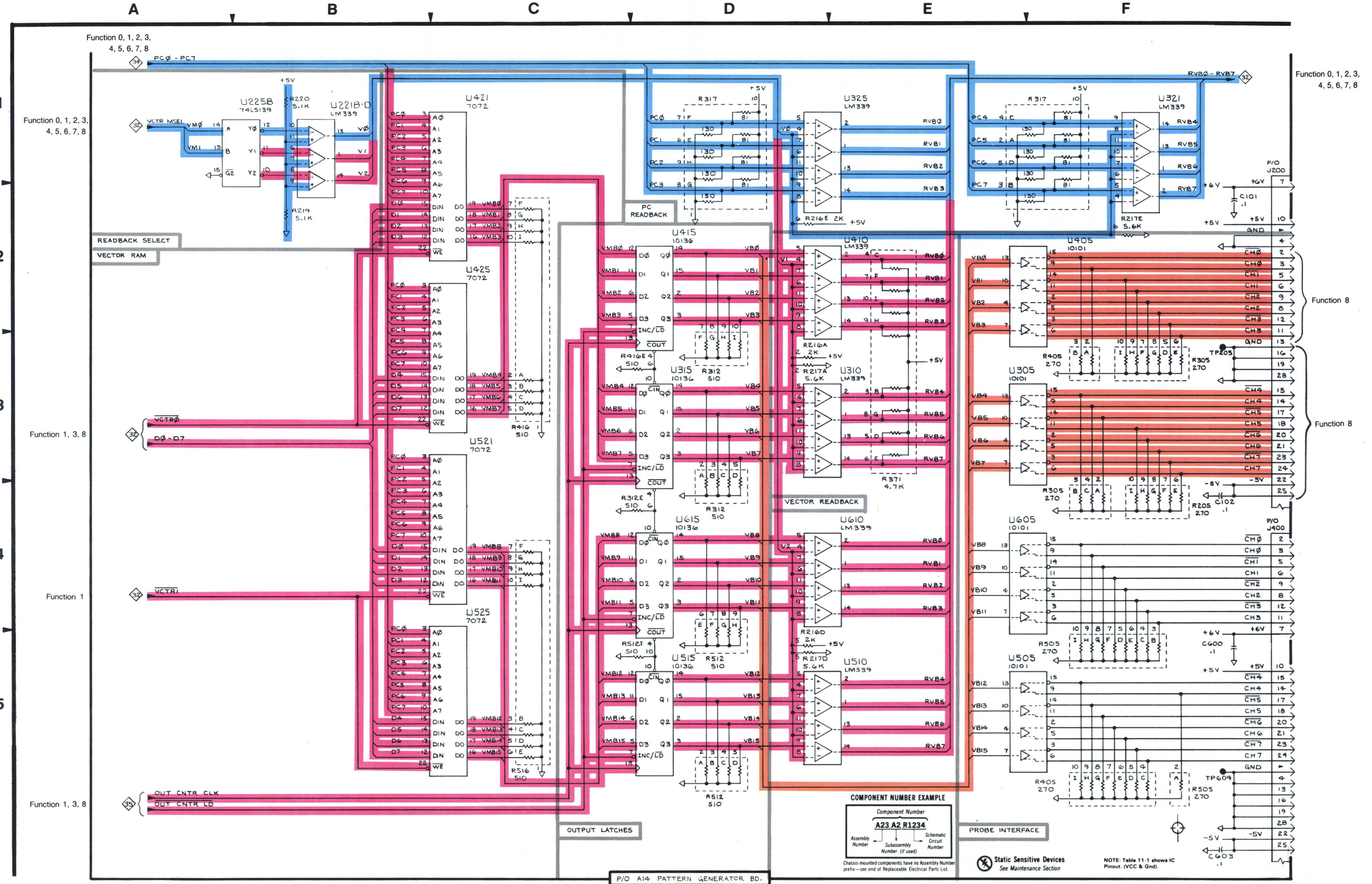
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C101	F2	A1	R405C	F5	A2
C102	F4	A1	R405D	F5	A2
C600	F5	A3	R405E	F5	A2
C603	F5	A3	R405F	F5	A2
J200	F1	A1	R405G	F5	A2
J400	F4	A2	R405H	F5	A2
R205E	F4	A1	R405I	F5	A2
R205F	F4	A1	R416A	C3	B2
R205G	F4	A1	R416B	C3	B2
R205H	F4	A1	R416C	C3	B2
R205I	F4	A1	R416D	C3	B2
R216A	D3	B1	R416E	D3	B2
R216D	D5	B1	R416F	C2	B2
R216E	D2	B1	R416G	C2	B2
R217A	D3	B1	R416H	C2	B2
R217D	D5	B1	R416I	C2	B2
R217E	F2	B1	R505A	F5	A2
R219	B2	B1	R505B	F5	A2
R220	B1	B1	R505C	F5	A2
R305A	F4	A2	R505D	F5	A2
R305B	F4	A2	R505E	F5	A2
R305C	F4	A2	R505F	F5	A2
R305D	F3	A2	R505G	F5	A2
R305E	F3	A2	R505H	F5	A2
R305F	F3	A2	R505I	F5	A2
R305G	F3	A2	R512A	D5	A2
R305H	F3	A2	R512B	D5	A2
R305I	F3	A2	R512C	D5	A2
R312A	D4	A2	R512D	D5	A2
R312B	D4	A2	R512E	D5	A2
R312C	D4	A2	R512F	D5	A2
R312D	D4	A2	R512G	D5	A2
R312E	D4	A2	R512H	D5	A2
R312F	D3	A2	R512I	D5	A2
R312G	D3	A2	R516B	C5	B2
R312H	D3	A2	R516C	C5	B2
R312I	D3	A2	R516D	C5	B2
R317A	E1	B2	R516E	C5	B2
R317B	F2	B2	R516F	C4	B2
R317C	F1	B2	R516G	C4	B2
R317D	F1	B2	R516H	C4	B2
R317E	D1	B2	R516I	C4	B2
R317F	D1	B2	TP205	F3	A1
R317H	D1	B2	TP604	F5	A2
R371B	E3	D1	U221B	B1	B1
R371C	E2	D1	U221C	B1	B1
R371D	E3	D1	U221D	B1	B1
R371E	E3	D1	U225B	B1	B1
R371F	E2	D1	U305	F3	A2
R371G	E3	D1	U310	D3	A2
R371H	E3	D1	U315	D3	B2
R371I	E2	D1	U321	F1	B2
R405A	F3	A2	U325	D1	B2
R405B	F3	A2	U405	F2	A2
U410	D2	A2	U515	D5	B2
U415	D2	B2	U521	C4	B2
U421	C1	B2	U525	C5	B2
U425	C3	B2	U605	F4	A3
U505	F5	A2	U610	D4	A3
U510	D5	A2	U615	D4	B3

The colors on this page correspond to the following 91P16 diagnostic functions:

- █ 0 PC
- █ 1 VECTOR RAM
- █ 2 MICRO RAM
- █ 3 ADVANCE
- █ 4 GOTO
- █ 5 CALL
- █ 6 RETURN
- █ 7 STACK RAM
- █ 8 CLOCK

No color assigned

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.



A17 91P32 PATTERN GEN. EXP. BOARD & COMPONENT LOCATIONS

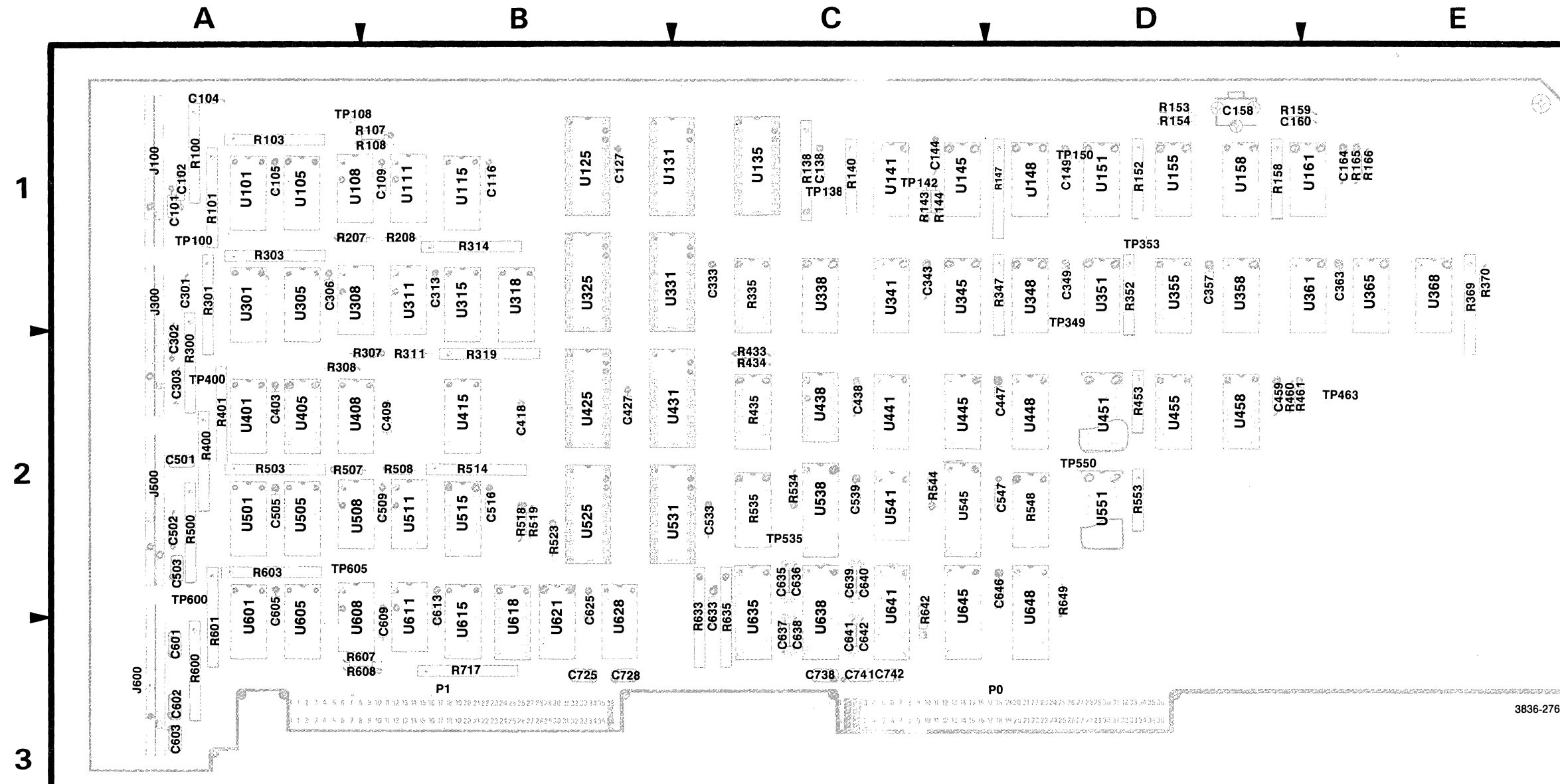
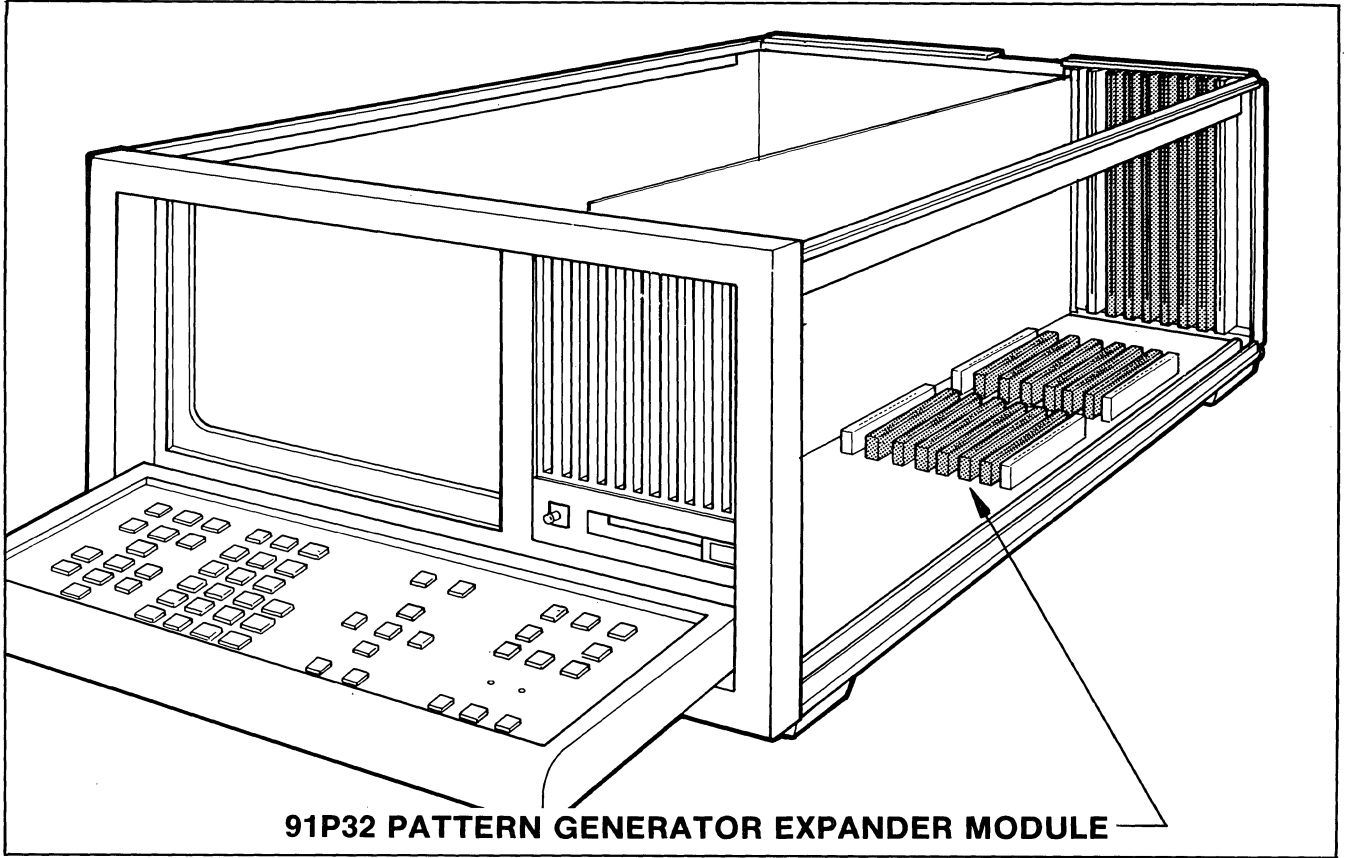


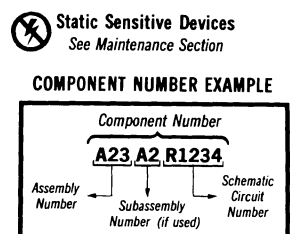
Figure 11-24. A17 91P32 Pattern Generator Expander Component Locations.



91P32 PATTERN GENERATOR EXPANDER MODULE

Module	Max. per Mainframe	Configuration Guidelines		Comments
		Recommended Bus Slot(s)	Functional in Bus Slot(s)	
Controller	1	0	0	Required
Trigger/Time Base	1	7	7	Required
91A08	4	6(5,4,3)	6(5,4,3)	Required: first 91A08 in slot 6, additional 91A08s in descending slots (5,4,3)
91A32	3	2-6	1-6	
91P16	1	1	1-6	
91P32	2	2-6	1-6	Will not function without a 91P16 installed.

Figure 11-25. 91P32 Location.



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-38

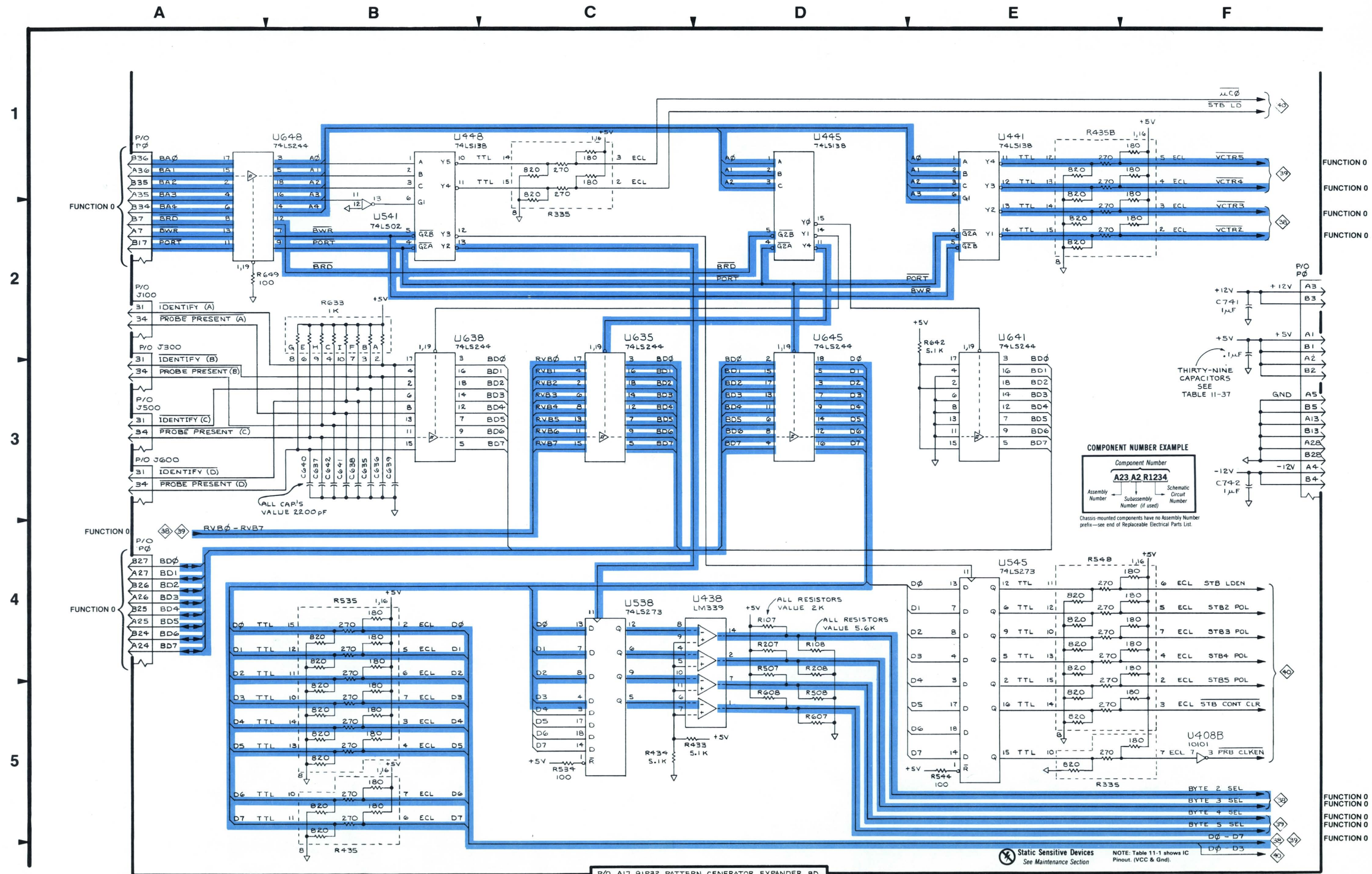
91P32 PATTERN GENERATOR EXPANDER



ASSEMBLY A17

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
*C101	F2	A1	C738	F2	C3
*C105	F2	A1	C741	F2	C3
*C109	F2	B1	C742	F3	C3
*C116	F2	B1	J100	A2	A1
*C127	F2	B1	J300	A2	A1
*C138	F2	C1	J500	A3	A2
*C144	F2	C1	J600	A3	A3
*C149	F2	D1	P0	A1	D3
*C164	F2	E1	P0	F2	D3
*C302	F2	A2	P0	F2	D3
*C306	F2	A1	P0	A4	D3
*C313	F2	B1	R107	D4	B1
*C333	F2	C1	R108	D4	B1
*C343	F2	C1	R207	D4	A1
*C349	F2	D1	R208	D4	B1
*C357	F2	D1	R335	E5	C1
*C363	F2	E1	R433	C5	C2
*C403	F2	A2	R434	C5	C2
*C409	F2	B2	R435A	B5	C2
*C418	F2	B2	R435B	E1	C2
*C427	F2	B2	R507	D4	A2
*C438	F2	C2	R508	D5	B2
*C447	F2	D2	R534	C5	C2
*C459	F2	D2	R535	B5	C2
*C503	F2	A2	R544	E5	C2
*C505	F2	A2	R548	E4	D2
*C509	F2	B2	R607	D5	A3
*C516	F2	B2	R608	D5	A3
*C523	F2	B2	R633	B2	C2
*C533	F2	C2	R633	B2	C2
*C539	F2	C2	R642	E2	C2
*C547	F2	D2	R649	A2	D2
*C603	F2	A3	U408B	F5	A2
*C605	F2	A3	U438	D4	C2
*C609	F2	B2	U441	E2	C2
*C613	F2	B2	U445	D2	C2
*C625	F2	B2	U448	B2	D2
*C633	F2	C2	U538	C5	C2
C635	B3	C2	U541	B2	C2
C636	B3	C2	U545	E4	C2
C637	B3	C3	U635	C3	C2
C638	B3	C3	U638	B3	C2
C639	B3	C2	U641	E3	C2
C640	B3	C2	U645	D3	C2
C641	B3	C3	U648	A2	D2
C642	B3	C3			
*C646	F2	D2			

*Decoupling capacitors



DAS 9100 SERIES

The colors on this page correspond to the following 91P32 diagnostic function:

0 VECTOR RAM

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The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

Static Sensitive Devices See Maintenance Section

NOTE: Table 11-1 shows IC Pinout. (VCC & Gnd)

91P32 CONTROLLER INTERFACE

P/O A17 91P32 PAT. GEN. EXP. CONTROLLER INTERFACE



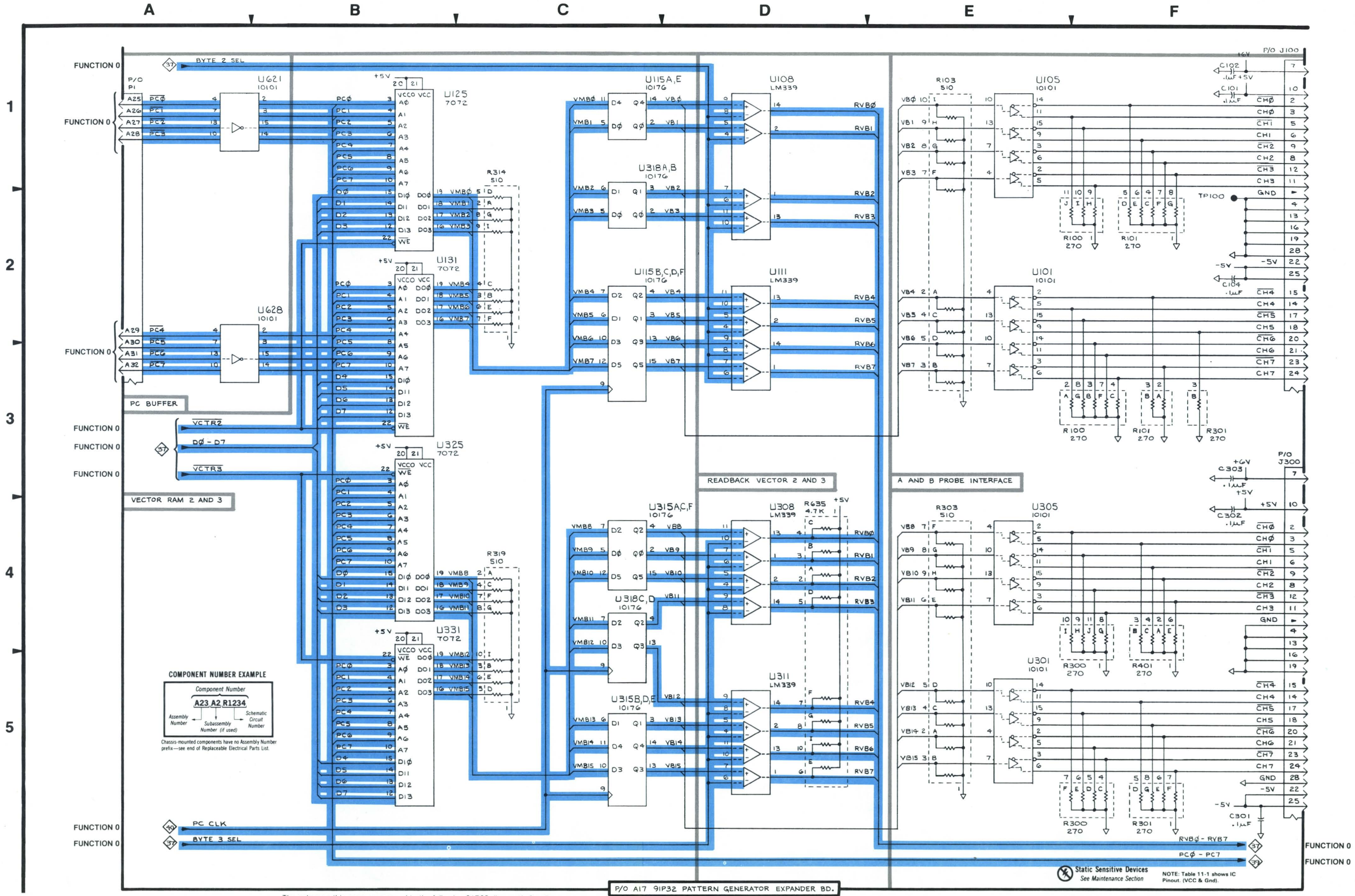
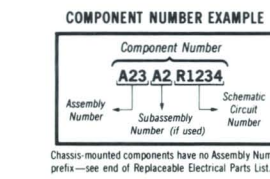
Table 11-39

91P32 PATTERN GENERATOR EXPANDER

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ASSEMBLY A17

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C102	F1	A1	R319D	C5	B2
C104	F3	A1	R319E	C5	B2
C301	F5	A1	R319F	C4	B2
C303	F3	A2	R319G	C4	B2
J100	F1	A1	R319I	C5	B2
J300	F3	A1	R401A	F4	A2
P1	A1	B3	R401B	F4	A2
R100A	F3	A1	R401C	F4	A2
R100B	F3	A1	R401E	F4	A2
R100C	F3	A1	R635	D4	C2
R100F	F3	A1	TP100	F2	A1
R100G	F3	A1	U101	E2	A1
R100H	F2	A1	U105	E1	A1
R100I	F2	A1	U108	D1	A1
R100J	F2	A1	U111	D2	B1
R101A	F3	A1	U115A	C1	B1
R101B	F3	A1	U115B	C2	B1
R101C	F2	A1	U115C	C2	B1
R101D	F2	A1	U115D	C2	B1
R101E	F2	A1	U115E	C1	B1
R101F	F2	A1	U115F	C2	B1
R101G	F2	A1	U125	B1	B1
R103	E2	A1	U131	B3	B1
R300C	F5	A2	U301	E5	A1
R300D	F5	A2	U305	E4	A1
R300E	F5	A2	U308	D4	A1
R300F	F5	A2	U311	D5	B1
R300G	F4	A2	U315A	C4	B1
R300H	F4	A2	U315B	C5	B1
R300I	F4	A2	U315C	C4	B1
R300J	F4	A2	U315D	C5	B1
R301B	F3	A1	U315E	C5	B1
R301D	F5	A1	U315F	C4	B1
R301E	F5	A1	U318A	C2	B1
R301F	F5	A1	U318B	C2	B1
R301G	F5	A1	U318C	C4	B1
R303	E4	A1	U318D	C4	B1
R314	C2	B1	U325	B4	B1
R319A	C4	B2	U331	B5	B1
R319B	C5	B2	U621	A1	B2
R319C	C4	B2	U628	A3	B2



DAS 9100 SERIES

0 VECTOR RAM

3856-238

91P32 VECTOR MEMORY 2 AND 3

The colors on this page correspond to the following 91P32 diagnostic function:

The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

Static Sensitive Devices
See Maintenance Section

NOTE: Table 11-1 shows IC Pinout. (VCC & Gnd.)

P/O A17 91P32 PAT. GEN. EXP. VECTOR MEMORY 2 & 3

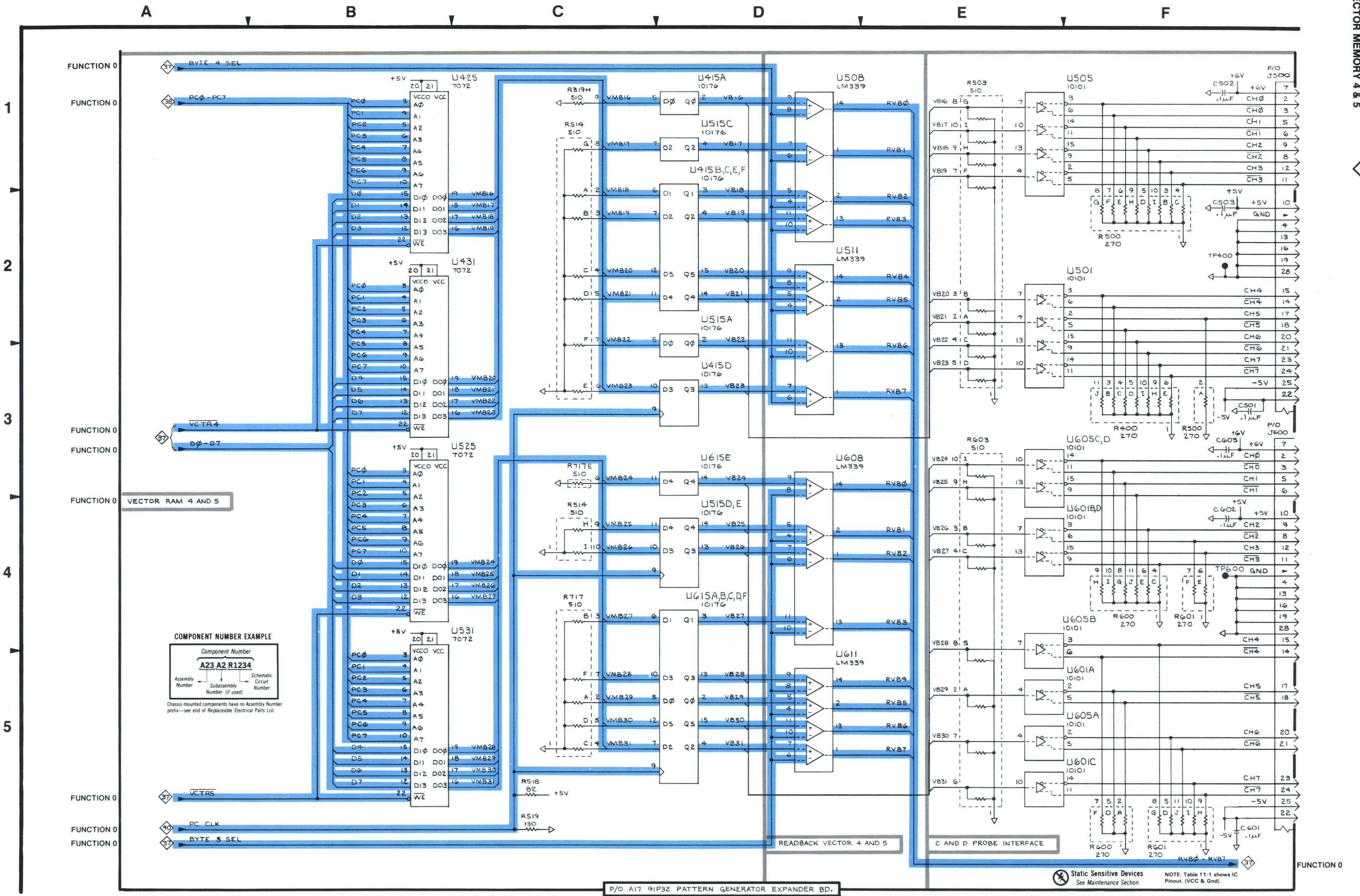
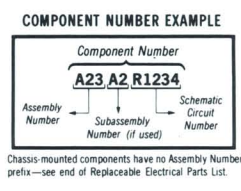
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Table 11-40

91P32 PATTERN GENERATOR EXPANDER

ASSEMBLY A17

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C501	F3	A2	R601G	F5	A3
C502	F1	A2	R601H	F5	A3
C601	F5	A3	R601I	F5	A3
C603	F3	A3	R601J	F5	A3
J500	F1	A2	R603	E4	A2
J600	F3	A3	R717A	C5	B3
R319H	C1	B2	R717B	C4	B3
R400B	F3	A2	R717C	C5	B3
R400C	F3	A2	R717D	C5	B3
R400D	F3	A2	R717E	C3	B3
R400E	F3	A2	R717F	C5	B3
R400H	F3	A2	TP400	F2	A2
R400I	F3	A2	TP600	F4	A2
R400J	F3	A2	U415A	D1	B2
R500A	F3	A2	U415B	D2	B2
R500B	F2	A2	U415C	D2	B2
R500C	F2	A2	U415D	D3	B2
R500D	F2	A2	U415E	D2	B2
R500E	F2	A2	U415F	D2	B2
R500F	F2	A2	U425	B1	B2
R500G	F2	A2	U431	B3	B2
R500H	F2	A2	U501	E2	A2
R500I	F2	A2	U505	E1	A2
R503	E2	A2	U508	D1	A2
R514A	C2	B2	U511	D2	B2
R514B	C2	B2	U515A	D3	B2
R514C	C2	B2	U515C	D1	B2
R514D	C2	B2	U515D	D4	B2
R514E	C3	B2	U515E	D4	B2
R514F	C3	B2	U525	B4	B2
R514G	C1	B2	U531	B5	B2
R514H	C4	B2	U601A	E5	A3
R514I	C4	B2	U601B	E4	A3
R518	C5	B2	U601C	E5	A3
R519	C5	B2	U601D	E4	A3
R600A	F5	A3	U605A	E5	A3
R600C	F4	A3	U605B	E4	A3
R600D	F5	A3	U605C	E3	A3
R600E	F4	A3	U605D	E3	A3
R600F	F5	A3	U608	D4	A3
R600G	F4	A3	U611	D5	B2
R600H	F4	A3	U615A	D5	B2
R600I	F4	A3	U615B	D5	B2
R600J	F4	A3	U615C	D5	B2
R601D	F5	A3	U615D	D5	B2
R601E	F4	A3	U615E	D3	B2
R601F	F4	A3	U615F	D5	B2



The function numbers at the beginning and end of each colored line indicate all tests that enter or exit that point. The colors correspond to the first test that is run on the line. For more information refer to the introduction of this Diagrams section.

Static Sensitive Devices See Maintenance Section NOTE: Table 11.1 shows IC Pinout. (VCC & Gnd).

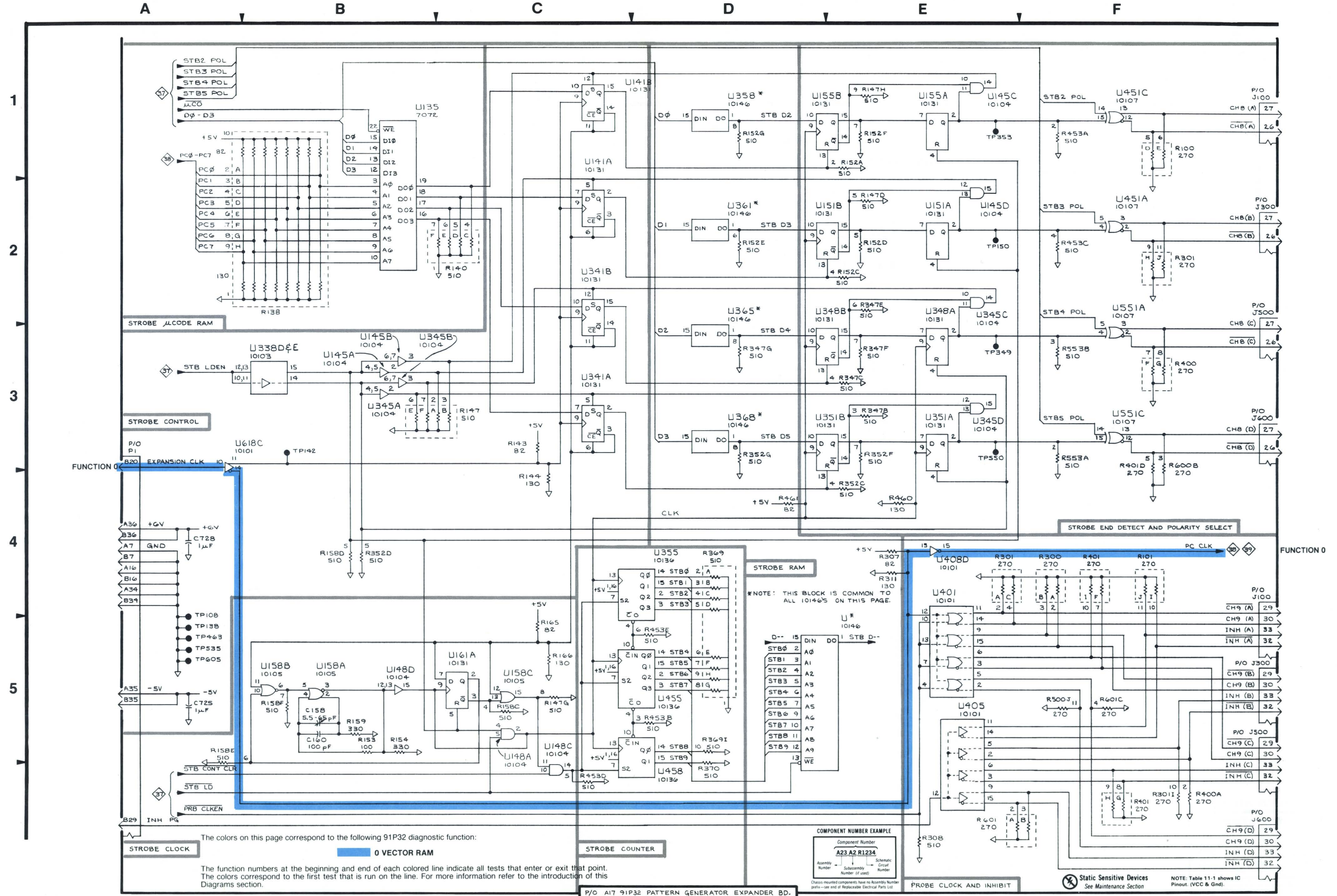
Table 11-41

PATTERN GENERATOR EXPANDER



ASSEMBLY A17

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C158	B5	D1	R301I	F6	A1	TP463	A5	E2
C160	B5	D1	R301J	F2	A1	TP535	A5	C2
C725	A5	B3	R307	E4	B2	TP550	E3	D2
C728	A4	B3	R308	E6	A2	TP605	A5	A2
J100	F1	A1	R311	E4	B2	U135	B2	C1
J100	F4	A1	R347B	E3	D1	U141A	C2	C1
J300	F5	A1	R347C	E3	D1	U141B	C1	C1
J300	F2	A1	R347E	E2	D1	U145A	B3	C1
J500	F5	A2	R347F	E3	D1	U145B	B3	C1
J500	F2	A2	R347G	D3	D1	U145C	E1	C1
J600	F6	A3	R352C	E4	D1	U145D	E2	C1
J600	F3	A3	R352D	B4	D1	U148A	C5	D1
P1	A3	B3	R352F	E3	D1	U148C	C6	D1
R100D	F1	A1	R352G	D3	D1	U148D	B5	D1
R100E	F1	A1	R369A	D4	E1	U151A	E2	D1
R101I	F4	A1	R369B	D4	E1	U151B	D2	D1
R101J	F4	A1	R369C	D4	E1	U155A	E1	D1
R138	B2	C1	R369D	D4	E1	U155B	D1	D1
R140C	C2	C1	R369E	D5	E1	U158A	B5	D1
R140D	C2	C1	R369F	D5	E1	U158B	B5	D1
R140E	C2	C1	R369G	D5	E1	U158C	C5	D1
R140F	C2	C1	R369H	D5	E1	U161A	C5	E1
R143	C3	C1	R369I	D5	E1	U338D	B3	C1
R144	C4	C1	R370	D6	E1	U338E	B3	C1
R147A	C3	D1	R400A	F6	A2	U341A	C3	C1
R147B	C3	D1	R400F	F3	A2	U341B	C2	C1
R147D	E2	D1	R401D	F3	A2	U345A	B3	C1
R147E	B3	D1	R401F	F4	A2	U345B	B3	C1
R147F	B3	D1	R401G	F6	A2	U345C	E2	C1
R147G	C5	D1	R401H	F6	A2	U345D	E3	C1
R147H	E1	D1	R401I	F4	A2	U348A	E3	D1
R152A	E1	D1	R453A	F1	D2	U348B	D3	D1
R152C	E2	D1	R453B	D5	D2	U351A	E3	D1
R152D	E2	D1	R453C	F2	D2	U351B	D3	D1
R152E	D2	D1	R453D	C6	D2	U355	D4	D1
R152F	E1	D1	R453E	D5	D2	U358	D1	D1
R152G	D1	D1	R460	E4	D2	U361	D2	E1
R153	B5	D1	R461	D4	D2	U365	D3	E1
R154	B5	D1	R500J	F5	A2	U368	D3	E1
R158C	C5	D1	R553A	F3	D2	U401	E5	A2
R158D	B4	D1	R553B	F3	D2	U405	E6	A2
R158E	A6	D1	R600B	F3	A3	U408D	E4	A2
R158F	B5	D1	R601A	E6	A3	U451A	F2	D2
R159	B5	D1	R601B	F6	A3	U451C	F1	D2
R165	C5	E1	R601C	F5	A3	U455	D5	D2
R166	C5	E1	TP108	A5	A1	U458	D5	D2
R300A	F4	A2	TP138	A5	C1	U551A	F3	D2
R300B	F4	A2	TP142	B3	C1	U551C	F3	D2
R301A	E4	A1	TP150	E2	D1	U618C	A3	B2
R301C	E4	A1	TP349	E3	D1			
R301H	F2	A1	TP353	E1	D1			



A7A1 P6452 DATA ACQ. PROBE
COMPONENT LOCATIONS

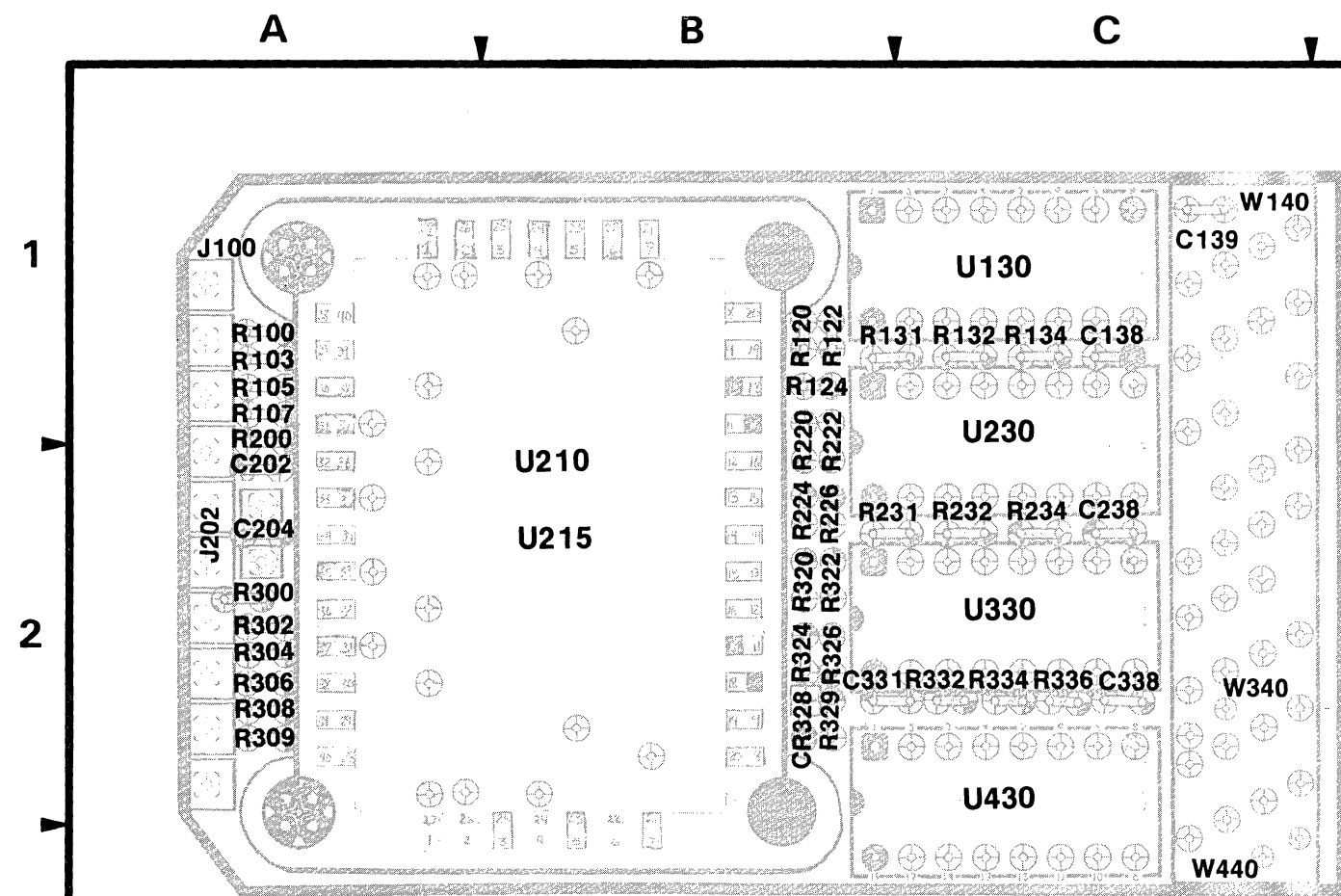
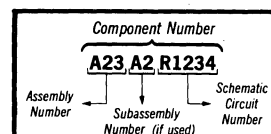


Figure 11-26. A7A1 P6452 Data Acquisition Probe Component Locations.

3836-278

 Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

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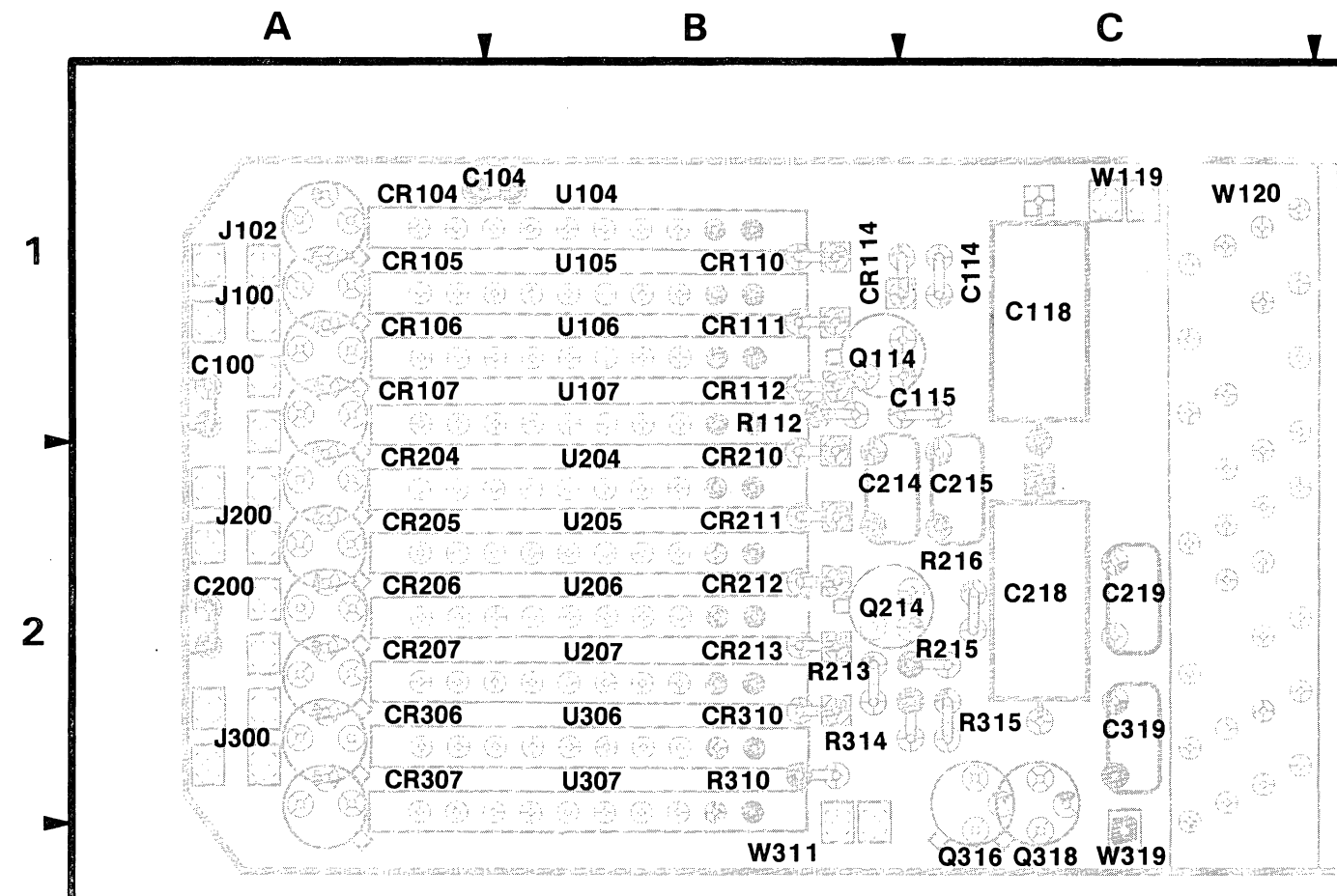


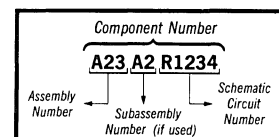
Figure 11-27. A15A1 P6455 TTL/MOS Pattern Generator Probe Component Locations.

3836-279

A15A1 P6455 TTL/MOS PAT. GEN. PRB. COMPONENT LOCATIONS

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE

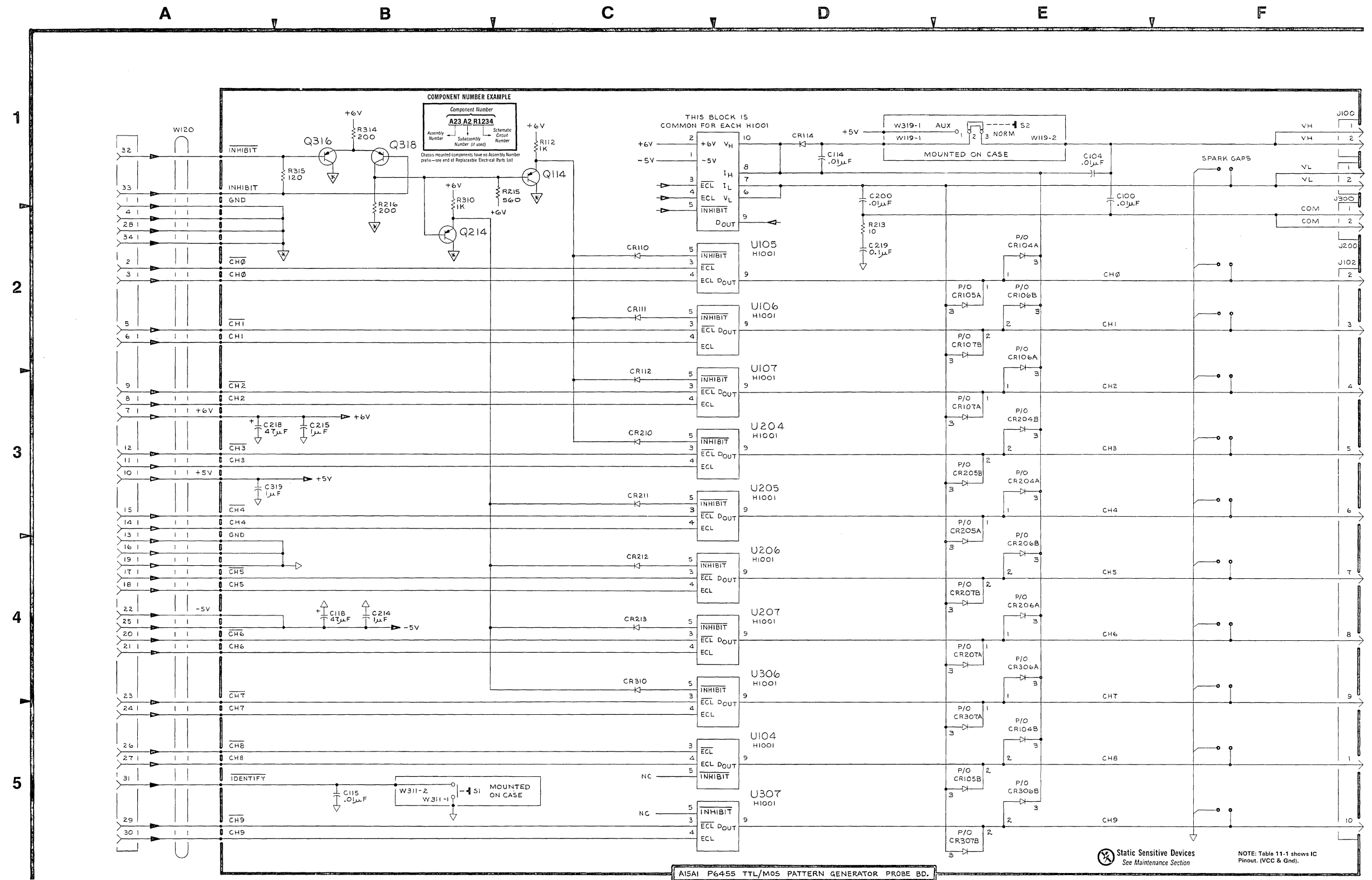


Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

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Table 11-43

P6455 TTL/MOS PATTERN GENERATOR PROBE					
ASSEMBLY A15A1					
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C100	E1	A1	CR307A	E5	A2
C104	E1	B1	CR307B	E5	A2
C114	D1	C1	CR310	C4	B2
C115	B5	C1	J100	F1	A1
C118	B4	C1	J102	F2	A1
C200	D1	A2	J200	F2	A2
C214	B4	C2	J300	F1	A2
C215	B3	C2	Q114	C1	B1
C218	A3	C2	Q214	B2	C2
C219	D2	C2	Q316	B1	C2
C319	A3	C2	Q318	B1	C2
CR104A	E2	A1	R112	C1	B1
CR104B	E5	A1	R213	D2	B2
CR105A	E2	A1	R215	B1	C2
CR105B	E5	A1	R216	B2	C2
CR106A	E2	A1	R310	B1	B2
CR106B	E2	A1	R314	B1	B2
CR107A	E3	A1	R315	B1	C2
CR107B	E2	A1	S1	B5	MOUNTED ON CASE
CR110	C2	B1	S2	E1	MOUNTED ON CASE
CR111	C2	B1			MOUNTED ON CASE
CR112	C3	B1			MOUNTED ON CASE
CR114	D1	B1	U104	D5	B1
CR204A	E3	A2	U105	D2	B1
CR204B	E3	A2	U106	D2	B1
CR205A	E4	A2	U107	D3	B1
CR205B	E3	A2	U204	D3	B2
CR206A	E4	A2	U205	D3	B2
CR206B	E4	A2	U206	D4	B2
CR207A	E4	A2	U207	D4	B2
CR207B	E4	A2	U306	D4	B2
CR210	C3	B2	U307	D5	B2
CR211	C3	B2	W119	E1	C1
CR212	C4	B2	W120	A1	C1
CR213	C4	B2	W311	B5	B2
CR306A	E4	A2	W319	D1	C2
CR306B	E5	A2			



DAS 9100 SERIES

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P6455 TTL/MOS PATTERN GENERATOR PROBE

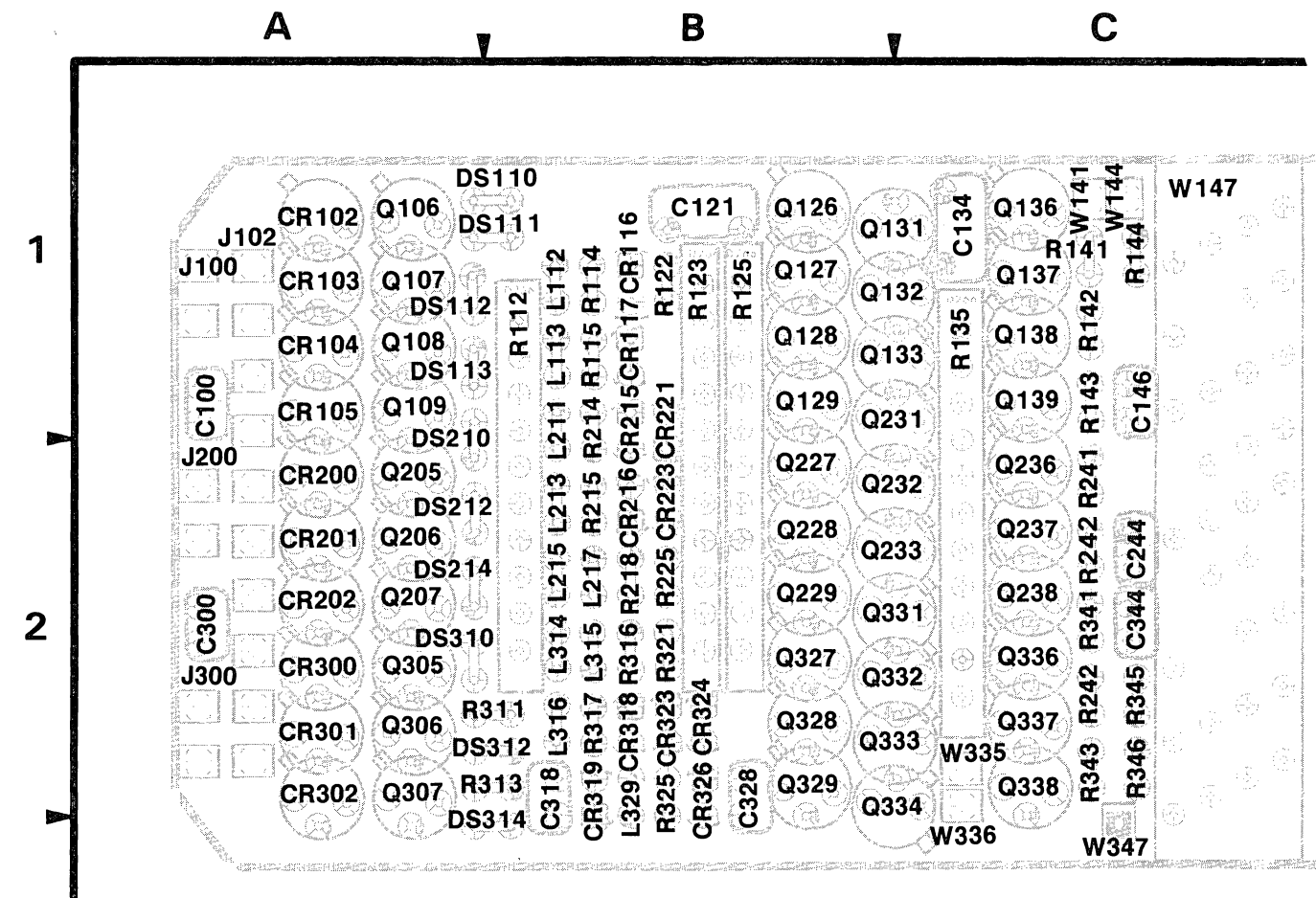
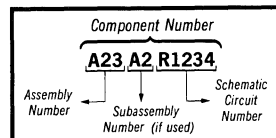


Figure 11-28. A16A1 P6456 ECL Pattern Generator Probe Component Locations.

3836-280

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

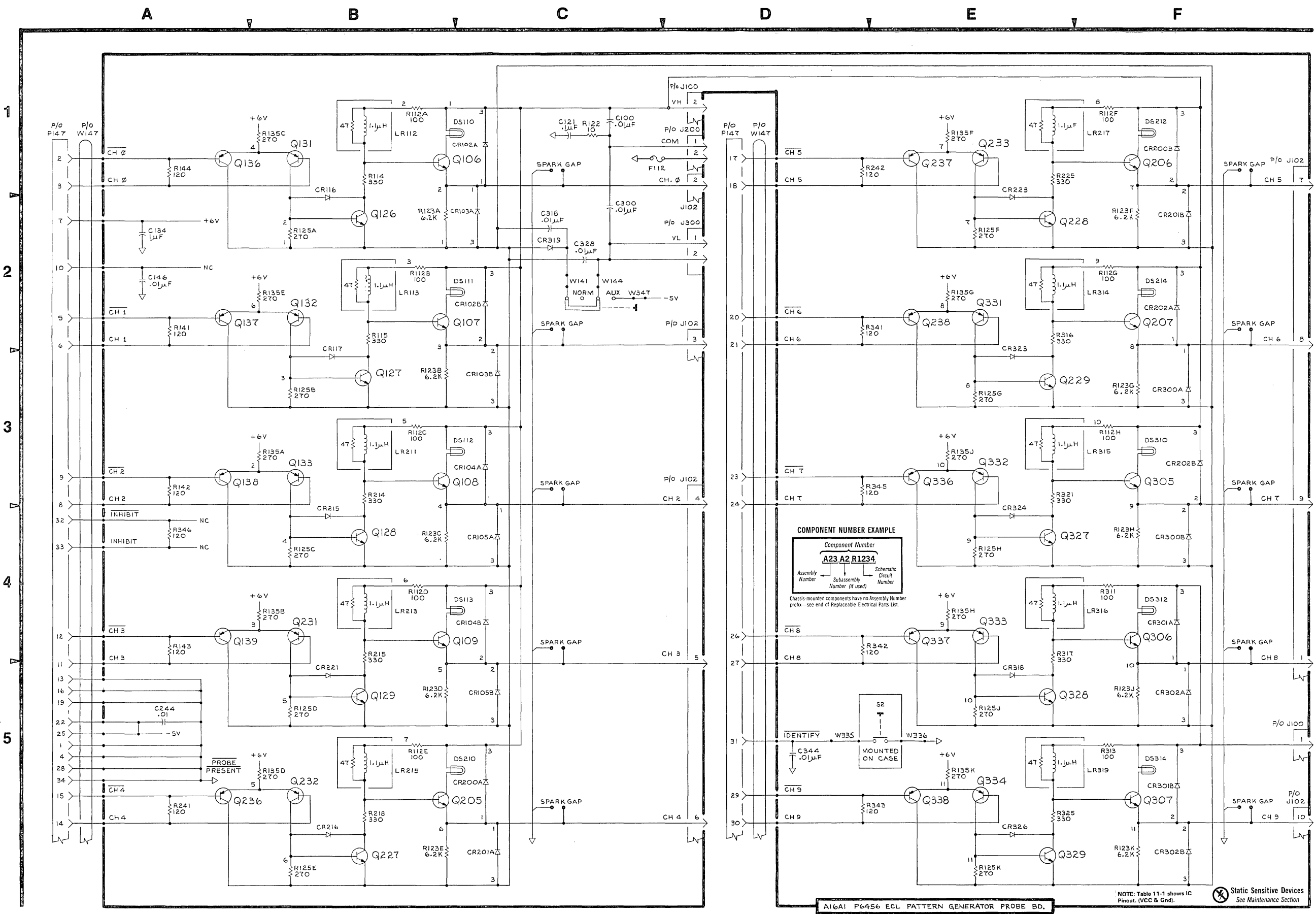
Table 11-44

P6456 ECL PATTERN GENERATOR PROBE



ASSEMBLY A16A1

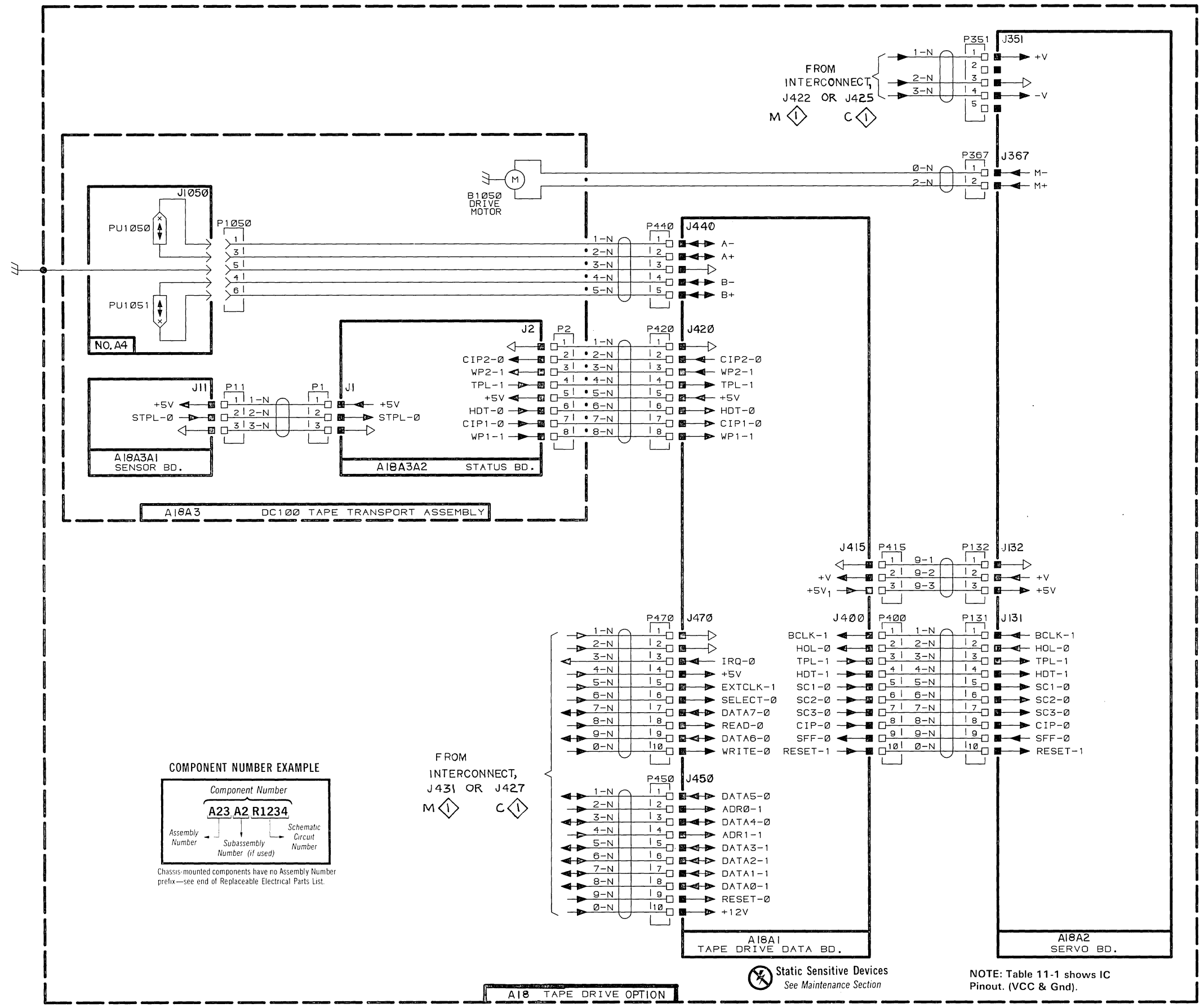
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C100	C1	A1	LR113	B2	B1	R123B	B3	B1
C121	C1	B1	LR211	B3	B1	R123C	B4	B1
C134	A2	C1	LR213	B4	B2	R123D	B5	B1
C146	A2	C1	LR215	B5	B2	R123E	B5	B1
C244	A5	C2	LR217	E1	B2	R123F	F2	B1
C300	C2	A2	LR314	E2	B2	R123G	F3	B1
C318	C2	B2	LR315	E3	B2	R123H	F4	B1
C328	C2	B2	LR316	E4	B2	R123J	F5	B1
C344	D5	C2	LR319	E5	B2	R123K	F5	B1
CR102A	C1	A1	Q106	B1	A1	R125A	B2	B1
CR102B	C2	A1	Q107	B2	A1	R125B	B3	B1
CR103A	C2	A1	Q108	B3	A1	R125C	B4	B1
CR103B	C3	A1	Q109	B4	A1	R125D	B5	B1
CR104A	C3	A1	Q126	B2	B1	R125E	B5	B1
CR104B	C4	A1	Q127	B3	B1	R125F	E2	B1
CR105A	C4	A1	Q128	B4	B1	R125G	E3	B1
CR105B	C5	A1	Q129	B5	B1	R125H	E4	B1
CR116	B2	B1	Q131	B1	C1	R125J	E5	B1
CR117	B3	B1	Q132	B2	C1	R125K	E5	B1
CR200A	C5	A2	Q133	B3	C1	R135A	B3	C1
CR200B	F1	A2	Q136	A1	C1	R135B	B4	C1
CR201A	C5	A2	Q137	A2	C1	R135C	B1	C1
CR201B	F2	A2	Q138	A3	C1	R135D	B5	C1
CR202A	F2	A2	Q139	A4	C1	R135E	B2	C1
CR202B	F3	A2	Q205	B5	A2	R135F	E1	C1
CR215	B4	B1	Q206	F1	A2	R135G	E2	C1
CR216	B5	B2	Q207	F2	A2	R135H	E4	C1
CR221	B5	B1	Q227	B5	B2	R135J	E3	C1
CR223	E2	B2	Q228	E2	B2	R135K	E5	C1
CR300A	F3	A2	Q229	E3	B2	R141	A2	C1
CR300B	F4	A2	Q231	B4	C1	R142	A3	C1
CR301A	F4	A2	Q232	B5	C2	R143	A4	C1
CR301B	F5	A2	Q233	E1	C2	R144	A1	C1
CR302A	F5	A2	Q236	A5	C2	R214	B3	B1
CR302B	F5	A2	Q237	E1	C2	R215	B4	B2
CR318	E5	B2	Q238	E2	C2	R218	B5	B2
CR319	C2	B2	Q305	F3	A2	R225	E1	B2
CR323	E3	B2	Q306	F4	A2	R241	A5	C2
CR324	E4	B2	Q307	F5	A2	R242	D1	C2
CR326	E5	B2	Q327	E4	B2	R311	F4	B2
DS110	B1	B1	Q328	E5	B2	R313	F5	B2
DS111	B2	B1	Q329	E5	B2	R316	E2	B2
DS112	B3	A1	Q331	E2	C2	R317	E4	B2
DS113	B4	A1	Q332	E3	C2	R321	E3	B2
DS210	B5	A1	Q333	E4	C2	R325	E5	B2
DS212	F1	A2	Q334	E5	C2	R341	D2	C2
DS214	F2	A2	Q336	E3	C2	R342	D4	C2
DS310	F3	A2	Q337	E4	C2	R343	D5	C2
DS312	F4	B2	Q338	E5	C2	R345	D3	C2
DS314	F5	B3	R112A	B1	B1	R346	A4	C2
J100	F5	A1	R112B	B2	B1	S2	E5	Mounted on Case
J100	D1	A1	R112C	B3	B1	W141	C2	C1
J102	D3	A1	R112D	B4	B1	W144	C2	C1
J102	D2	A1	R112E	B5	B1	W147	A1	D1
J102	F5	A1	R112G	F2	B1	W147	D1	D1
J102	F1	A1	R112H	F3	B1	W147	D3	D1
J102	D1	A1	R114	B1	B1	W335	D5	C2
J200	D1	A2	R115	B2	B1	W336	F5	C2
J300	D2	A2	R122	C1	B1	W347	C2	C3
LR112	B1	B1	R123A	B2	B1			



DAS 9100 SERIES

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P6456 ECL PATTERN GENERATOR PROBE



COMPONENT NUMBER EXAMPLE

Component Number			
A	23	A2	R1234
Assembly Number	Subassembly Number (if used)	Schematic Circuit Number	

Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Static Sensitive Devices
See Maintenance Section

NOTE: Table 11-1 shows IC Pinout. (VCC & Gnd).

A18A1 TAPE DRIVE DATA BOARD
BOARD & COMPONENT LOCATIONS

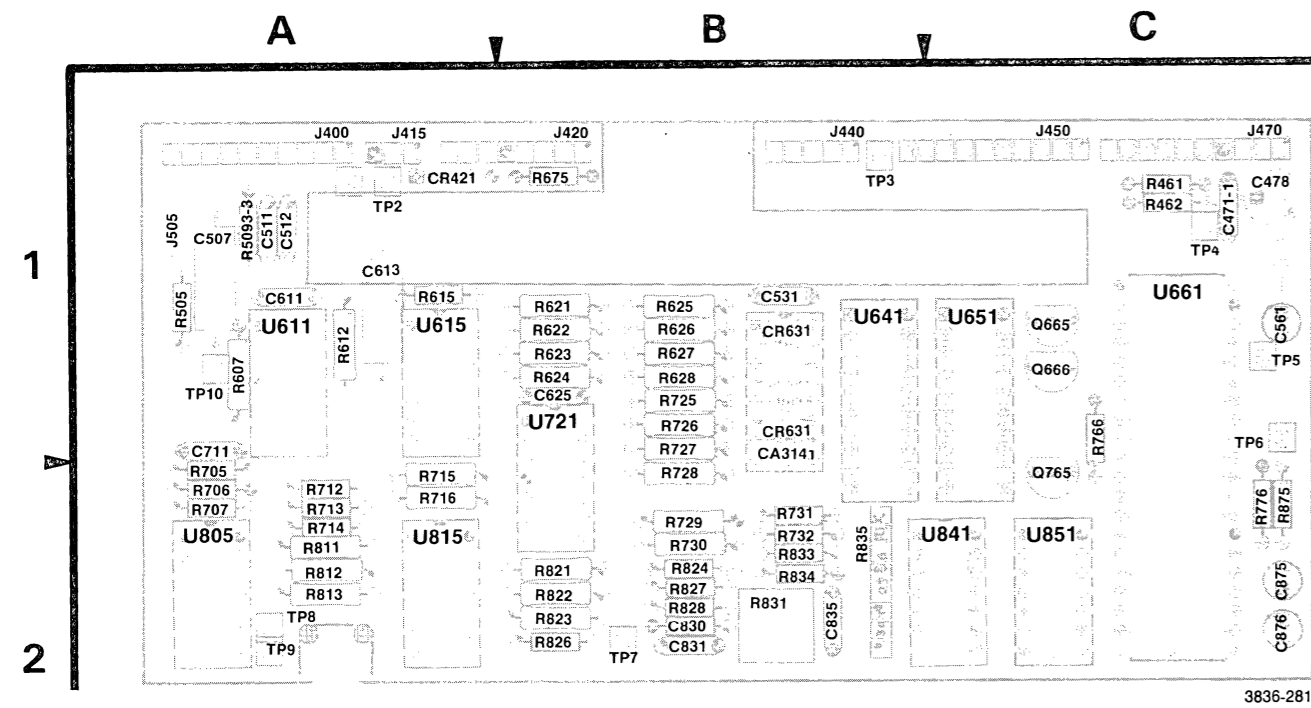


Figure 11-29. A18A1 Tape Drive Data Board Component Locations.

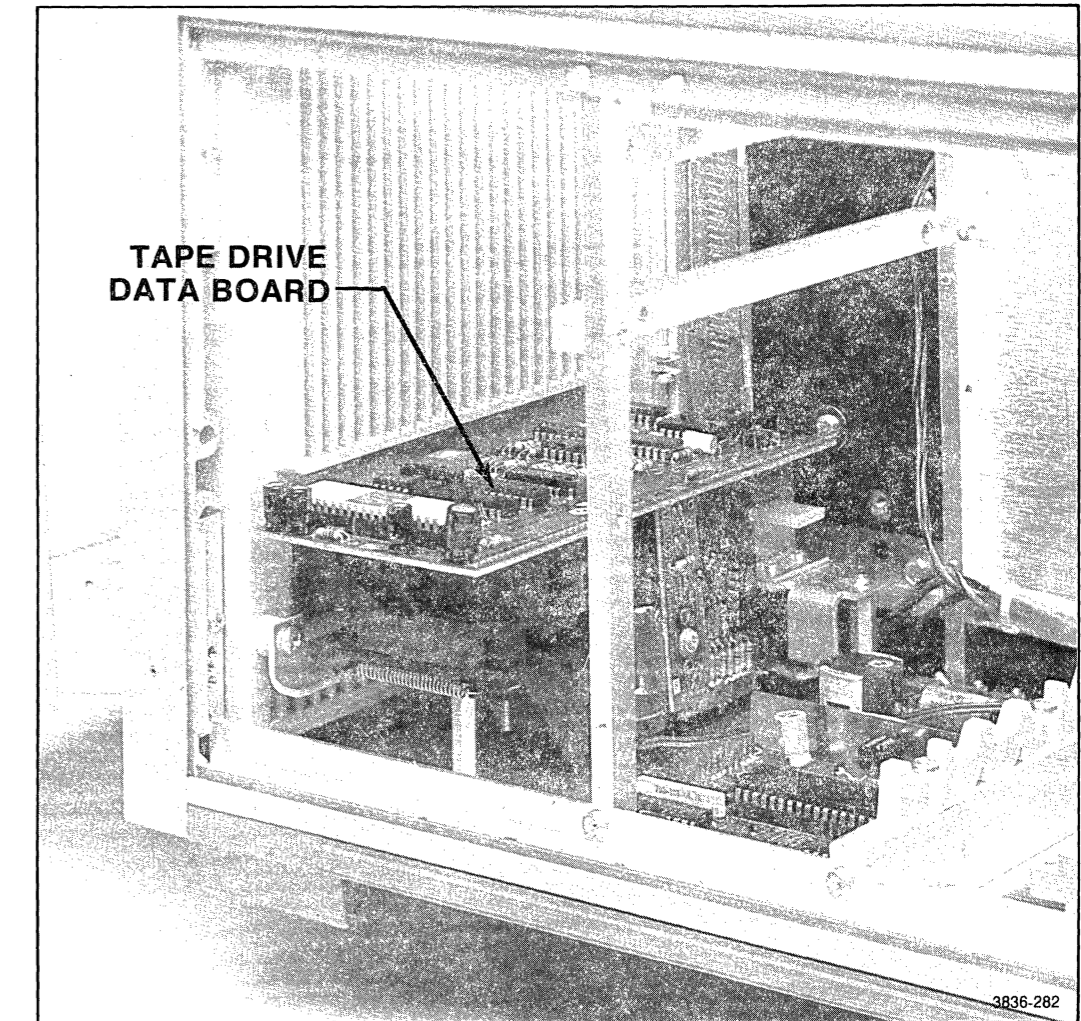
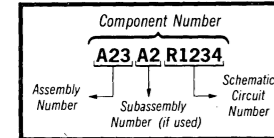


Figure 11-30. Tape Drive Data Board Location.

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



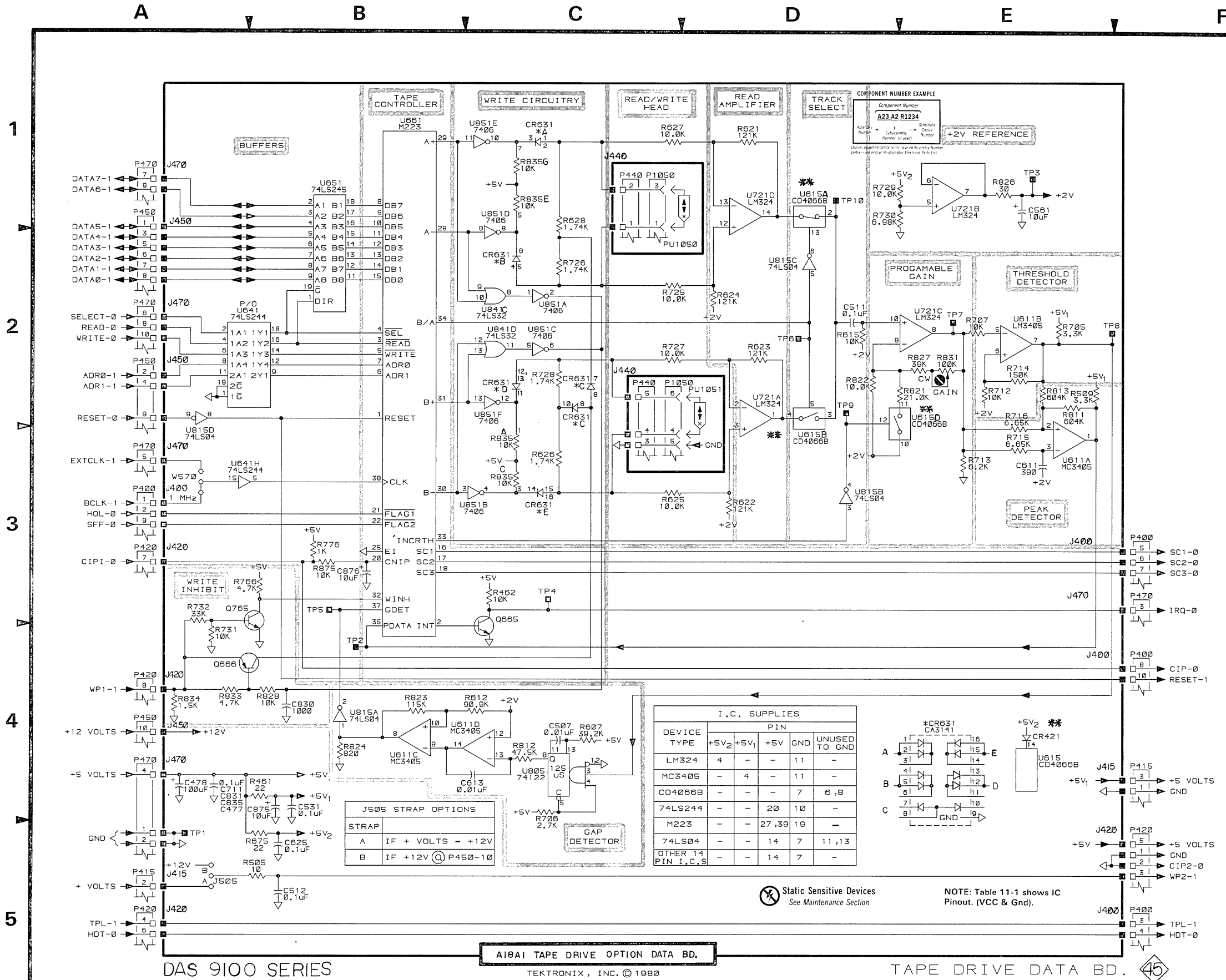
Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-45

TAPE DRIVE 45

ASSEMBLY A18A1

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C477	A4	C1	P440	C1	TO P1050	R822	D2	B2
C478	A4	C1	P440	C2	TO P1050	R823	B4	B2
C507	C4	A1	P450	A1	TO INTERCONNECT BD.	R824	B4	B2
C511	D2	A1	P450	A2	TO INTERCONNECT BD.	R826	E1	B2
C512	B5	A1	P450	A4	TO INTERCONNECT BD.	R827	E2	B2
C531	B4	B1	P470	A1	TO INTERCONNECT BD.	R828	B4	B2
C561	E1	C1	P470	A2	TO INTERCONNECT BD.	R831	E2	B2
C611	E3	A1	P470	A3	TO INTERCONNECT BD.	R833	A4	B2
C613	C4	A1	P470	A4	TO INTERCONNECT BD.	R834	A4	B2
C625	B5	B1	P470	F3	TO INTERCONNECT BD.	R835A	C3	B2
C711	A4	A1	PU1050	C1	TO TAPE HEAD	R835C	C3	B2
C830	B4	B2	PU1051	D2	TO TAPE HEAD	R835E	C1	B2
C831	A4	B2	Q665	C3	C1	R835G	C1	B2
C835	A4	B2	Q666	A4	C1	R875	B3	C2
C875	B4	C2	Q765	A3	C2	TP1	A5	A1
C876	B3	C2	R461	B4	C1	TP10	D1	A1
CR421	E4	A1	R462	C3	C1	TP2	B4	A1
CR631A	C1	B1	R505	B5	A1	TP3	E1	B1
CR631B	C2	B1	R509	E2	A1	TP4	C3	C1
CR631C	C2	B1	R607	C4	A1	TP5	B3	C1
CR631D	C2	B1	R612	C4	A1	TP6	D2	C1
CR631E	C3	B1	R615	D2	A1	TP7	E2	B2
J400	E4	A1	R621	D1	B1	TP8	E2	A2
J400	E3	A1	R622	D3	B1	TP9	D2	A2
J400	A3	A1	R623	D2	B1	U611A	E3	A1
J400	E5	A1	R624	D2	B1	U611B	E2	A1
J415	E4	A1	R625	C3	B1	U611C	B4	A1
J415	A5	A1	R626	C3	B1	U611D	C4	A1
J420	E5	B1	R627	C1	B1	U615A	D1	A1
J420	A3	B1	R628	C1	B1	U615B	D2	A1
J420	A5	B1	R675	B5	B1	U615D	E2	A1
J420	A4	B1	R705	E2	A2	U641	A2	B1
J440	C2	B1	R706	C4	A2	U641H	A3	B1
J440	C1	B1	R707	E2	A2	U651	B1	C1
J450	A1	C1	R712	E2	A2	U661	A2	C1
J450	A4	C1	R713	E3	A2	U721A	D2	B1
J450	A2	C1	R714	E2	A2	U721B	E1	B1
J470	A2	C1	R715	E3	A2	U721C	E2	B1
J470	A4	C1	R716	E2	A2	U721D	D1	B1
J470	E3	C1	R725	C2	B1	U805	C4	A2
J470	A1	C1	R726	C2	B1	U815A	B4	A2
J470	A3	C1	R727	C2	B1	U815B	D3	A2
J505	A5	A1	R728	C2	B2	U815C	D2	A2
P400	A3	TO SERVO BD.	R729	D1	B2	U815D	A2	A2
P400	F3	TO SERVO BD.	R730	D1	B2	U841C	C2	C2
P400	F4	TO SERVO BD.	R731	A4	B2	U841D	C2	C2
P400	F5	TO SERVO BD.	R732	A3	B2	U851A	C2	C2
P415	A5	TO SERVO BD.	R766	B3	C1	U851B	C3	C2
P415	F4	TO SERVO BD.	R776	B3	C2	U851C	C2	C2
P420	A3	TO STATUS BD.	R811	E2	A2	U851D	C1	C2
P420	A4	TO STATUS BD.	R812	C4	A2	U851E	C1	C2
P420	A5	TO STATUS BD.	R813	E2	A2	U851F	C2	C2
P420	F5	TO STATUS BD.	R821	E2	B2	W570	A3	C1

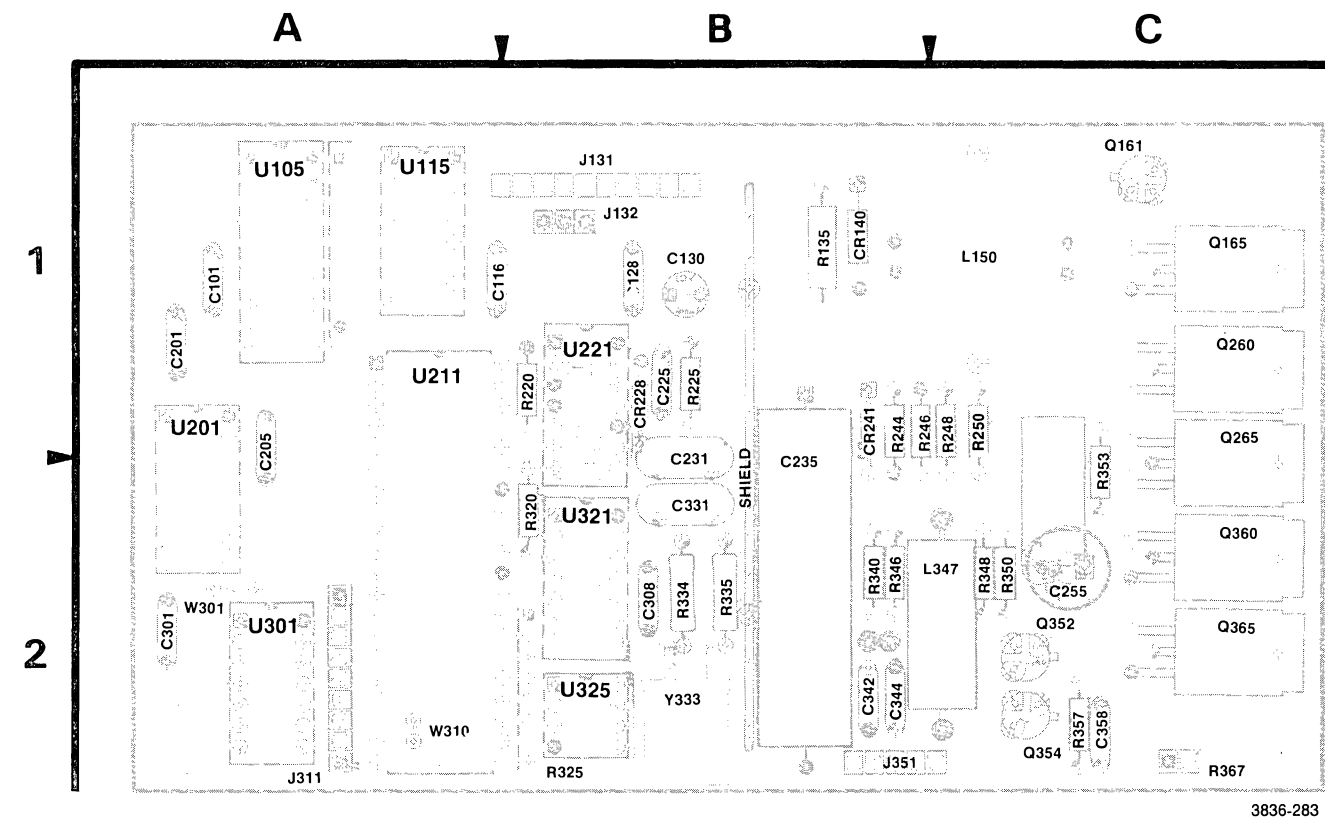


DAS 9100 SERIES

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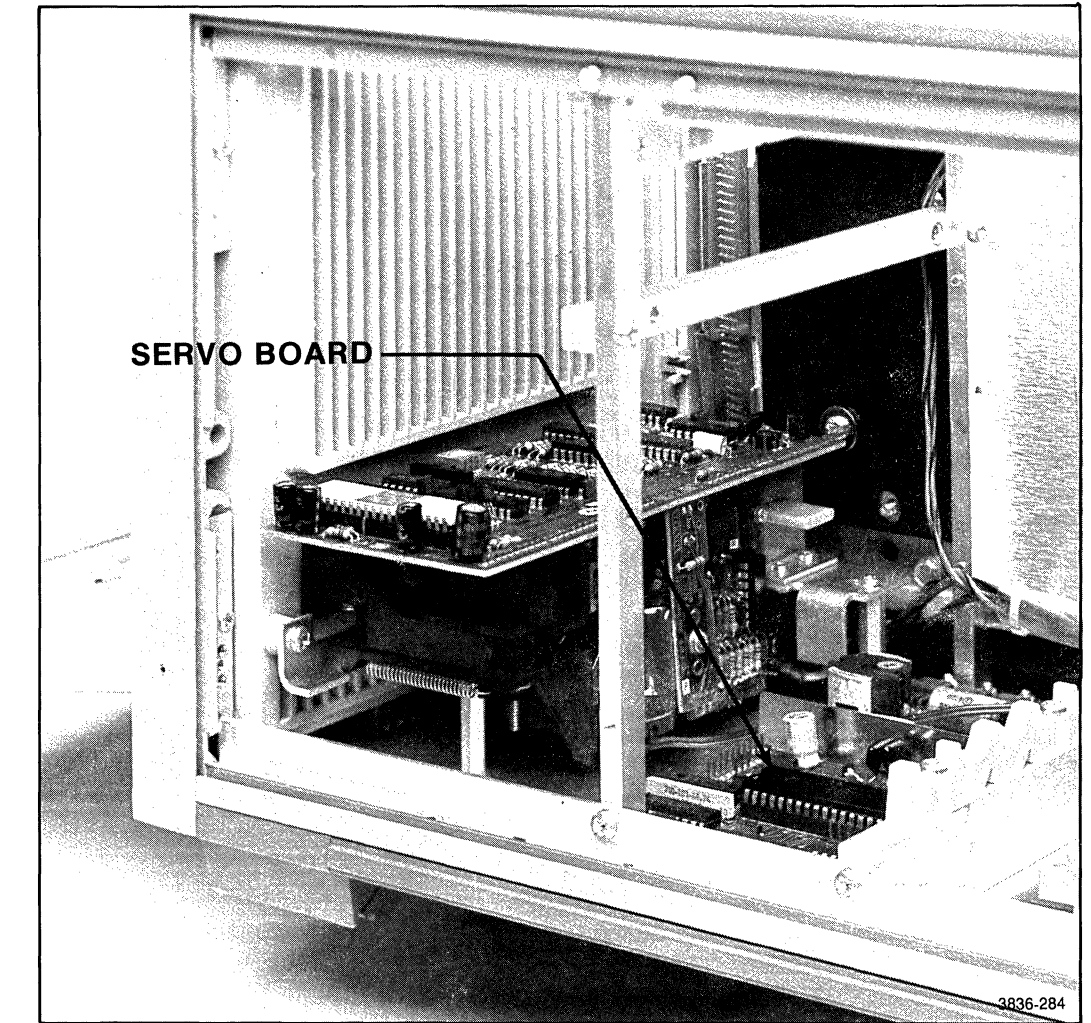
TAPE DRIVE DATA BD. 45

A18A1 TAPE DRIVE, OPT. 01
TAPE DRIVE DATA BOARD



3836-283

Figure 11-31. A18A2 Servo Board Component Locations.

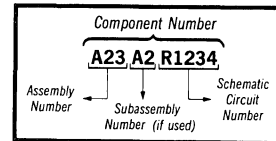


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Figure 11-32. Servo Board Location.

⊗ Static Sensitive Devices
See Maintenance Section

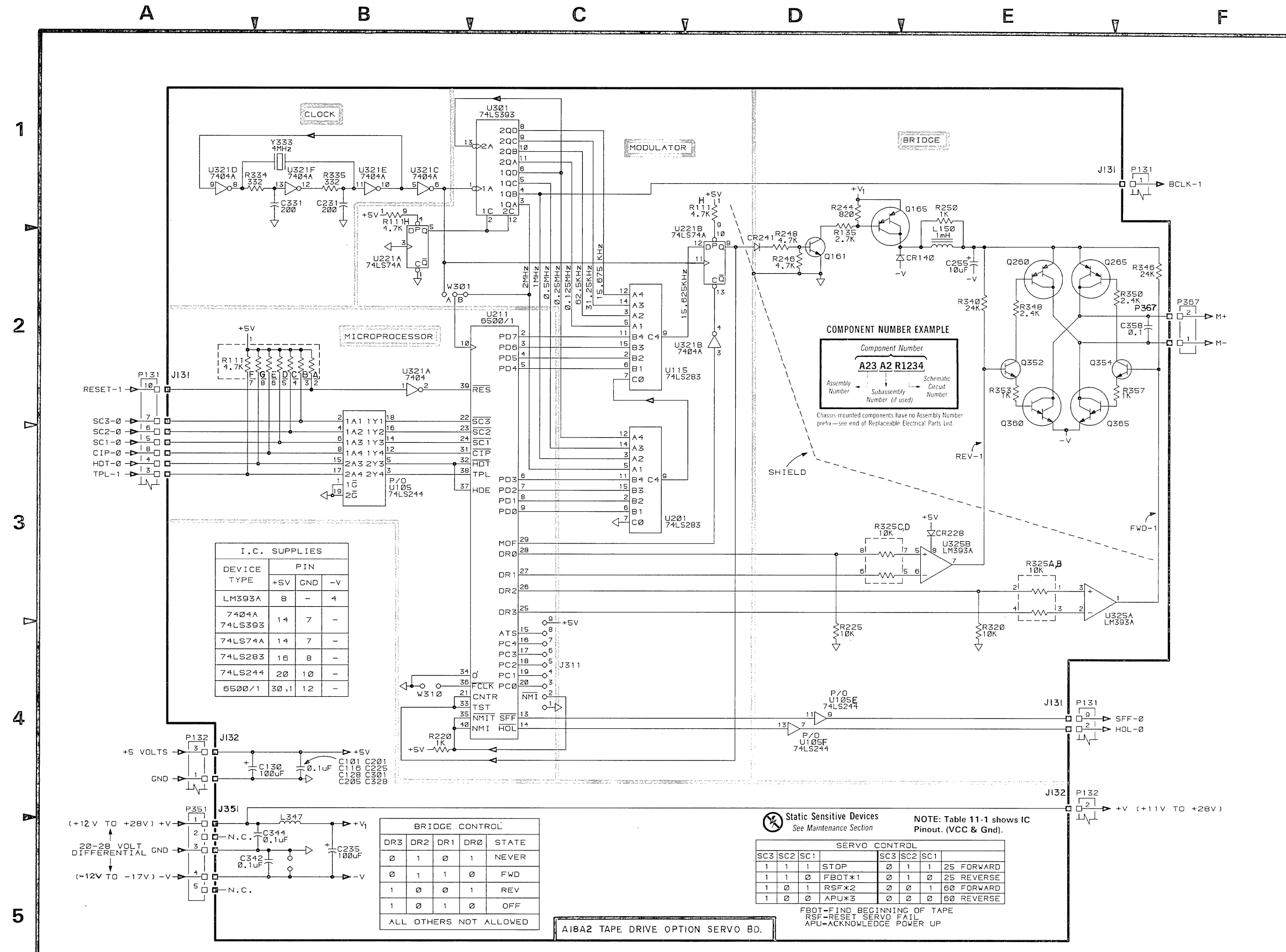
COMPONENT NUMBER EXAMPLE

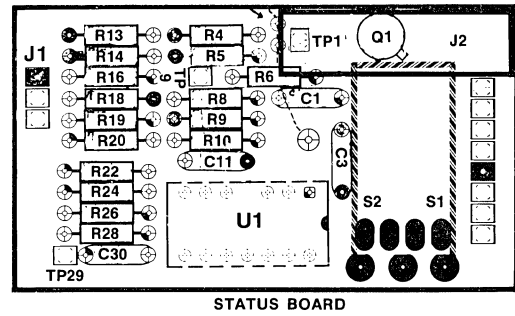
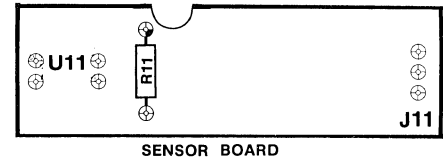


Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-46

TAPE DRIVE 46					
ASSEMBLY A18A2					
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C101	B4	A1	R111D	B2	A1
C116	B4	A1	R111E	B2	A1
C128	B4	B1	R111F	A2	A1
C130	A4	B1	R111G	B2	A1
C201	B4	A1	R111H	D1	A1
C205	B4	A1	R111H	B1	A1
C225	B4	B1	R135	D2	B1
C231	B1	B1	R220	B4	A1
C235	B5	B2	R225	D4	B1
C255	E2	C2	R244	D1	B1
C301	B4	A2	R246	D2	B1
C328	B4	B2	R248	D2	B1
C331	B1	B2	R250	E1	B1
C342	B5	B2	R320	E4	A2
C344	B5	B2	R325A	E3	A2
C358	F2	C2	R325B	E3	A2
CR140	D2	B1	R325C	D3	A2
CR228	E3	B1	R325D	D3	A2
CR241	D2	B1	R334	A1	B2
J131	E1	B1	R335	B1	B2
J131	E4	B1	R340	E2	B2
J131	A2	B1	R346	F2	B2
J132	E4	B1	R348	E2	B2
J132	A4	B1	R350	F2	C2
J311	C4	A2	R353	E2	C1
J351	A4	B2	R357	F2	C2
J367	F2	C2	U105	B3	A1
L150	E2	B1	U105E	D4	A1
L347	B5	B2	U105F	D4	A1
P131	A2	TO DATA BD.	U115	C2	A1
P131	E4	TO DATA BD.	U201	C3	A1
P131	F1	TO DATA BD.	U211	C2	A1
P132	A4	TO DATA BD.	U221A	B2	B1
P132	E4	TO DATA BD.	U221B	D2	B1
P351	A5	TO INTERCONNECT BD.	U301	C1	A2
P367	F2	TO DRIVE MOTOR	U321A	B2	B2
Q161	D2	C1	U321B	D2	B2
Q165	D1	C1	U321C	B1	B2
Q260	E2	C1	U321D	A1	B2
Q265	E2	C1	U321E	B1	B2
Q352	E2	C2	U321F	B1	B2
Q354	F2	C2	U325A	E3	B2
Q360	E2	C2	U325B	E3	B2
Q365	E2	C2	W301	B2	A2
R111A	B2	A1	W310	B4	A2
R111B	B2	A1	Y333	B1	B2
R111C	B2	A1			





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Figure 11-33. Sensor Board (A18A3A1) and Status Board (A18A3A2) Component Locations.

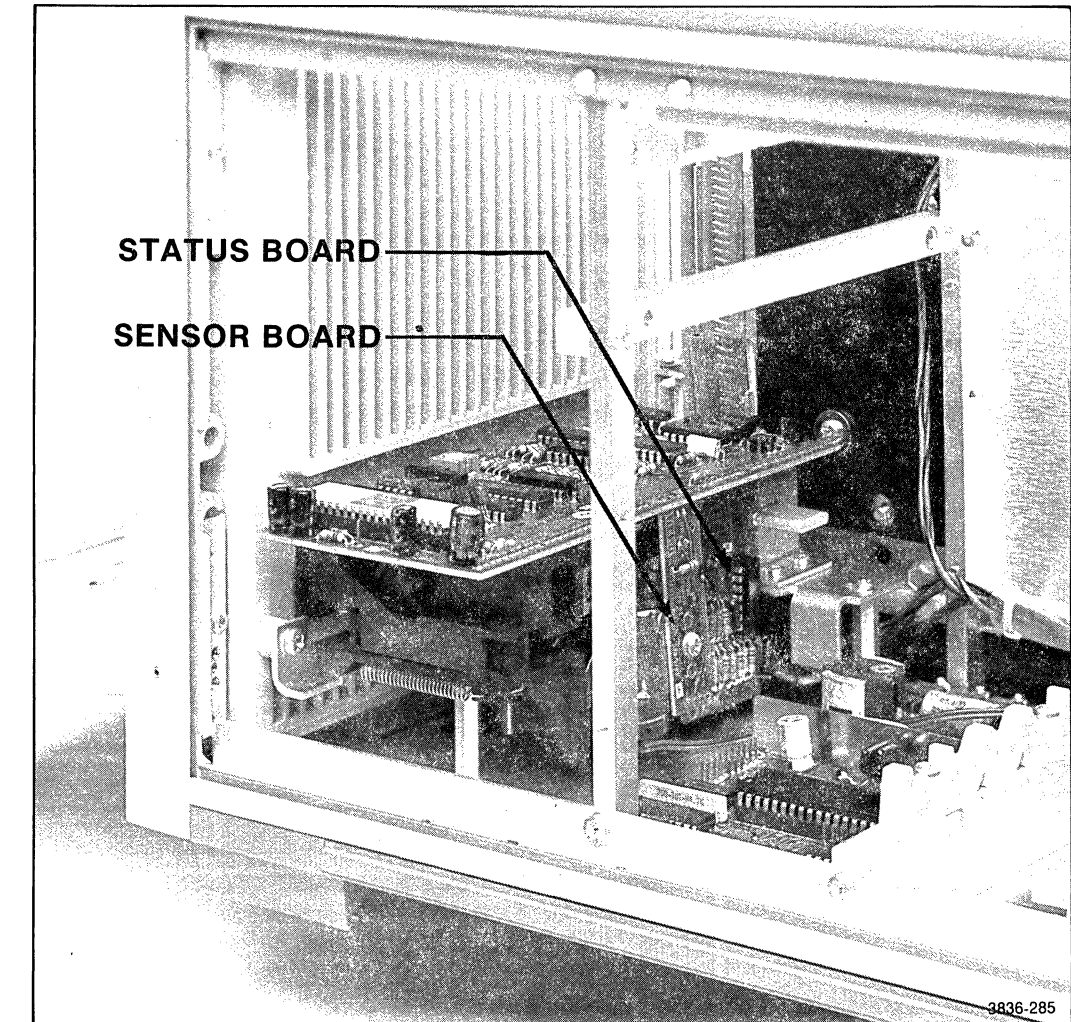
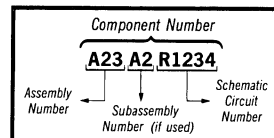


Figure 11-34. Sensor Board (A18A3A1) and Status Board (A18A3A2) Location.

⊗ Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.



Figure 11-35. A19A1 I/O Interface Board Component Locations.

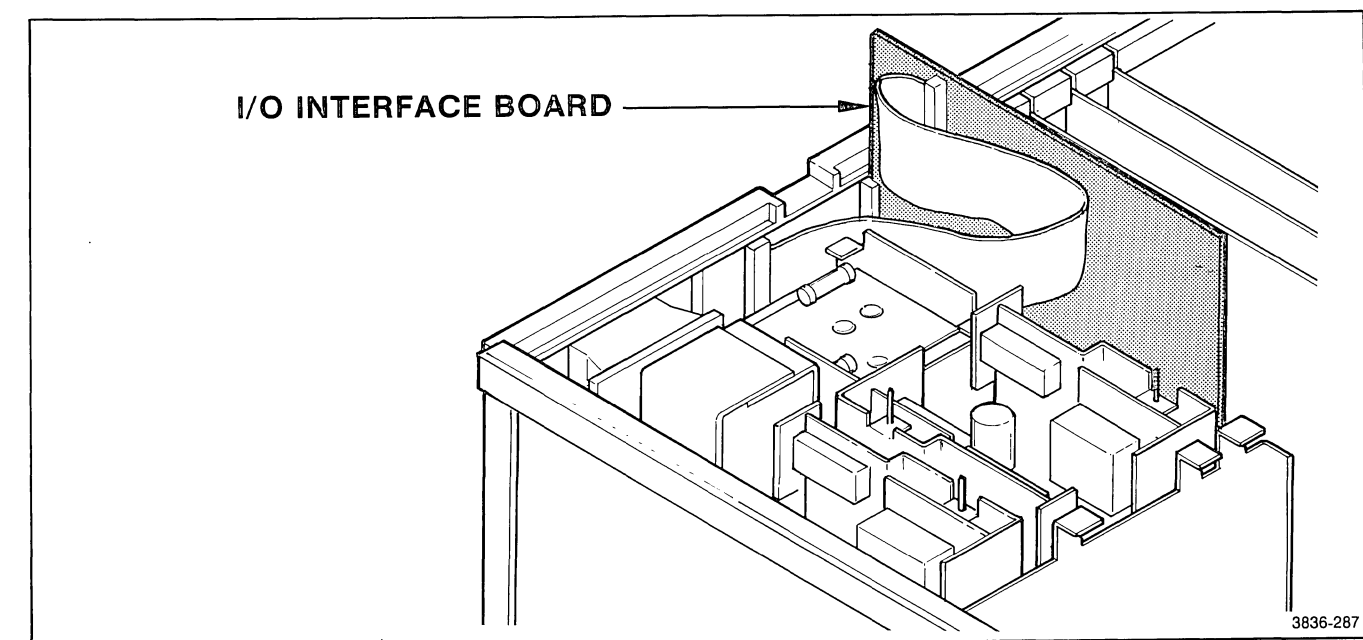
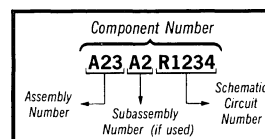


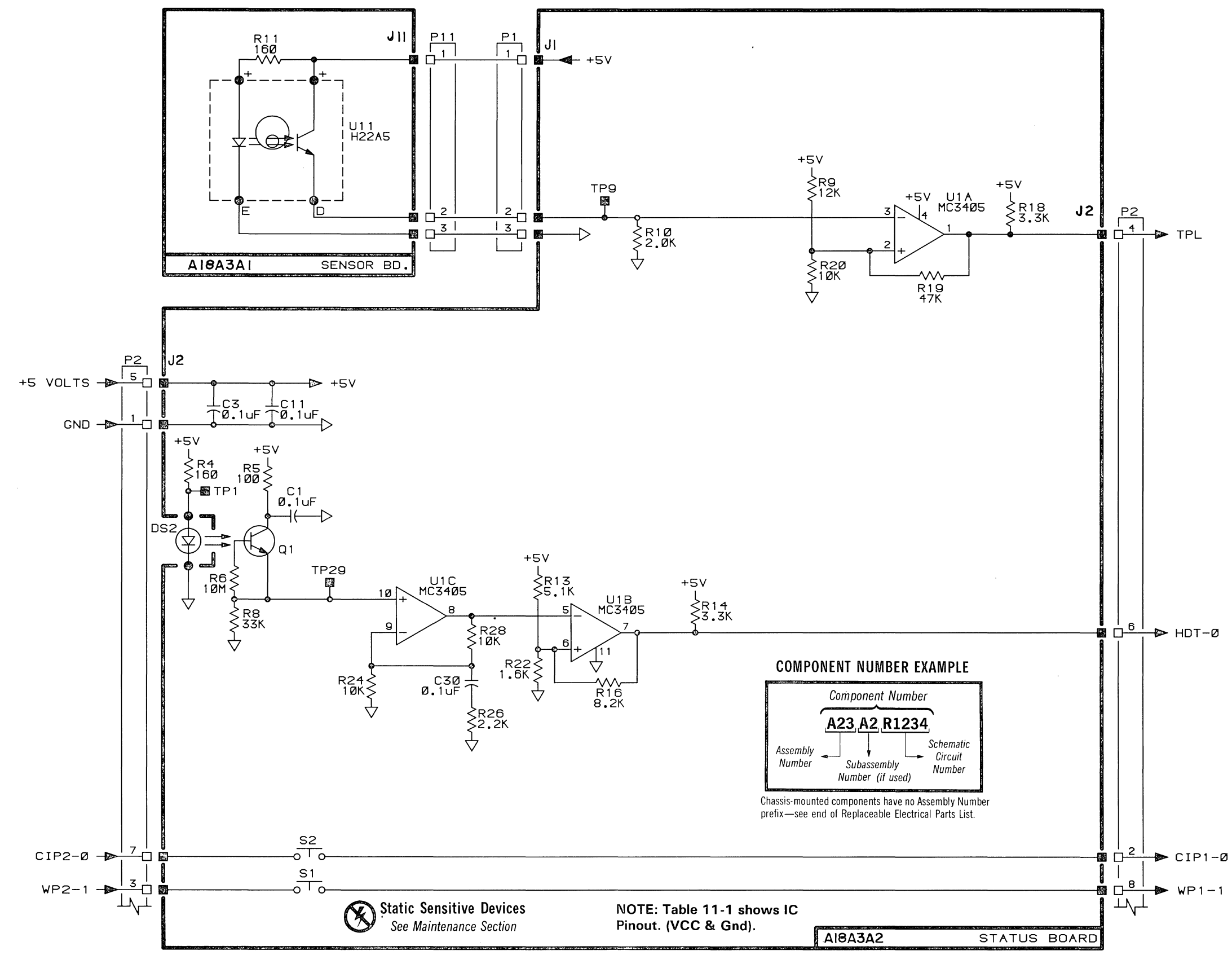
Figure 11-36. I/O Interface Board Location.

Static Sensitive Devices
See Maintenance Section

COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.



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Table 11-47

I/O INTERFACE 48					
ASSEMBLY A19A1					
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C122	F4	B1	R557F	C4	D3
C150	B2	D1	R557G	C4	D3
C151	B2	D1	R557H	C4	D3
C152	B2	D1	U127	E3	B1
C153	C1	D1	U131	F2	C1
C154	C1	D1	U135	B5	C1
C325	F4	B2	U145C	C2	D1
J121	A4	B1	U145D	C2	D1
J121	F1	B1	U151A	B2	D1
J121	A1	B1	U151B	B2	D1
J440	F5	C2	U151C	B2	D1
P521	A3	B4	U155A	C2	D1
P521	F1	B4	U155B	C2	D1
P521	A1	B4	U227	E3	B2
P521	F5	B4	U231	F3	C2
P521	A5	B4	U235	E1	C2
R122	F4	B1	U242	D2	C2
R125	B5	B1	U246	C5	D1
R126	B5	B1	U251	C2	D2
R129A	B5	C1	U328C	C5	C2
R129C	B4	C1	U328D	E2	C2
R129D	A4	C1	U331	E4	C2
R129E	A4	C1	U335A	B5	C2
R129F	A4	C1	U335B	F4	C2
R129G	A4	C1	U346A	B1	D2
R137	D1	C1	U346B	C1	D2
R146	C1	D1	U347B	B4	D2
R147	C1	D1	U351A	B4	D2
R151	B1	Back of Bd.	U351B	B3	D2
R221	F1	B1	U351C	B2	D2
R222	F1	B1	U351D	B4	D2
R224	F1	B2	U431A	E2	C3
R225	F4	B2	U431C	F2	C3
R548	D4	D3	U431D	F2	C3
R554	D4	D4	U440	F5	C3
R557A	C5	D3	U445	F4	D3
R557B	C5	D3	U451	F4	D3
R557C	C5	D3	U455	F4	D3
R557D	C5	D3	U545	D5	D3
R557E	C5	D3	U551	D4	D3

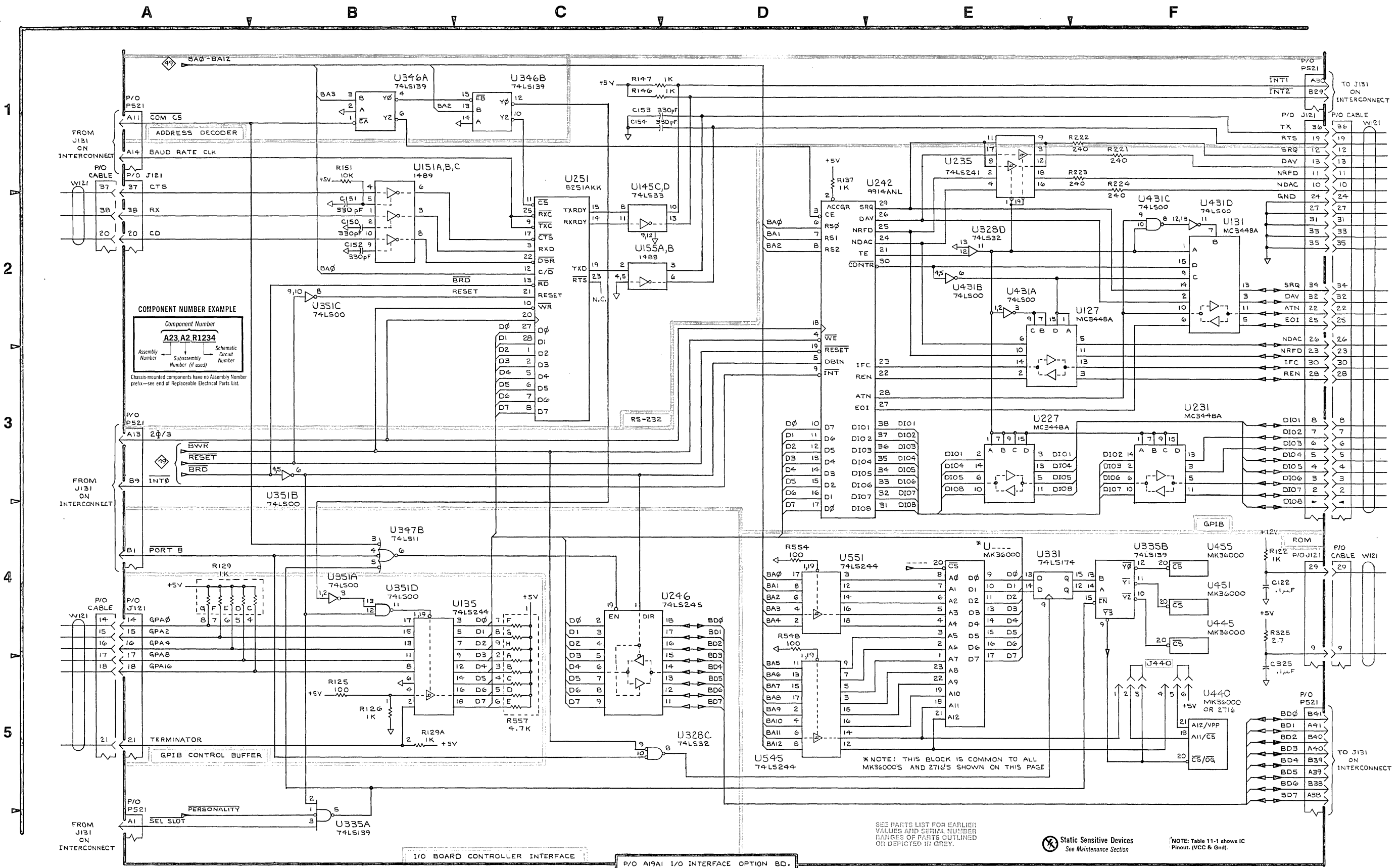

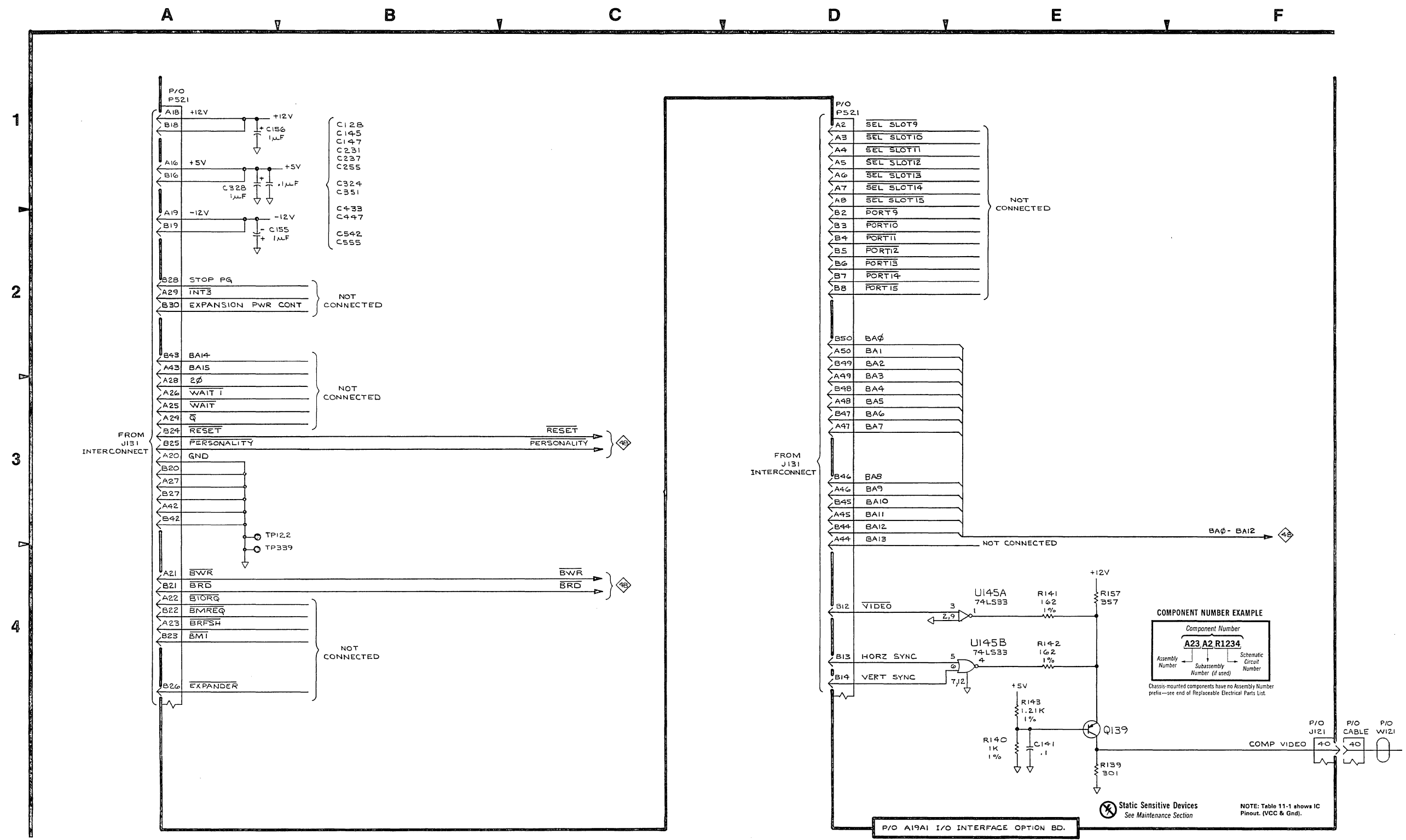


Table 11-48


I/O INTERFACE 		
ASSEMBLY A19A1		
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C141	E4	C1
C145	A1	D1
C147	A1	D1
C155	A2	D1
C156	A1	D1
C231	A1	C1
C237	A1	C2
C255	A1	D1
C324	A1	B2
C328	A1	C2
C351	A1	D2
C433	A1	C3
C447	A1	D3
C542	A1	D3
C555	A1	D4
J121	F4	B1
P521	D1	B4
P521	A1	B4
Q139	E4	C1
R139	E4	C1
R140	E4	C1
R141	E4	C1
R142	E4	C1
R143	E4	C1
R157	E4	D1
TP122	A3	B1
TP339	A4	C2
U145A	E4	D1
U145B	E4	D1

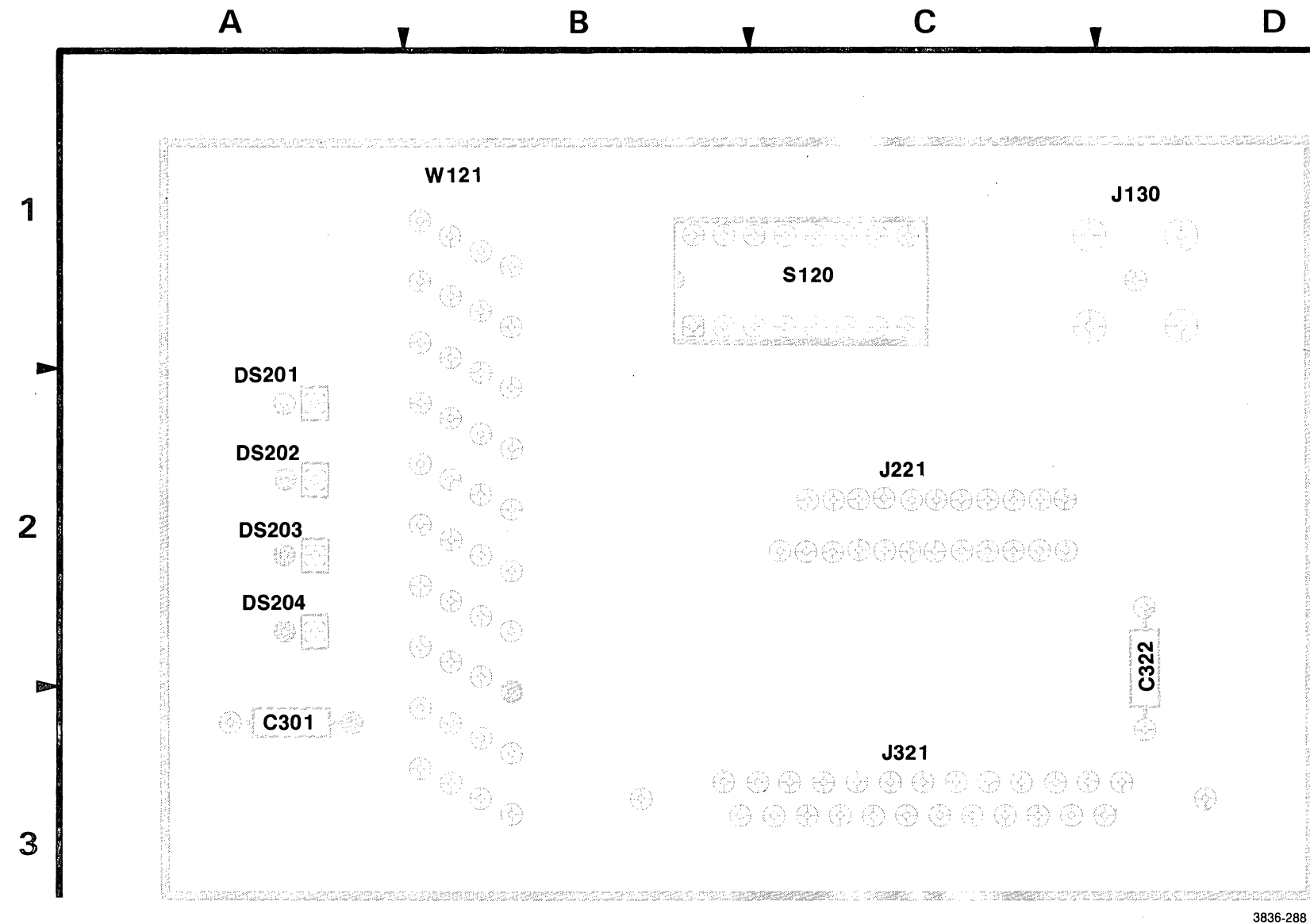


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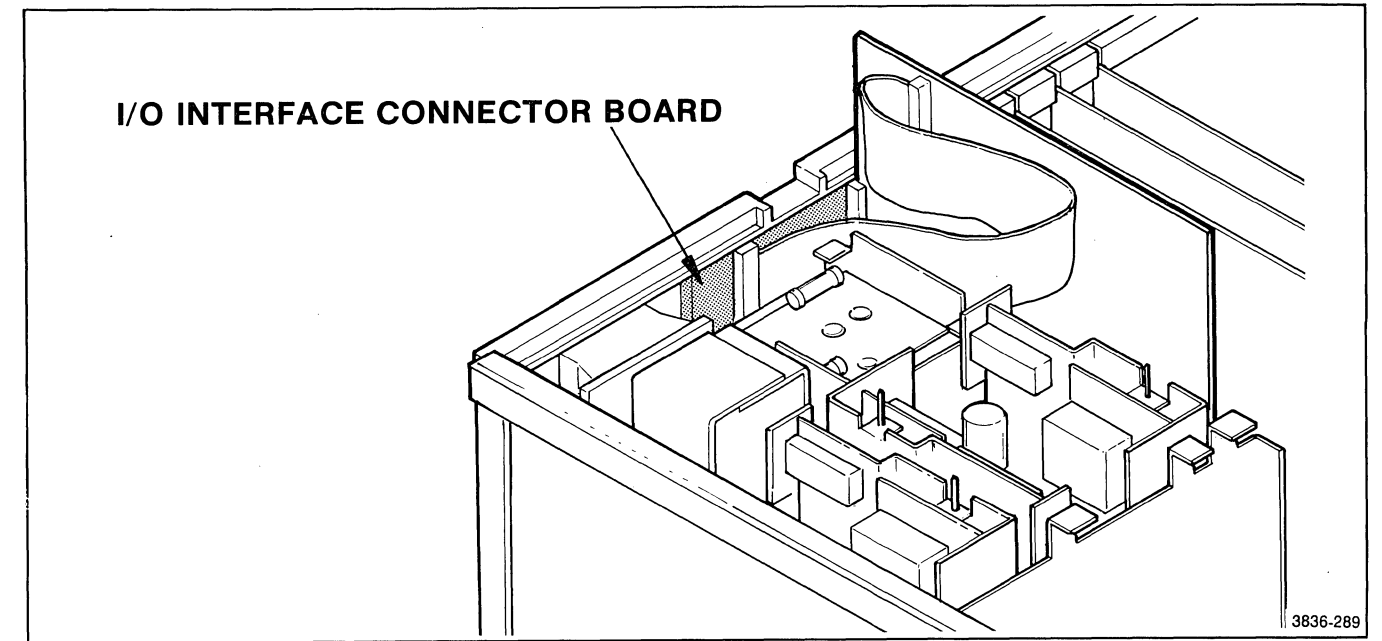
I/O INTERFACE-VIDEO DRIVER 

P/O A19A1 I/O INTERFACE VIDEO DRIVER 



3836-288

Figure 11-37. A19A2 I/O Interface Connector Component Locations.

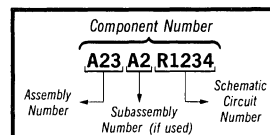


3836-289

Figure 11-38. I/O Interface Connector Board Location.

⊗ Static Sensitive Devices
See Maintenance Section

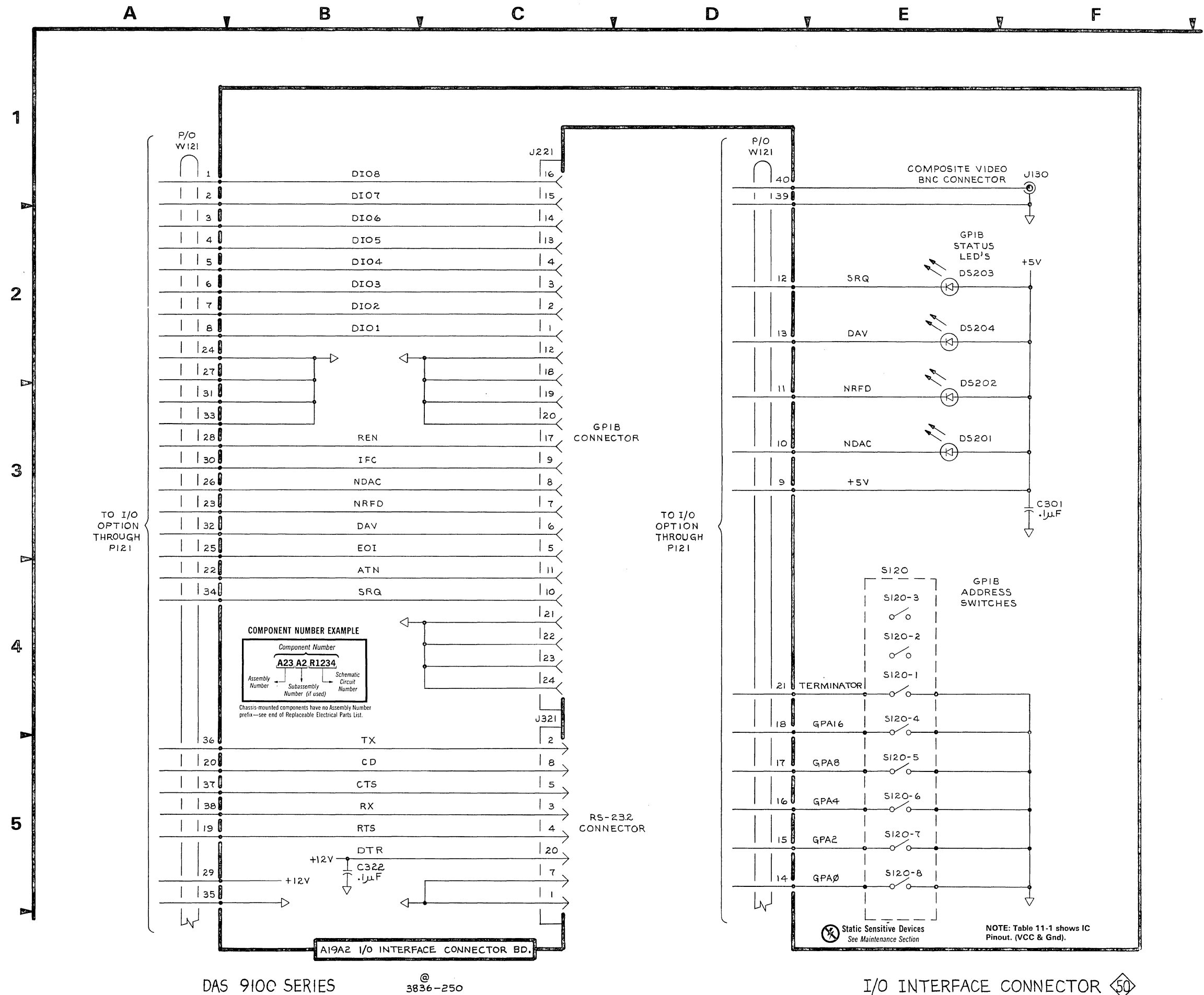
COMPONENT NUMBER EXAMPLE



Chassis-mounted components have no Assembly Number prefix—see end of Replaceable Electrical Parts List.

Table 11-49

I/O INTERFACE 50		
ASSEMBLY A19A2		
CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION
C301	F3	A3
C322	B5	D2
DS201	E3	A2
DS202	E3	A2
DS203	E2	A2
DS204	E2	A2
J130	F1	D1
J221	C1	C2
J321	C4	C3
S120	E4	C1
W121	D1	B1
W121	A1	B1



REPLACEABLE MECHANICAL PARTS

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. Field Office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

SPECIAL NOTES AND SYMBOLS

- X000 Part first added at this serial number
- 00X Part removed after this serial number

FIGURE AND INDEX NUMBERS

Items in this section are referenced by figure and index numbers to the illustrations.

INDENTATION SYSTEM

This mechanical parts list is indented to indicate item relationships. Following is an example of the indentation system used in the description column.

- ```

1 2 3 4 5 Name & Description
Assembly and/or Component
Attaching parts for Assembly and/or Component

Detail Part of Assembly and/or Component
Attaching parts for Detail Part

Parts of Detail Part
Attaching parts for Parts of Detail Part

```

Attaching Parts always appear in the same indentation as the item it mounts, while the detail parts are indented to the right. Indented items are part of, and included with, the next higher indentation. The separation symbol --- \* --- indicates the end of attaching parts.

**Attaching parts must be purchased separately, unless otherwise specified.**

## ITEM NAME

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

## ABBREVIATIONS

|       |                    |         |                       |          |                      |          |                 |
|-------|--------------------|---------|-----------------------|----------|----------------------|----------|-----------------|
| "     | INCH               | ELECTRN | ELECTRON              | IN       | INCH                 | SE       | SINGLE END      |
| #     | NUMBER SIZE        | ELEC    | ELECTRICAL            | INCAND   | INCANDESCENT         | SECT     | SECTION         |
| ACTR  | ACTUATOR           | ELCTLT  | ELECTROLYTIC          | INSUL    | INSULATOR            | SEMICOND | SEMICONDUCTOR   |
| ADPTR | ADAPTER            | ELEM    | ELEMENT               | INTL     | INTERNAL             | SHLD     | SHIELD          |
| ALIGN | ALIGNMENT          | EPL     | ELECTRICAL PARTS LIST | LPHLDR   | LAMPHOLDER           | SHLDR    | SHOULDERED      |
| AL    | ALUMINUM           | EQPT    | EQUIPMENT             | MACH     | MACHINE              | SKT      | SOCKET          |
| ASSEM | ASSEMBLED          | EXT     | EXTERNAL              | MECH     | MECHANICAL           | SL       | SLIDE           |
| ASSY  | ASSEMBLY           | FIL     | FILLISTER HEAD        | MTG      | MOUNTING             | SLFLKG   | SELF-LOCKING    |
| ATTEN | ATTENUATOR         | FLEX    | FLEXIBLE              | NIP      | NIPPLE               | SLVG     | SLEEVING        |
| AWG   | AMERICAN WIRE GAGE | FLH     | FLAT HEAD             | NON WIRE | NOT WIRE WOUND       | SPR      | SPRING          |
| BD    | BOARD              | FLTR    | FILTER                | OB       | ORDER BY DESCRIPTION | SQ       | SQUARE          |
| BRKT  | BRACKET            | FR      | FRAME or FRONT        | OD       | OUTSIDE DIAMETER     | SST      | STAINLESS STEEL |
| BRS   | BRASS              | FSTNR   | FASTENER              | OVH      | OVAL HEAD            | STL      | STEEL           |
| BRZ   | BRONZE             | FT      | FOOT                  | PH BRZ   | PHOSPHOR BRONZE      | SW       | SWITCH          |
| BSHG  | BUSHING            | FXD     | FIXED                 | PL       | PLAIN or PLATE       | T        | TUBE            |
| CAB   | CABINET            | GSKT    | GASKET                | PLSTC    | PLASTIC              | TERM     | TERMINAL        |
| CAP   | CAPACITOR          | HDL     | HANDLE                | PN       | PART NUMBER          | THD      | THREAD          |
| CER   | CERAMIC            | HEX     | HEXAGON               | PNH      | PAN HEAD             | THK      | THICK           |
| CHAS  | CHASSIS            | HEX HD  | HEXAGONAL HEAD        | PWR      | POWER                | TNSN     | TENSION         |
| CKT   | CIRCUIT            | HEX SOC | HEXAGONAL SOCKET      | RCPT     | RECEPTACLE           | TPG      | TAPPING         |
| COMP  | COMPOSITION        | HLCPS   | HELICAL COMPRESSION   | RES      | RESISTOR             | TRH      | TRUSS HEAD      |
| CONN  | CONNECTOR          | HLEXT   | HELICAL EXTENSION     | RGD      | RIGID                | V        | VOLTAGE         |
| COV   | COVER              | HV      | HIGH VOLTAGE          | RLF      | RELIEF               | VAR      | VARIABLE        |
| CPLG  | COUPLING           | IC      | INTEGRATED CIRCUIT    | RTNR     | RETAINER             | W/       | WITH            |
| CRT   | CATHODE RAY TUBE   | ID      | INSIDE DIAMETER       | SCH      | SOCKET HEAD          | WSHR     | WASHER          |
| DEG   | DEGREE             | IDENT   | IDENTIFICATION        | SCOPE    | OSCILLOSCOPE         | XFMR     | TRANSFORMER     |
| DWR   | DRAWER             | IMPLR   | IMPELLER              | SCR      | SCREW                | XSTR     | TRANSISTOR      |

CROSS INDEX—MFR. CODE NUMBER TO MANUFACTURER

| Mfr. Code | Manufacturer                                                              | Address                                  | City, State, Zip            |
|-----------|---------------------------------------------------------------------------|------------------------------------------|-----------------------------|
| 0000A     | LEMO USA                                                                  | P. O. BOX 6626                           | SANTA ROSA, CA 95406        |
| 000BB     | BERQUIST COMPANY                                                          | 4350 WEST 78TH                           | MINNEAPOLIS, MN 55435       |
| 000BK     | STAUFFER SUPPLY                                                           | 105 SE TAYLOR                            | PORTLAND, OR 97214          |
| 000CX     | N W SPRING AND MANUFACTURING COMPANY                                      | 5525 ROSEWOOD STREET                     | LAKE OSWEGO, OR 97034       |
| 000CY     | NORTHWEST FASTENER SALES, INC.                                            | 7923 SW CIRRUS DRIVE                     | BEAVERTON, OR 97005         |
| 000EL     | PORTLAND SCREW CO.                                                        | 6520 N. BASIN AVE.                       | PORTLAND, OR 97217          |
| 000EP     | AROW FASTENERS INC.                                                       | 2112 AMERICAN AVENUE                     | HAYWARD, CA 94545           |
| 000FU     | WRIGHT ENGINEERED PLASTICS                                                | 10350 OLD REDWOOD HIGHWAY                | WINDSOR, CA 95492           |
| 00613     | USM CORPORATION, MOLLY FASTENER DIVISION                                  | 504 MT. LAUREL AVENUE                    | TEMPLE, PA 19560            |
| 00779     | AMP, INC.                                                                 | P.O. BOX 3608                            | HARRISBURG, PA 17105        |
| 01295     | TEXAS INSTRUMENTS, INC.<br>SEMICONDUCTOR GROUP                            | P.O. BOX 5012                            | DALLAS, TX 75222            |
| 02660     | BUNKER RAMO CORP., CONNECTOR DIVISION                                     | 2801 S 25TH AVENUE                       | BROADVIEW, IL 60153         |
| 04919     | COMPONENT MANUFACTURING SERVICE, INC.                                     | 1 COMPONENT PARK WEST                    | BRIDGEWATER, MA 02379       |
| 05820     | WAKEFIELD ENGINEERING, INC.                                               | AUDUBON ROAD                             | WAKEFIELD, MA 01880         |
| 06383     | PANDUIT CORPORATION                                                       | 17301 RIDGELAND                          | TINLEY PARK, IL 60477       |
| 06666     | GENERAL DEVICES CO., INC.                                                 | 525 S. WEBSTER AVE.                      | INDIANAPOLIS, IN 46219      |
| 08530     | RELIANCE MICA CORP.                                                       | 342-39TH ST.                             | BROOKLYN, NY 11232          |
| 09922     | BURNDY CORPORATION                                                        | RICHARDS AVENUE                          | NORWALK, CT 06852           |
| 11983     | NORTRONICS COMPANY, INC.                                                  | 8101 10TH AVENUE NORTH                   | MINNEAPOLIS, MN 55427       |
| 12327     | FREEWAY CORPORATION                                                       | 9301 ALLEN DRIVE                         | CLEVELAND, OH 44125         |
| 13103     | THERMALLOY COMPANY, INC.                                                  | 2021 W VALLEY VIEW LANE<br>P O BOX 34829 | DALLAS, TX 75234            |
| 14438     | USM CORP., NYLOK FASTENER DIV.                                            | 3730 W. MORSE                            | LINCOLNWOOD, IL 60645       |
| 16428     | BELDEN CORP.                                                              | P. O. BOX 1331                           | RICHMOND, IN 47374          |
| 22526     | BERG ELECTRONICS, INC.                                                    | YOUK EXPRESSWAY                          | NEW CUMBERLAND, PA 17070    |
| 23936     | PAMOTOR DIV., WILLIAM J PURDY COMPANY                                     | 770 AIRPORT BLVD.                        | BURLINGAME, CA 94010        |
| 24931     | SPECIALITY CONNECTOR CO., INC.                                            | 2620 ENDRESS PLACE                       | GREENWOOD, IN 46142         |
| 28520     | HEYMAN MFG. CO.                                                           | 147 N. MICHIGAN AVE.                     | KENILWORTH, NJ 07033        |
| 49671     | RCA CORPORATION                                                           | 30 ROCKEFELLER PLAZA                     | NEW YORK, NY 10020          |
| 50293     | GENERAL ELECTRIC COMPANY, INSTALLA-<br>TION AND SERVICE ENGINEERING DEPT. | 1 RIVER ROAD                             | SCHENECTADY, NY 12306       |
| 52905     | SIMPLEX MFG. COMPANY                                                      | 5224 NE 42ND AVENUE                      | PORTLAND, OREGON 97218      |
| 53387     | MINNESOTA MINING AND MFG. CO., ELECTRO<br>PRODUCTS DIVISION               | 3M CENTER                                | ST. PAUL, MN 55101          |
| 59730     | THOMAS AND BETTS COMPANY                                                  | 36 BUTLER ST.                            | ELIZABETH, NJ 07207         |
| 71468     | ITT CANNON ELECTRIC                                                       | 666 E. DYER RD.                          | SANTA ANA, CA 92702         |
| 71785     | TRW, CINCH CONNECTORS                                                     | 1501 MORSE AVENUE                        | ELK GROVE VILLAGE, IL 60007 |
| 73743     | FISCHER SPECIAL MFG. CO.                                                  | 446 MORGAN ST.                           | CINCINNATI, OH 45206        |
| 73803     | TEXAS INSTRUMENTS, INC., METALLURGICAL<br>MATERIALS DIV.                  | 34 FOREST STREET                         | ATTLEBORO, MA 02703         |
| 74445     | HOLO-KROME CO.                                                            | 31 BROOK ST. WEST                        | HARTFORD, CT 06110          |
| 74868     | BUNKER-RAMO CORP., THE AMPHENOL RF DIV.                                   | 33 E. FRANKLIN ST.                       | DANBURY, CT 06810           |
| 75915     | LITTELFUSE, INC.                                                          | 800 E. NORTHWEST HWY                     | DES PLAINES, IL 60016       |
| 77339     | NATIONAL LOCK WASHER COMPANY                                              | P O BOX 5115, INDUSTRIAL PARKWAY         | NORTH BRANCH, NJ 08856      |
| 78189     | ILLINOIS TOOL WORKS, INC.<br>SHAKEPROOF DIVISION                          | ST. CHARLES ROAD                         | ELGIN, IL 60120             |
| 79136     | WALDES, KOHINOOR, INC.                                                    | 47-16 AUSTEL PLACE                       | LONG ISLAND CITY, NY 11101  |
| 79807     | WROUGHT WASHER MFG. CO.                                                   | 2100 S. O BAY ST.                        | MILWAUKEE, WI 53207         |
| 80009     | TEKTRONIX, INC.                                                           | P O BOX 500                              | BEAVERTON, OR 97077         |
| 81041     | HOWARD INDUSTRIES, DIVISION OF MSL<br>INDUSTRIES, INC.                    | P O BOX 287                              | MILFORD, IL 60953           |
| 82389     | SWITCHCRAFT, INC.                                                         | 5555 N. ELSTON AVE.                      | CHICAGO, IL 60630           |
| 82877     | ROTRON, INC.                                                              | 7-9 HASBROUCK LANE                       | WOODSTOCK, NY 12498         |
| 83294     | ARROW FASTENER CO., INC.                                                  | 271 MAYHILL ST.                          | SADDLE BROOK, NJ 07662      |
| 83385     | CENTRAL SCREW CO.                                                         | 2530 CRESCENT DR.                        | BROADVIEW, IL 60153         |
| 85471     | BOYD, A. B., CO.                                                          | 2527 GRANT AVENUE                        | SAN LEANDRO, CA 94579       |
| 86928     | SEASTROM MFG. COMPANY, INC.                                               | 701 SONORA AVENUE                        | GLENDALE, CA 91201          |
| 89663     | REESE, J. RAMSEY, INC.                                                    | 71 MURRAY STREET                         | NEW YORK, NY 10007          |
| 90484     | ITT, SURPRENANT DIV.                                                      | 172 STERLING STREET                      | CLINTON, MA 01510           |
| 93907     | TEXTRON INC. CAMCAR DIV                                                   | 600 18TH AVE                             | ROCKFORD, IL 61101          |
| 95987     | WECKESSER CO., INC.                                                       | 4444 WEST IRVING PARK RD.                | CHICAGO, IL 60641           |
| 98159     | RUBBER TECK, INC.                                                         | 19115 HAMILTON AVE., P O BOX 389         | GARDENA, CA 90247           |
| 98978     | INTERNATIONAL ELECTRONIC RESEARCH CORP.                                   | 135 W. MAGNOLIA BLVD.                    | BURBANK, CA 91502           |
| S3109     | C/O PANEL COMPONENTS CORP.                                                | P.O. BOX 6626                            | SANTA ROSA, CA 95406        |
| S3629     | PANEL COMPONENTS CORP.                                                    | 2015 SECOND ST.                          | BERKELEY, CA 94170          |
| T1105     | J PHILLIP INDUSTRIES INC                                                  | 5713 NORTHWEST HIGHWAY                   | CHICAGO, IL 60646           |

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |         | Qty | Name & Description                                                                                                                                                                                                                                      |   |   |   |   | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|------------------|---------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|-------------|-----------------|
|                        |                       | Eff              | Dscont  |     | 1                                                                                                                                                                                                                                                       | 2 | 3 | 4 | 5 |             |                 |
| 1-1                    | 334-4324-00           |                  |         | 1   | MARKER,IDENT:MKD TEK LOGO                                                                                                                                                                                                                               |   |   |   |   | 80009       | 334-4324-00     |
| -2                     | 105-0891-00           |                  |         | 1   | LATCH,KEYBOARD:                                                                                                                                                                                                                                         |   |   |   |   | 80009       | 105-0891-00     |
| -3                     | 426-1773-01           |                  |         | 1   | FRAME SECT,KYBD:<br>***** (ATTACHING PARTS)*****                                                                                                                                                                                                        |   |   |   |   | 80009       | 426-1773-01     |
| -4                     | 211-0038-00           |                  |         | 2   | SCREW,MACHINE:4-40 X 0.312,FLH,100 DEG                                                                                                                                                                                                                  |   |   |   |   | 83385       | ORD BY DESCR    |
| -5                     | 211-0253-00           |                  |         | 2   | SCREW,CAP.:4-40 X 0.5 L,HEX SCH,SST<br>***** (END ATTACHING PARTS)*****                                                                                                                                                                                 |   |   |   |   | 000EP       | ORD BY DESCR    |
| -6                     | 214-3120-00           |                  |         | 2   | PIVOT,KEYBOARD:0.5 DIA                                                                                                                                                                                                                                  |   |   |   |   | 80009       | 214-3120-00     |
| -7                     | 386-4500-01           |                  |         | 1   | SUPPORT,KYBD:RIGHT HINGE<br>***** (ATTACHING PARTS)*****                                                                                                                                                                                                |   |   |   |   | 80009       | 386-4500-01     |
| -8                     | 211-0261-00           |                  |         | 2   | SCREW,MACHINE:2-56 X 0.125 HEX SCH,SST<br>***** (END ATTACHING PARTS)*****                                                                                                                                                                              |   |   |   |   | 000CY       | ORD BY DESCR    |
| -9                     | 386-4499-01           |                  |         | 1   | SUPPORT,KYBD:LEFT HINGE<br>***** (ATTACHING PARTS)*****                                                                                                                                                                                                 |   |   |   |   | 80009       | 386-4499-01     |
| -10                    | 211-0261-00           |                  |         | 2   | SCREW,MACHINE:2-56 X 0.125 HEX SCH,SST<br>***** (END ATTACHING PARTS)*****                                                                                                                                                                              |   |   |   |   | 000CY       | ORD BY DESCR    |
| -11                    | 426-1775-00           |                  |         | 1   | FRAME SECT,KYBD:REAR                                                                                                                                                                                                                                    |   |   |   |   | 80009       | 426-1775-00     |
| -12                    | 333-2698-00           | B010100          | B019999 | 1   | PANEL,FRONT:KEYBOARD                                                                                                                                                                                                                                    |   |   |   |   | 80009       | 333-2698-00     |
|                        | 333-2698-01           | B020000          |         | 1   | PANEL,FRONT:KEYBOARD<br>***** (ATTACHING PARTS)*****                                                                                                                                                                                                    |   |   |   |   | 80009       | 333-2698-01     |
| -13                    | 211-0661-00           |                  |         | 10  | SCREW,MACHINE:4-40 X 0.25 INCH,PNH,STL<br>***** (END ATTACHING PARTS)*****                                                                                                                                                                              |   |   |   |   | 78189       | ORD BY DESCR    |
| -14                    | 366-2030-00           |                  |         | 22  | PUSH BUTTON:IVORY GRAY,0.4 SQ X 0.175                                                                                                                                                                                                                   |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-01           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,1                                                                                                                                                                                                                                |   |   |   |   | 80009       | 366-2030-01     |
|                        | 366-2030-02           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,2                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-03           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,3                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-04           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,4                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-05           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,5                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-06           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,6                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-07           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,7                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-08           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,8                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-09           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,9                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-10           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,0                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-11           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,A                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-12           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,B                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-13           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,C                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-14           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,D                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-15           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,E                                                                                                                                                                                                                                |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-16           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,F                                                                                                                                                                                                                                |   |   |   |   | 000FU       | 366-2030-16     |
|                        | 366-2030-17           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,NEXT                                                                                                                                                                                                                             |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-18           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,DEL/LINE                                                                                                                                                                                                                         |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-19           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,ADD/LINE                                                                                                                                                                                                                         |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-20           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,DON'T                                                                                                                                                                                                                            |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-21           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,DECR                                                                                                                                                                                                                             |   |   |   |   | 000FU       | OBD             |
|                        | 366-2030-22           |                  |         | 1   | PUSH BUTTON:IVORY GRAY,INCR                                                                                                                                                                                                                             |   |   |   |   | 000FU       | OBD             |
| -15                    | 366-2033-00           |                  |         | 2   | PUSH BUTTON:DOVE GRAY,0.4 SQ X 0.175 H                                                                                                                                                                                                                  |   |   |   |   | 000FU       | OBD             |
|                        | 366-2033-01           |                  |         | 4   | PUSH BUTTON:DOVE GRAY,UP ARROW                                                                                                                                                                                                                          |   |   |   |   | 000FU       | OBD             |
|                        | 366-2033-02           |                  |         | 2   | PUSH BUTTON:DOVE GRAY,DELTA                                                                                                                                                                                                                             |   |   |   |   | 000FU       | OBD             |
| -16                    | -----                 |                  |         | 1   | CKT BOARD ASSY:KEYBOARD(SEE A5A1 REPL)                                                                                                                                                                                                                  |   |   |   |   |             |                 |
| -17                    | -----                 |                  |         | 1   | .CONN,RCPT,ELEC:(SEE A5A1J141 REPL)                                                                                                                                                                                                                     |   |   |   |   |             |                 |
| -18                    | -----                 |                  |         | 2   | .TERM,TEST POINT:(SEE A5A1TP115,TP249 REPL)                                                                                                                                                                                                             |   |   |   |   |             |                 |
| -19                    | -----                 |                  |         | 52  | .SWITCH PB ASSY:(SEE A5A1S205,210,215,225,<br>230,235,257,270,280,305,310,315,325,330,<br>335,355,370,380,410,425,430,435,450,455,<br>460,475,505,510,515,525,530,535,540,555,<br>605,610,615,625,630,635,640,710,725,730,<br>735,740,752,757,770 REPL) |   |   |   |   |             |                 |
| -20                    | -----                 |                  |         | 2   | .LT EMITTING DIO:(SEE A5A1DS572,DS577 REPL)                                                                                                                                                                                                             |   |   |   |   |             |                 |
| -21                    | 426-1790-00           | B010100          | B019999 | 1   | FRAME,CABINET:FRONT<br>***** (ATTACHING PARTS)*****                                                                                                                                                                                                     |   |   |   |   | 80009       | 426-1790-00     |
| -22                    | 211-0016-00           |                  |         | 8   | SCREW,MACHINE:4-40 X 0.625 INCH,PNH STL<br>***** (END ATTACHING PARTS)*****                                                                                                                                                                             |   |   |   |   | 83385       | ORD BY DESCR    |

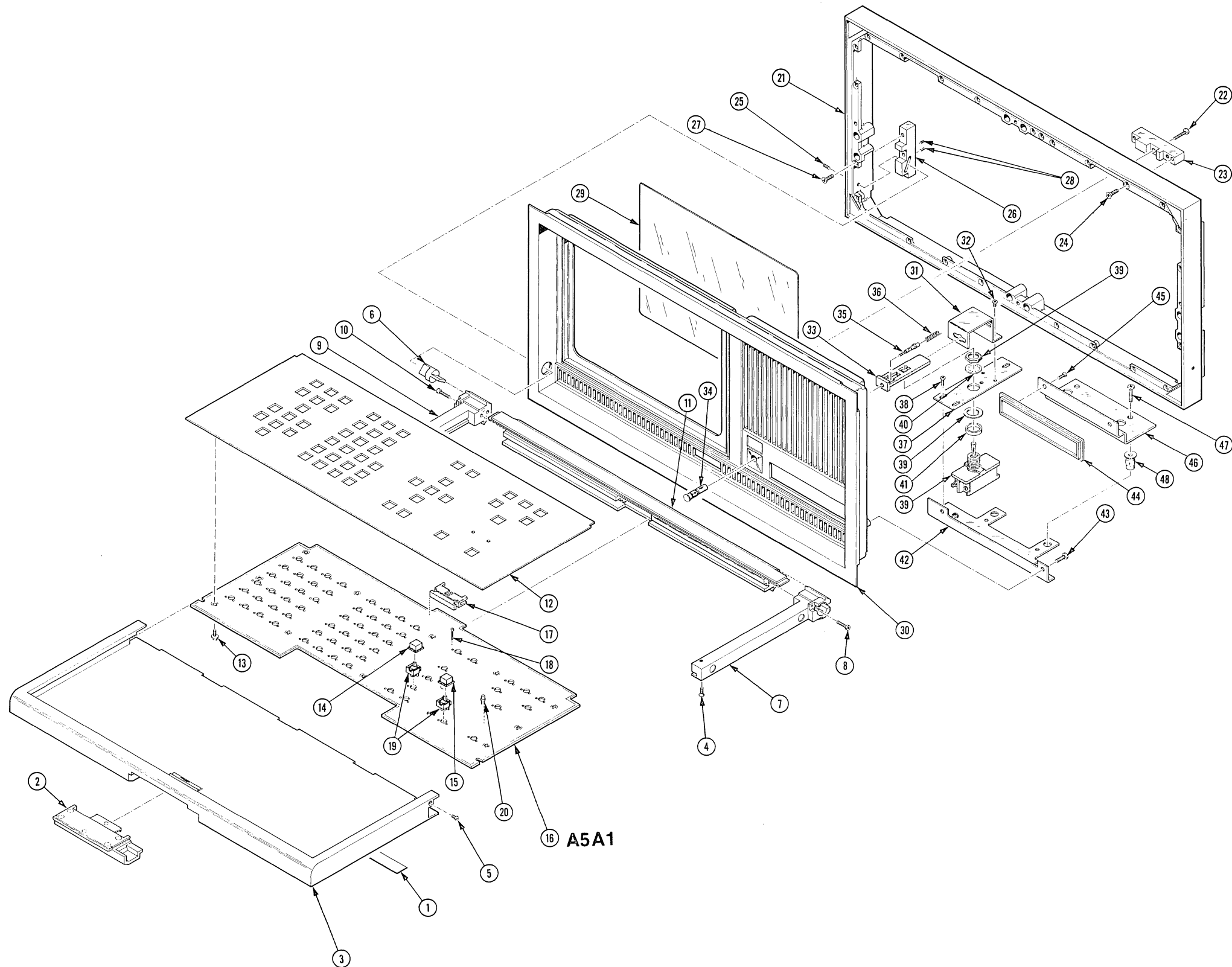


**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No.<br>Eff Dscont | Qty     | 1 2 3 4 5 | Name & Description                                                             | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|--------------------------------|---------|-----------|--------------------------------------------------------------------------------|-------------|------------------|
| 1-23                   | 391-0170-00           | B010100                        | B019999 | 1         | BLOCK,MOUNTING:TOP RIGHT,ALUMINUM                                              | 80009       | 391-0170-00      |
|                        | 391-0169-00           |                                |         | 1         | BLOCK,MOUNTING:TOP LEFT,ALUMINUM<br>***** (ATTACHING PARTS) *****              | 80009       | 391-0169-00      |
| -24                    | 211-0512-00           |                                |         | 4         | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST<br>***** (END ATTACHING PARTS) ***** | 83385       | ORD BY DESCR     |
| -25                    | 213-0189-00           |                                |         | 4         | SETSCREW:4-40 X 0.375,HEX SKT,CUP PT                                           |             |                  |
| -26                    | 386-4510-00           |                                |         | 1         | SUPPORT,KYBD:MAINFRAME,LEFT                                                    | 80009       | 386-4510-00      |
|                        | 386-4513-00           |                                |         | 1         | SUPPORT,KYBD:MAINFRAME,RIGHT<br>***** (ATTACHING PARTS) *****                  | 80009       | 386-4513-00      |
| -27                    | 211-0512-00           |                                |         | 4         | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST<br>***** (END ATTACHING PARTS) ***** | 83385       | ORD BY DESCR     |
| -28                    | 213-0218-00           | B010100                        | B020555 | 4         | SETSCREW:6-32 X 0.25 INCH,HEX SOC ST                                           | 74445       | ORD BY DESCR     |
|                        | 213-0885-00           | B020556                        |         | 4         | SETSCREW:6-32 X 0.25,STL BLK OXD                                               | 14438       | ORD BY DESCR     |
| -29                    | 378-2055-00           |                                |         | 1         | FILTER,LT,CRT:GRAY,7.925 X 5.8 X 0.3 PLEX                                      | 80009       | 378-2055-00      |
| -30                    | 101-0068-01           |                                |         | 1         | TRIM,DECORATIVE:FACADE,PLASTIC                                                 | 80009       | 101-0068-01      |
| -31                    | 407-2633-00           |                                |         | 1         | BRKT,SW PLT MTG:ALUMINUM<br>***** (ATTACHING PARTS) *****                      | 80009       | 407-2633-00      |
| -32                    | 211-0008-00           |                                |         | 2         | SCREW,MACHINE:4-40 X 0.250,PNH,STL,POZ<br>***** (END ATTACHING PARTS) *****    | 83385       | ORD BY DESCR     |
| -33                    | 105-0874-00           |                                |         | 1         | ACTUATOR,SW:POWER                                                              | 80009       | 105-0874-00      |
| -34                    | 366-1859-00           |                                |         | 1         | KNOB:SLATE GRAY,PWR SW,4-40 INT                                                | 80009       | 366-1859-00      |
| -35                    | 384-1606-00           |                                |         | 1         | EXTENSION SHAFT:1.08 L X 0.125 OD,ALUMINUM                                     | 80009       | 384-1606-00      |
| -36                    | 214-2654-00           |                                |         | 1         | SPRING,HLCPS:0.188 OD X 0.69 L,CLOSED EN                                       | 000CX       | OBD              |
| -37                    | 386-4575-00           |                                |         | 1         | PLATE,SW MTNG:POWER SWITCH,ALUMINUM<br>***** (ATTACHING PARTS) *****           | 80009       | 386-4575-00      |
| -38                    | 211-0097-00           |                                |         | 3         | SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -39                    | -----                 |                                |         | 1         | SWITCH,TOGGLE:(SEE CHASSIS PARTS S101 REPL                                     |             |                  |
| -40                    | 210-0021-00           |                                |         | 1         | WASHER,LOCK:INTL,0.476 ID X 0.60" OD ST                                        | 78189       | 1222-01-00-0541C |
| -41                    | 361-1011-00           |                                |         | 1         | SPACER,SLEEVE:0.15 L X 0.567 ID,ALUMINUM                                       | 80009       | 361-1011-00      |
| -42                    | 386-4449-00           |                                |         | 1         | SPRT,TAPE DRIVE:ALUMINUM<br>***** (ATTACHING PARTS) *****                      | 80009       | 386-4449-00      |
| -43                    | 211-0504-00           |                                |         | 2         | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****    | 83385       | ORD BY DESCR     |
|                        |                       |                                |         |           | REMAINING PARTS ARE USED IF THE TAPE DRIVE<br>OPTION IS NOT USED:              |             |                  |
| -44                    | 200-2661-00           |                                |         | 1         | COVER,HOLE:PLASTIC<br>***** (ATTACHING PARTS) *****                            | 80009       | 200-2661-00      |
| -45                    | 211-0097-00           |                                |         | 2         | SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -46                    | 407-2860-00           |                                |         | 1         | BRACKET,COVER:ALUMINUM<br>***** (ATTACHING PARTS) *****                        | 80009       | 407-2860-00      |
| -47                    | 213-0088-00           |                                |         | 2         | SCR,TPG,THD CTG:4-24 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****  | 83385       | ORD BY DESCR     |
| -48                    | 220-0886-00           |                                |         | 2         | NUT,SLEEVE:6-32 X 0.437 OD,NEOPRENE                                            | 00613       | E-632            |
|                        | 334-5013-01           |                                |         | 1         | EMBLEM:TEKTRONIX                                                               | 80009       | 334-5013-01      |

DAS 9109

FIG. 1 DAS 9109 FRONT PANEL

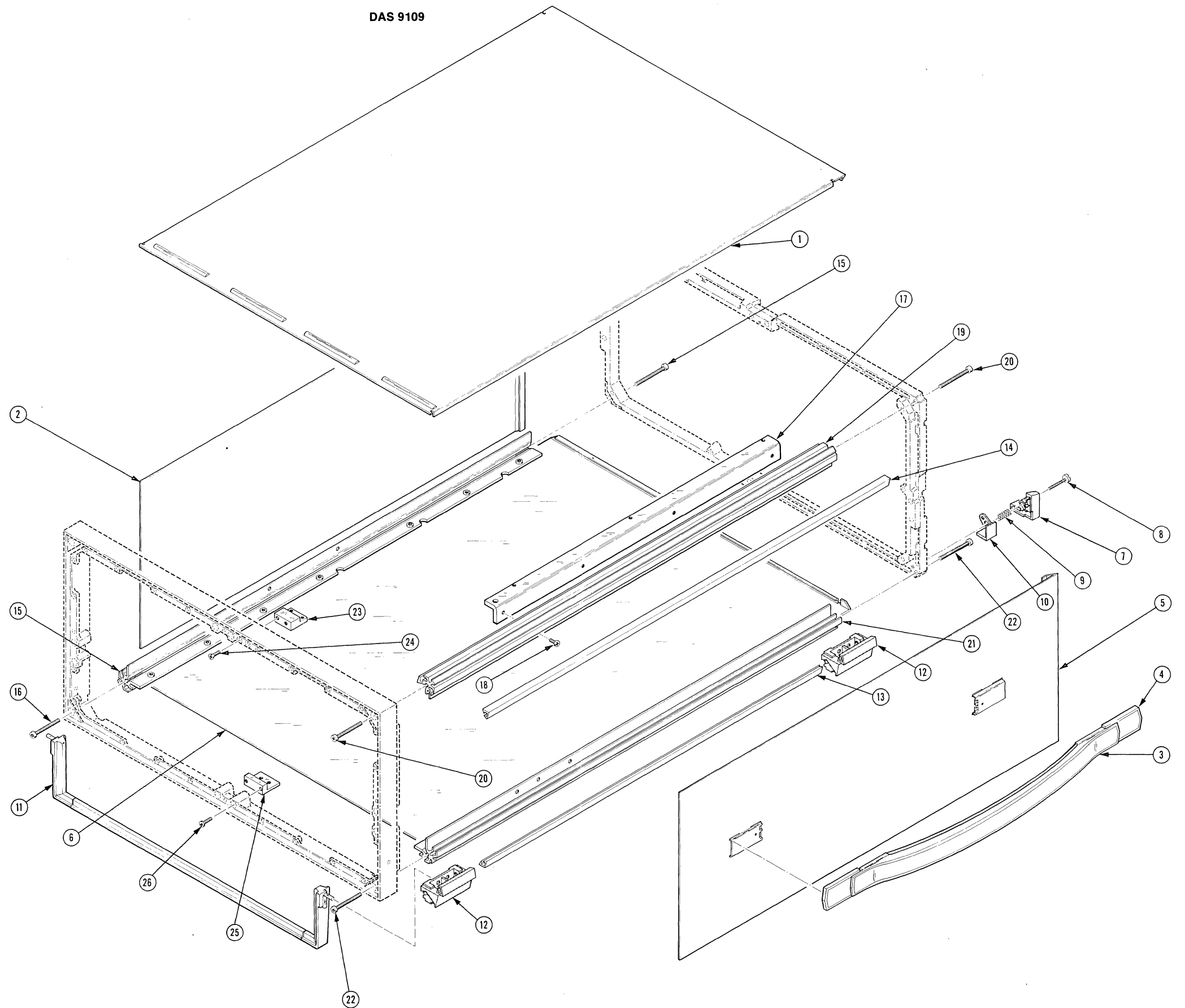


A5A1

REV APR 1983

DAS 9100 SERIES

FIG. 2 DAS 9109 CABINET



| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                                                             | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|------------------|--------|-----|-----------|--------------------------------------------------------------------------------|-------------|-----------------|
|                        |                       | Eff              | Dscont |     |           |                                                                                |             |                 |
| 2-1                    | 390-0831-00           |                  |        | 1   |           | CABINET TOP:FULL RACK X 22.131                                                 | 80009       | 390-0831-00     |
| -2                     | 390-0828-03           |                  |        | 1   |           | CABINET SIDE:8.75 X 22.131,EARTH BROWN                                         | 80009       | 390-0828-03     |
| -3                     | 367-0248-07           |                  |        | 1   |           | HANDLE,CARRYING:16.341 L,W/CLIP,PLASTIC                                        | 80009       | 367-0248-07     |
| -4                     | 200-2191-03           |                  |        | 2   |           | CAP.,RETAINER:PLASTIC,EARTH                                                    | 80009       | 200-2191-03     |
| -5                     | 390-0829-07           |                  |        | 1   |           | CABINET SIDE:8.75 X 22.131,EARTH BROWN                                         | 80009       | 390-0829-07     |
| -6                     | 390-0832-00           |                  |        | 1   |           | CABINET BOTTOM:FULL RACK X 22.131                                              | 80009       | 390-0832-00     |
| -7                     | 343-0876-04           |                  |        | 4   |           | RTNR,CAB.COVER:OUTER CORNER,POLYCARBONATE<br>***** (ATTACHING PARTS) *****     | 80009       | 343-0876-04     |
| -8                     | 212-0140-00           |                  |        | 4   |           | SCREW,MACHINE:8-32 X 0.75,SPCL,0.375 OD                                        | 80009       | 212-0140-00     |
| -9                     | 214-3078-00           |                  |        | 4   |           | SPRING,HLCP:0.24 OD X 0.5 L<br>***** (END ATTACHING PARTS) *****               | 80009       | 214-3078-00     |
| -10                    | 343-0875-03           |                  |        | 4   |           | RTNR,CAB.COVER:INNER CORNER,POLYCARBONATE                                      | 80009       | 343-0875-03     |
| -11                    | 348-0727-01           | B010300          |        | 1   |           | FLIP STAND,CAB.:FULL RACK,ALUMINUM<br>(DAS 9129 ONLY)                          | 80009       | 348-0727-01     |
|                        | 348-0727-01           | B011050          |        | 1   |           | FLIP STAND,CAB.:FULL RACK,ALUMINUM<br>(DAS 9109 ONLY)                          | 80009       | 348-0727-01     |
| -12                    | 348-0617-04           |                  |        | 4   |           | FOOT,CABINET:BOT,EARTH BROWN                                                   | 80009       | 348-0617-04     |
| -13                    | 124-0402-03           |                  |        | 2   |           | STRIP,TRIM:CORNER W/STEP BOTTOM,PVC                                            | 80009       | 124-0402-03     |
| -14                    | 124-0401-03           |                  |        | 2   |           | STRIP,TRIM:CORNER W/STEP TOP,PVC                                               | 80009       | 124-0401-03     |
| -15                    | 426-1754-00           |                  |        | 1   |           | FRAME SECT,CAB.:BOTTOM,LEFT & RIGHT<br>***** (ATTACHING PARTS) *****           | 80009       | 426-1754-00     |
| -16                    | 213-0863-00           |                  |        | 2   |           | SCREW,TPG,TF:8-32 X 1.375,TAPTITE,FILH<br>***** (END ATTACHING PARTS) *****    | 93907       | ORD BY DESCR    |
| -17                    | 407-2752-00           |                  |        | 1   |           | BRACKET,ANGLE:FRAME SUPPORT,AL<br>***** (ATTACHING PARTS) *****                | 80009       | 407-2752-00     |
| -18                    | 211-0504-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****    | 83385       | ORD BY DESCR    |
| -19                    | 426-1753-00           |                  |        | 2   |           | FRAME SECT,CAB.:TOP,LEFT & RIGHT<br>***** (ATTACHING PARTS) *****              | 80009       | 426-1753-00     |
| -20                    | 213-0863-00           |                  |        | 4   |           | SCREW,TPG,TF:8-32 X 1.375,TAPTITE,FILH<br>***** (END ATTACHING PARTS) *****    | 93907       | ORD BY DESCR    |
| -21                    | 426-1839-00           |                  |        | 1   |           | FRAME SECT,CAB.:BOTTOM,RIGHT<br>***** (ATTACHING PARTS) *****                  | 80009       | 426-1839-00     |
| -22                    | 213-0863-00           |                  |        | 2   |           | SCREW,TPG,TF:8-32 X 1.375,TAPTITE,FILH<br>***** (END ATTACHING PARTS) *****    | 93907       | ORD BY DESCR    |
| -23                    | 386-4681-00           |                  |        | 1   |           | SUPPORT,FRAME:ALUMINUM<br>***** (ATTACHING PARTS) *****                        | 80009       | 386-4681-00     |
| -24                    | 211-0512-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST<br>***** (END ATTACHING PARTS) ***** | 83385       | ORD BY DESCR    |
| -25                    | 386-4446-00           |                  |        | 2   |           | SUPPORT,CHASSIS:ALUMINUM<br>***** (ATTACHING PARTS) *****                      | 80009       | 386-4446-00     |
| -26                    | 211-0511-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL                                       | 83385       | ORD BY DESCR    |
|                        | 211-0503-00           |                  |        | 3   |           | SCREW,MACHINE:6-32 X 0.188 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR    |

**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 | 2 | 3 | 4 | 5 | Name & Description                                                               | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|------------------|--------|-----|---|---|---|---|---|----------------------------------------------------------------------------------|-------------|-----------------|
|                        |                       | Eff              | Dscont |     |   |   |   |   |   |                                                                                  |             |                 |
| 3-1                    | 334-4398-00           |                  |        | 1   |   |   |   |   |   | MARKER,IDENT:MKD COARD CAGE                                                      | 80009       | 334-4398-00     |
| -2                     | 200-2658-01           |                  |        | 1   |   |   |   |   |   | COVER,CARD CAGE:STRUCTURAL FOAM<br>*****<br>(ATTACHING PARTS)*****               | 80009       | 200-2658-01     |
| -3                     | 213-0891-00           |                  |        | 7   |   |   |   |   |   | THUMBSCREW:4-40 X 0.380,0.25 OD<br>*****<br>(END ATTACHING PARTS)*****           | 80009       | 213-0891-00     |
|                        | 343-1062-00           | B010198          |        | 6   |   |   |   |   |   | RTNR,THUMBSCREW:BRASS                                                            | 80009       | 343-1062-00     |
| -4                     | 200-2535-00           |                  |        | 1   |   |   |   |   |   | COVER,BRKT:POWER SUPPLY<br>*****<br>(ATTACHING PARTS)*****                       | 80009       | 200-2535-00     |
| -5                     | 211-0119-00           |                  |        | 5   |   |   |   |   |   | SCREW,MACHINE:4-40X0.25" 100 DEG,FLH,STL<br>*****<br>(END ATTACHING PARTS)*****  | 83385       | ORD BY DESCR    |
| -6                     | 407-2789-00           |                  |        | 1   |   |   |   |   |   | BRACKET,CKT BD:W/SPACER<br>*****<br>(ATTACHING PARTS)*****                       | 80009       | 407-2789-00     |
| -7                     | 211-0504-00           |                  |        | 3   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR    |
| -8                     | 407-2580-00           |                  |        | 1   |   |   |   |   |   | BRKT,PWR SPLY:ALUMINUM<br>*****<br>(ATTACHING PARTS)*****                        | 80009       | 407-2580-00     |
| -9                     | 211-0504-00           |                  |        | 3   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR    |
| -10                    | 351-0087-00           |                  |        | 1   |   |   |   |   |   | GUIDE,CKT BOARD:4.75 INCH LONG,PLASTIC                                           | 80009       | 351-0087-00     |
| -11                    | 220-0921-00           |                  |        | 1   |   |   |   |   |   | NUT BAR:7.7 X 0.25 X 0.375 W/6-32 T<br>*****<br>(ATTACHING PARTS)*****           | 80009       | 220-0921-00     |
| -12                    | 211-0504-00           |                  |        | 3   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR    |
| -13                    | 386-4471-00           |                  |        | 1   |   |   |   |   |   | PANEL,CKT BOARD:ALUMINUM<br>*****<br>(ATTACHING PARTS)*****                      | 80009       | 386-4471-00     |
| -14                    | 211-0512-00           |                  |        | 6   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST<br>*****<br>(END ATTACHING PARTS)***** | 83385       | ORD BY DESCR    |
| -15                    | 386-4682-00           |                  |        | 1   |   |   |   |   |   | SUPPORT,FRAME:ALUMINUM<br>*****<br>(ATTACHING PARTS)*****                        | 80009       | 386-4682-00     |
| -16                    | 211-0025-00           |                  |        | 2   |   |   |   |   |   | SCREW,MACHINE:4-40 X 0.375 100 DEG,FLH ST<br>*****<br>(END ATTACHING PARTS)***** | 83385       | ORD BY DESCR    |
| -17                    | 351-0628-00           |                  |        | 2   |   |   |   |   |   | GUIDE,CKT BOARD:PLASTIC<br>*****<br>(ATTACHING PARTS)*****                       | 80009       | 351-0628-00     |
| -18                    | 211-0097-00           |                  |        | 4   |   |   |   |   |   | SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****   | 83385       | ORD BY DESCR    |
| -19                    | 361-1048-00           |                  |        | 1   |   |   |   |   |   | SPACER,CKT BD:PLASTIC<br>*****<br>(ATTACHING PARTS)*****                         | 80009       | 361-1048-00     |
| -20                    | 211-0511-00           |                  |        | 3   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL<br>*****<br>(END ATTACHING PARTS)*****  | 83385       | ORD BY DESCR    |
| -21                    | 386-4675-00           |                  |        | 1   |   |   |   |   |   | SUPPORT,CRT:REAR<br>*****<br>(ATTACHING PARTS)*****                              | 80009       | 386-4675-00     |
| -22                    | 211-0512-00           |                  |        | 6   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST                                        | 83385       | ORD BY DESCR    |
| -23                    | 211-0504-00           |                  |        | 2   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR    |
| -24                    | 105-0863-00           |                  |        | 1   |   |   |   |   |   | EJECTOR,CKT BD:ALUMINUM<br>*****<br>(ATTACHING PARTS)*****                       | 80009       | 105-0863-00     |
| -25                    | 211-0511-00           |                  |        | 2   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL<br>*****<br>(END ATTACHING PARTS)*****  | 83385       | ORD BY DESCR    |
| -26                    | 386-4636-00           |                  |        | 1   |   |   |   |   |   | SUPPORT,SHIELD:FAN,ALUMINUM<br>*****<br>(ATTACHING PARTS)*****                   | 80009       | 386-4636-00     |
| -27                    | 211-0513-00           |                  |        | 2   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.625 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****   | 83385       | ORD BY DESCR    |
| -28                    | 220-0879-00           |                  |        | 1   |   |   |   |   |   | NUT BAR:7.735 L W(3)4-40 THD & (2)6<br>*****<br>(ATTACHING PARTS)*****           | 80009       | 220-0879-00     |
| -29                    | 211-0512-00           |                  |        | 2   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST<br>*****<br>(END ATTACHING PARTS)***** | 83385       | ORD BY DESCR    |
| -30                    | 220-0902-00           |                  |        | 1   |   |   |   |   |   | NUT BAR:7.59 X 0.375 X 0.25 W(4)6-3<br>*****<br>(ATTACHING PARTS)*****           | 80009       | 220-0902-00     |
| -31                    | 211-0512-00           |                  |        | 1   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST                                        | 83385       | ORD BY DESCR    |
| -32                    | 211-0504-00           |                  |        | 3   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR    |

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No.<br>Eff Dscont | Qty | 1 2 3 4 5 | Name & Description                                                                | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|--------------------------------|-----|-----------|-----------------------------------------------------------------------------------|-------------|------------------|
| 3-33                   | 386-4448-00           |                                | 1   |           | SUPPORT,CRT:ALUMINUM<br>*****<br>(ATTACHING PARTS)*****                           | 80009       | 386-4448-00      |
| -34                    | 211-0512-00           |                                | 4   |           | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST<br>*****<br>(END ATTACHING PARTS)*****  | 83385       | ORD BY DESCR     |
| -35                    | 129-0947-00           |                                | 1   |           | SPACER,POST:1.188 L,W/4-40 INT THD EA E<br>*****<br>(ATTACHING PARTS)*****        | 80009       | 129-0947-00      |
| -36                    | 211-0097-00           |                                | 1   |           | SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR     |
| -37                    | -----                 |                                | 1   |           | RELAY,SOL STATE:(SEE K101 CHASSIS REPL)<br>*****<br>(ATTACHING PARTS)*****        |             |                  |
| -38                    | 210-0586-00           |                                | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>*****<br>(END ATTACHING PARTS)*****            | 83385       | ORD BY DESCR     |
| -39                    | 343-0004-00           |                                | 2   |           | CLAMP,LOOP:0.312 INCH DIAMETER,PLSTC<br>*****<br>(ATTACHING PARTS)*****           | 95987       | 5-16-6B          |
| -40                    | 210-0586-00           |                                | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL                                                   | 83385       | ORD BY DESCR     |
| -41                    | 210-0863-00           |                                | 2   |           | WSHR,LOOP CLAMP:0.187 ID U/W 0.5 W CLP,STL<br>*****<br>(END ATTACHING PARTS)***** | 95987       | C191             |
| -42                    | 210-0202-00           |                                | 1   |           | TERMINAL,LUG:0.146 ID,LOCKING,BRZ TINNED<br>*****<br>(ATTACHING PARTS)*****       | 78189       | 2104-06-00-2520N |
| -43                    | 211-0503-00           |                                | 1   |           | SCREW,MACHINE:6-32 X 0.188 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR     |
| -44                    | 441-1537-00           |                                | 1   |           | CHASSIS,SYSTEM:DIGITAL ANALYSIS,MAIN<br>*****<br>(ATTACHING PARTS)*****           | 80009       | 441-1537-00      |
| -45                    | 211-0503-00           |                                | 13  |           | SCREW,MACHINE:6-32 X 0.188 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR     |



DAS 9109

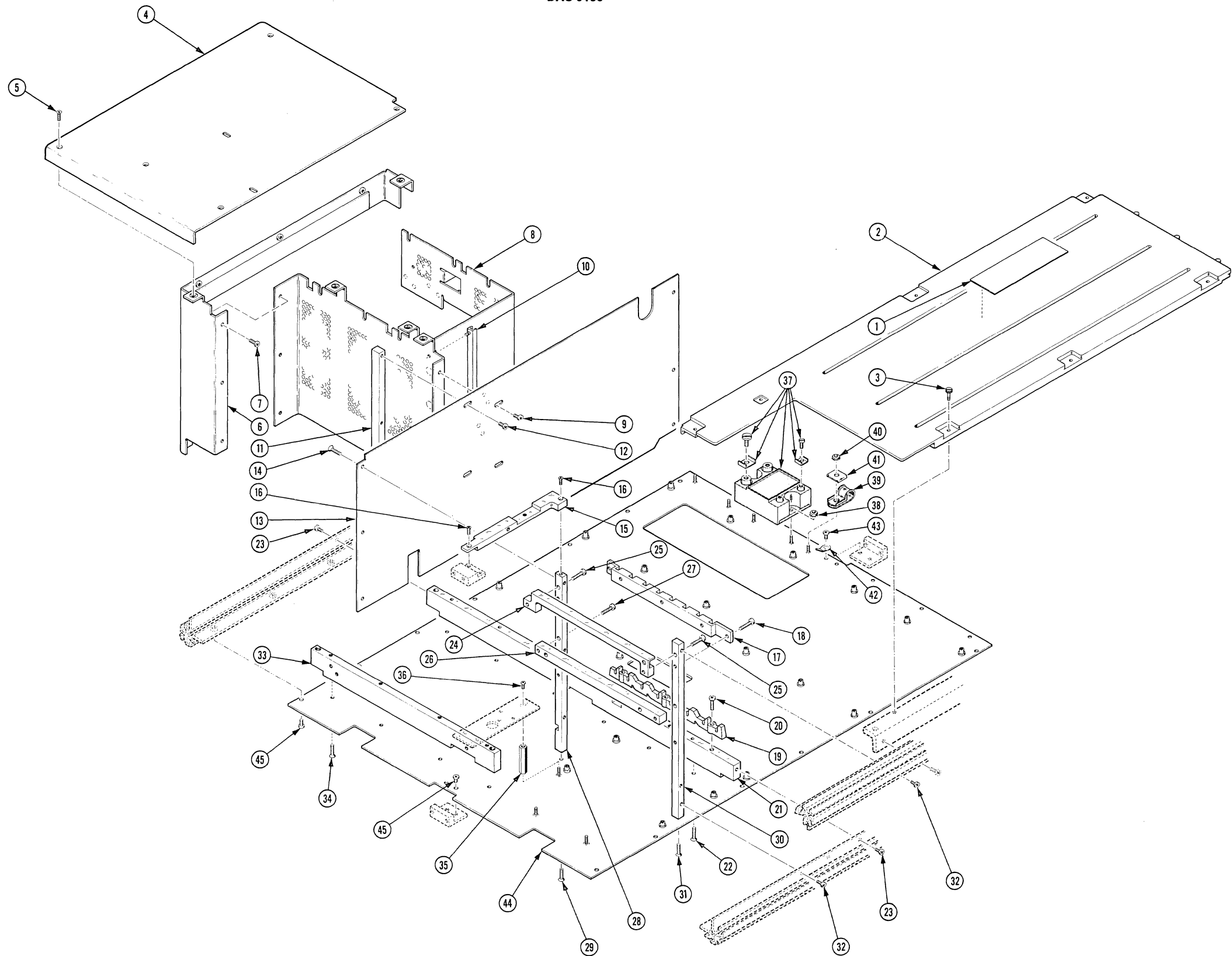


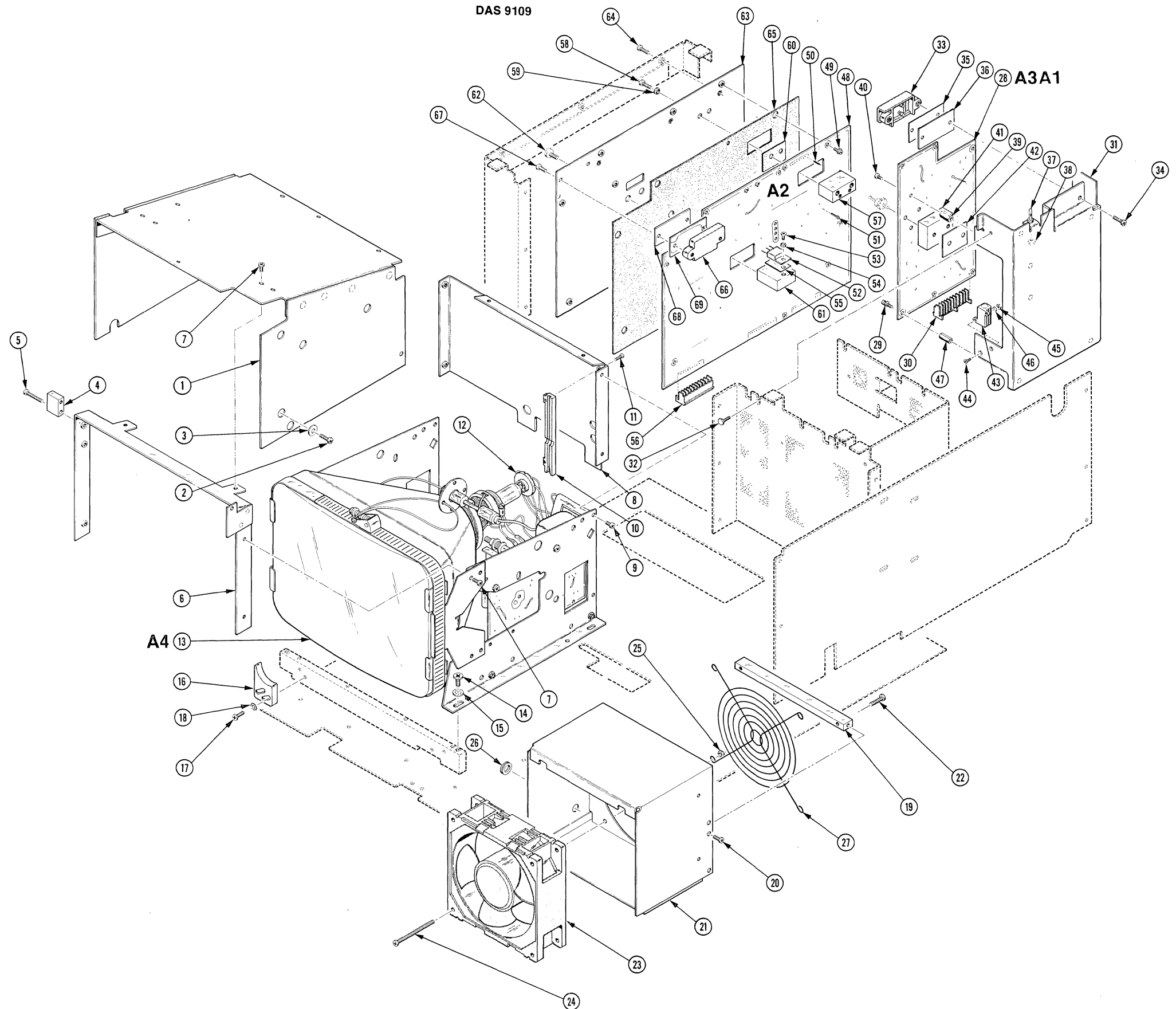
FIG. 3 DAS 9109 BRACKETS/COVERS

REV APR 1983

DAS 9100 SERIES



FIG. 4 DAS 9109 CRT/POWER SUPPLY



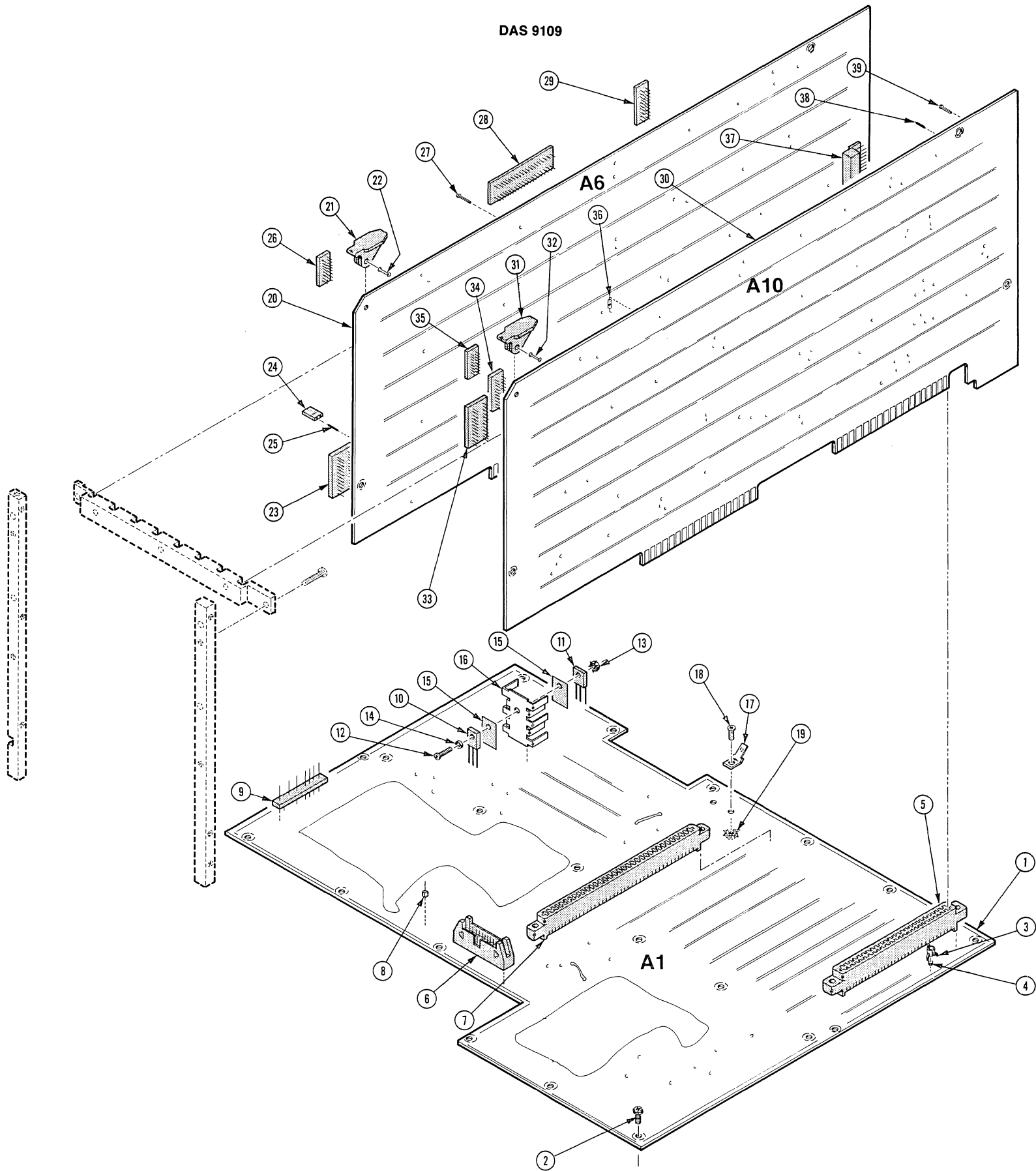
| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                                                                | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|------------------|--------|-----|-----------|-----------------------------------------------------------------------------------|-------------|------------------|
|                        |                       | Eff              | Dscont |     |           |                                                                                   |             |                  |
| 4-1                    | 337-2795-00           |                  |        | 1   |           | SHIELD,ELEC:CRT<br>*****<br>(ATTACHING PARTS)*****                                | 80009       | 337-2795-00      |
| -2                     | 211-0510-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.375,PNH,STL,CD PL                                          | 83385       | ORD BY DESCR     |
| -3                     | 210-0858-00           |                  |        | 2   |           | WASHER,FLAT:0.500 OD X 0.171 ID X 0.063<br>*****<br>(END ATTACHING PARTS)*****    | 80009       | 210-0858-00      |
| -4                     | 386-4680-00           |                  |        | 1   |           | SUPPORT,FRAME:ALUMINUM<br>*****<br>(ATTACHING PARTS)*****                         | 80009       | 386-4680-00      |
| -5                     | 211-0514-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.750 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR     |
| -6                     | 386-4678-01           |                  |        | 1   |           | SUPPORT,FRAME:FRONT,CRT W/HANDLE<br>*****<br>(ATTACHING PARTS)*****               | 80009       | 386-4678-01      |
| -7                     | 211-0504-00           |                  |        | 6   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****     | 83385       | ORD BY DESCR     |
| -8                     | 386-4603-00           |                  |        | 1   |           | SUPPORT,CRT:FRAME<br>*****<br>(ATTACHING PARTS)*****                              | 80009       | 386-4603-00      |
| -9                     | 211-0503-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.188 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR     |
| -10                    | 351-0658-00           |                  |        | 1   |           | GUIDE,CKT BOARD:UPPER,PLASTIC,3.53<br>*****<br>(ATTACHING PARTS)*****             | 80009       | 351-0658-00      |
| -11                    | 211-0097-00           |                  |        | 2   |           | SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR     |
| -12                    | 118-0960-00           |                  |        | 1   |           | SKT,PL-IN ELEC:CRT W/LEADS AND RESISTOR                                           |             |                  |
| -13                    | -----                 |                  |        | 1   |           | MONITOR,CRT:(SEE A4 REPL)<br>*****<br>(ATTACHING PARTS)*****                      |             |                  |
| -14                    | 212-0507-00           |                  |        | 2   |           | SCREW,MACHINE:10-32 X 0.375 INCH,PNH STL                                          | 83385       | ORD BY DESCR     |
| -15                    | 210-0010-00           |                  |        | 2   |           | WASHER,LOCK:#10 INTL,0.02 THK,STL<br>*****<br>(END ATTACHING PARTS)*****          | 78189       | 1210-00-00-0541C |
| -16                    | 386-4620-00           |                  |        | 2   |           | SUPPORT,CRT:CORNER<br>*****<br>(ATTACHING PARTS)*****                             | 80009       | 386-4620-00      |
| -17                    | 211-0511-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL                                          | 83385       | ORD BY DESCR     |
| -18                    | 210-0006-00           |                  |        | 4   |           | WASHER,LOCK:#6 INTL,0.018 THK,STL CD PL<br>*****<br>(END ATTACHING PARTS)*****    | 78189       | 1206-00-00-0541C |
| -19                    | 407-2705-00           |                  |        | 1   |           | BRACKET,CMPNT:FAN SHIELD,AL<br>*****<br>(ATTACHING PARTS)*****                    | 80009       | 407-2705-00      |
| -20                    | 211-0513-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.625 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****    | 83385       | ORD BY DESCR     |
| -21                    | 380-0630-01           |                  |        | 1   |           | HOUSING,FAN:<br>*****<br>(ATTACHING PARTS)*****                                   | 80009       | 380-0630-01      |
| -22                    | 211-0504-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****     | 83385       | ORD BY DESCR     |
| -23                    | 119-0147-00           |                  |        | 1   |           | FAN,AXIAL:115V,50-60HZ,14W<br>*****<br>(ATTACHING PARTS)*****                     | 82877       | 028021           |
| -24                    | 211-0552-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 2 INCH,PNH STL                                               | 83385       | ORD BY DESCR     |
| -25                    | 210-0457-00           |                  |        | 4   |           | NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL<br>*****<br>(END ATTACHING PARTS)*****     | 83385       | ORD BY DESCR     |
| -26                    | 348-0442-00           |                  |        | 1   |           | WIRING HARNESS:POWER(SEE W100 REPL)                                               |             |                  |
| -27                    | 200-2222-00           |                  |        | 1   |           | GROMMET,PLASTIC:BLACK,ROUND,0.375" ID                                             | 28520       | SB-500-6         |
| -28                    | -----                 |                  |        | 1   |           | GUARD,FAN:<br>*****<br>(ATTACHING PARTS)*****                                     | 81041       | 6-182-033        |
| -29                    | 211-0661-00           |                  |        | 6   |           | CKT BOARD ASSY:5V AT 15A PWR(SEE A3A1 REPL)<br>*****<br>(ATTACHING PARTS)*****    |             |                  |
| -30                    | -----                 |                  |        | 2   |           | SCREW,MACHINE:4-40 X 0.25 INCH,PNH,STL<br>*****<br>(END ATTACHING PARTS)*****     | 78189       | ORD BY DESCR     |
| -31                    | 380-0632-00           |                  |        | 1   |           | CONN,RCPT,ELEC:(SEE A3A1P100,P400 REPL)<br>*****<br>(ATTACHING PARTS)*****        | 80009       | 380-0632-00      |
| -32                    | 211-0289-00           |                  |        | 2   |           | HSG,PWR SPLY:<br>*****<br>(ATTACHING PARTS)*****                                  | 80009       | 380-0632-00      |
| -33                    | 211-0289-00           |                  |        | 2   |           | SCREW,SHOULDER:4-40 X 0.205 BRS CU-SN<br>*****<br>(END ATTACHING PARTS)*****      | 80009       | 211-0289-00      |
| -34                    | 200-2269-00           |                  |        | 1   |           | COVER,XSTR:<br>*****<br>(ATTACHING PARTS)*****                                    | 80009       | 200-2269-00      |
| -35                    | 211-0511-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL                                          | 83385       | ORD BY DESCR     |
| -36                    | 342-0458-00           |                  |        | 1   |           | INSULATOR,PLATE:TRANSISTOR,MICA                                                   | 08530       | OBD              |
| -36                    | 342-0449-01           |                  |        | 1   |           | INSULATOR,PLATE:TRANSISTOR,ALUMINA,PRINTED<br>*****<br>(END ATTACHING PARTS)***** | 80009       | 342-0449-01      |

**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |         | Qty | 1 2 3 4 5 | Name & Description                                                          | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|------------------|---------|-----|-----------|-----------------------------------------------------------------------------|-------------|------------------|
| 4-37                   | 103-0079-00           |                  |         | 1   |           | ADPTR,ELCTD PL:BRS ALBALOY PLATED<br>*****ATTACHING PARTS*****              | 80009       | 103-0079-00      |
| -38                    | 210-0586-00           |                  |         | 1   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>*****END ATTACHING PARTS*****            | 83385       | ORD BY DESCR     |
| -39                    | 129-0826-00           |                  |         | 1   |           | SPACER,POST:0.59 L,W/10-32 EXT THD ONE<br>*****ATTACHING PARTS*****         | 80009       | 129-0826-00      |
| -40                    | 211-0504-00           |                  |         | 1   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****END ATTACHING PARTS*****     | 83385       | ORD BY DESCR     |
| -41                    | 214-3094-00           |                  |         | 1   |           | HEAT SINK,DIODE:(2)D0-4,AL                                                  | 80009       | 214-3094-00      |
| -42                    | 342-0595-00           |                  |         | 1   |           | INSULATOR,PLATE:HEAT SINK,SILICON RUBBER                                    | 80009       | 342-0595-00      |
| -43                    | -----                 |                  |         | 1   |           | RESISTOR,FXD,WW:(SEE R720 REPL)<br>*****ATTACHING PARTS*****                |             |                  |
| -44                    | 211-0030-00           |                  |         | 2   |           | SCREW,MACHINE:2-56 X 0.25"82 DEG,FLH STL                                    | 83385       | ORD BY DESCR     |
| -45                    | 210-0405-00           |                  |         | 2   |           | NUT,PLAIN,HEX.:2-56 X 0.188 INCH,BRS                                        | 73743       | 12157-50         |
| -46                    | 210-0001-00           |                  |         | 2   |           | WASHER,LOCK:INTL,0.092 ID X 0.18"OD,ST<br>*****END ATTACHING PARTS*****     | 78189       | 1202-00-00-0541C |
| -47                    | 220-0449-00           |                  |         | 4   |           | NUT,SLEEVE:4-40 X 0.188 X 0.50" LONG                                        | 80009       | 220-0449-00      |
| -48                    | -----                 |                  |         | 1   |           | CKT BOARD ASSY:MAINFRAME POWER(SEE A2 REPL)<br>*****ATTACHING PARTS*****    |             |                  |
| -49                    | 211-0661-00           |                  |         | 9   |           | SCREW,MACHINE:4-40 X 0.25 INCH,PNH,STL<br>*****END ATTACHING PARTS*****     | 78189       | ORD BY DESCR     |
| -50                    | 131-0787-00           |                  |         | -   |           | CKT BOARD ASSY INCLUDES:                                                    |             |                  |
|                        | -----                 |                  |         | 12  |           | .CONTACT,ELEC:0.64 INCH LONG                                                | 22526       | 47359            |
|                        | -----                 |                  |         | -   |           | .INCLUDES A2J155,J165 REPL                                                  |             |                  |
|                        | 131-0608-00           |                  |         | 2   |           | .TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD                                   | 22526       | 47357            |
| -51                    | -----                 |                  |         | 3   |           | .TERM,TEST POINT:(SEE A2TP225,475,625 REPL)                                 |             |                  |
| -52                    | -----                 |                  |         | 1   |           | .SEMICON DVC,DI:(SEE A2CR430 REPL)<br>*****ATTACHING PARTS*****             |             |                  |
| -53                    | 211-0097-00           |                  |         | 1   |           | .SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL                                    | 83385       | ORD BY DESCR     |
| -54                    | 210-1178-00           |                  |         | 1   |           | .WASHER,SHLDR:U/W T0-220 TRANSISTOR                                         | 49671       | DF137A           |
| -55                    | 342-0458-00           |                  |         | 1   |           | .INSULATOR,PLATE:TRANSISTOR,MICA<br>*****END ATTACHING PARTS*****           | 08530       | OBD              |
| -56                    | -----                 |                  |         | 3   |           | .CONN,RCPT,ELEC:(SEE A2P910,940,960 REPL)                                   |             |                  |
| -57                    | 214-3361-00           | B010100          | B010219 | 1   |           | .HEAT SINK,DIODE:                                                           | 80009       | 214-3361-00      |
|                        | 214-3231-00           | B010220          |         | 1   |           | .HEAT SINK,DIODE:T0-3P,AL<br>*****ATTACHING PARTS*****                      | 80009       | 214-3231-00      |
| -58                    | 211-0507-00           | B010100          | B010219 | 2   |           | .SCREW,MACHINE:6-32 X 0.312 INCH,PNH STL                                    | 83385       | ORD BY DESCR     |
|                        | 212-0507-00           | B010220          |         | 2   |           | .SCREW,MACHINE:10-32 X 0.375 INCH,PNH STL                                   | 83385       | ORD BY DESCR     |
| -59                    | 210-0967-00           | B010100          | B010219 | 2   |           | .WASHER,SHLDR:0.156 ID X 0.094D X 0.375 O                                   | 86928       | 5607-82          |
| -60                    | 342-0425-02           | B010100          | B010219 | 1   |           | .INSULATOR,FILM:TRANSISTOR,SI RUBBER/FBRGL                                  | 80009       | 342-0425-02      |
|                        | 342-0354-00           | B010220          |         | 1   |           | .INSULATOR,PLATE:TRANSISTOR,SILICON RUBBER<br>*****END ATTACHING PARTS***** | 000BB       | 7403-10-52       |
| -61                    | 210-0224-00           | B010100          | B010219 | 2   |           | .TERMINAL,LUG:0.20 ID X 0.344 OD,SE,BRS                                     | 86928       | A373-148-1       |
|                        | 214-3302-00           |                  |         | 1   |           | .HEAT SINK,DIODE:D0-4,AL<br>*****ATTACHING PARTS*****                       | 80009       | 214-3302-00      |
| -62                    | 212-0507-00           |                  |         | 2   |           | .SCREW,MACHINE:10-32 X 0.375 INCH,PNH STL<br>*****END ATTACHING PARTS*****  | 83385       | ORD BY DESCR     |
| -63                    | 386-4568-00           |                  |         | 1   |           | .PLATE,HEAT SINK:ALUMINUM<br>*****ATTACHING PARTS*****                      | 80009       | 386-4568-00      |
| -64                    | 211-0507-00           |                  |         | 3   |           | .SCREW,MACHINE:6-32 X 0.312 INCH,PNH STL<br>*****END ATTACHING PARTS*****   | 83385       | ORD BY DESCR     |
| -65                    | 342-0564-00           |                  |         | 1   |           | .INSULATOR,PLATE:MAINFRAME POWER BOARD                                      | 80009       | 342-0564-00      |
| -66                    | 200-2269-00           |                  |         | 1   |           | .COVER,XSTR:<br>*****ATTACHING PARTS*****                                   | 80009       | 200-2269-00      |
| -67                    | 211-0511-00           |                  |         | 2   |           | .SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL                                   | 83385       | ORD BY DESCR     |
| -68                    | 361-1078-00           |                  |         | 1   |           | .SPACER,HT SINK:                                                            | 80009       | 361-1078-00      |
| -69                    | 342-0449-01           |                  |         | 1   |           | .INSULATOR,PLATE:TRANSISTOR,ALUMINA,PRINTE<br>*****END ATTACHING PARTS***** | 80009       | 342-0449-01      |

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |         | Qty | 1 2 3 4 5 | Name & Description                                                                                                 | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|------------------|---------|-----|-----------|--------------------------------------------------------------------------------------------------------------------|-------------|-----------------|
|                        |                       | Eff              | Dscont  |     |           |                                                                                                                    |             |                 |
| 5-1                    | ----                  |                  |         | 1   |           | CKT BOARD ASSY:MAIN INTERCONN(SEE A1 REPL)<br>*****ATTACHING PARTS*****                                            |             |                 |
| -2                     | 211-0661-00           |                  |         | 18  |           | SCREW,MACHINE:4-40 X 0.25 INCH,PNH,STL<br>*****END ATTACHING PARTS*****                                            | 78189       | ORD BY DESCR    |
|                        | ----                  |                  |         | -   |           | CKT BOARD ASSY INCLUDES:                                                                                           |             |                 |
| -3                     | 175-3755-00           | B010120          |         | 1   |           | .CABLE ASSY,RF:50 OHM COAX,17.0 L,9-1                                                                              | 80009       | 175-3755-00     |
|                        | ----                  |                  |         | 2   |           | .CONN,RCPT,ELEC:(SEE A1J81,J82 REPL)                                                                               |             |                 |
| -4                     | 136-0252-07           | B010100          | B010119 | 1   |           | .SOCKET,PIN CONN:W/O DIMPLE                                                                                        | 22526       | 75060-012       |
|                        | 136-0252-07           | B010120          |         | 2   |           | .SOCKET,PIN CONN:W/O DIMPLE                                                                                        | 22526       | 75060-012       |
| -5                     | ----                  |                  |         | 16  |           | .CONN,RCPT,ELEC:(SEE A1J00,01,10,11,20,<br>.21,30,31,40,41,50,51,60,70,71, REPL)                                   |             |                 |
|                        | ----                  |                  |         | -   |           | .CONN,RCPT,ELEC:(SEE A1J423 REPL)                                                                                  |             |                 |
| -6                     | ----                  |                  |         | 1   |           | .CONN,RCPT,ELEC:(SEE A1J131 REPL)                                                                                  |             |                 |
| -7                     | ----                  |                  |         | 1   |           | .TERM. SET,PIN:36-0.525 L X 0.025 SQ                                                                               | 22526       | 65501-136       |
| -8                     | 131-1343-00           |                  |         | 2   |           | .CONN,RCPT,ELEC:(SEE A1J211,221,312,<br>.401, REPL)                                                                |             |                 |
| -9                     | ----                  |                  |         | 5   |           | .TERM,FEEDTHR:(SEE A1J101,102,212,311,<br>.321, REPL)                                                              |             |                 |
|                        | ----                  |                  |         | -   |           | .TRANSISTOR:(SEE A1Q112 REPL)                                                                                      |             |                 |
| -10                    | ----                  |                  |         | 1   |           | .TRANSISTOR:(SEE A1Q111 REPL)                                                                                      |             |                 |
| -11                    | ----                  |                  |         | -   |           | *****ATTACHING PARTS FOR BOTH XSTRS)                                                                               |             |                 |
| -12                    | 211-0012-00           |                  |         | 1   |           | .SCREW,MACHINE:4-40 X 0.375,PNH STL CD PL                                                                          | 83385       | ORD BY DESCR    |
| -13                    | 210-0586-00           |                  |         | 1   |           | .NUT,PL,ASSEM WA:4-40 X 0.25,STL                                                                                   | 83385       | ORD BY DESCR    |
| -14                    | 210-1171-00           |                  |         | 1   |           | .WSHR,SHOULDERED:0.116 ID X 0.138 INCH OD                                                                          | 52905       | A7148516P2      |
| -15                    | 342-0202-00           |                  |         | 2   |           | .INSULATOR,PLATE:TRANSISTOR<br>*****END ATTACHING PARTS*****                                                       | 01295       | 10-21-023-106   |
| -16                    | 214-1914-00           |                  |         | 1   |           | .HEAT SINK,ELEC:                                                                                                   | 98978       | PB1-ZCB         |
| -17                    | ----                  |                  |         | 2   |           | .TERM,CIK DISC:(SEE A1J124,J125 REPL)<br>*****ATTACHING PARTS*****                                                 |             |                 |
| -18                    | 211-0097-00           |                  |         | 2   |           | .SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL                                                                           | 83385       | ORD BY DESCR    |
| -19                    | 210-0586-00           |                  |         | 2   |           | .NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>*****END ATTACHING PARTS*****                                                  | 83385       | ORD BY DESCR    |
| -20                    | ----                  |                  |         | 1   |           | CKT BOARD ASSY:CONTROLLER(SEE A6 REPL)                                                                             |             |                 |
| -21                    | 105-0160-04           |                  |         | 1   |           | .EJECTOR,CKT BD:YELLOW PLASTIC<br>*****ATTACHING PARTS*****                                                        | 80009       | 105-0160-04     |
| -22                    | 214-1337-00           |                  |         | 1   |           | .PIN,SPRING:0.10 OD X 0.25 INCH L,STL<br>*****END ATTACHING PARTS*****                                             | 80009       | 214-1337-00     |
| -23                    | 136-0578-00           |                  |         | 4   |           | .SKT,PL-IN ELEK:MICROCKT,24 PIN,LOW PROFIL                                                                         | 73803       | C S9002-24      |
| -24                    | 131-0993-00           |                  |         | 6   |           | .BUS,CONDUCTOR:2 WIRE BLACK                                                                                        | 00779       | 850100-01       |
| -25                    | ----                  |                  |         | 14  |           | .TERMINAL,PIN:(SEE A6J337,339,340,344,<br>.498,499 REPL)                                                           |             |                 |
| -26                    | 136-0260-02           |                  |         | 21  |           | .SKT,PL-IN ELEK:MICROCIRCUIT,16 DIP,LOW CL                                                                         | 71785       | 133-51-92-008   |
| -27                    | ----                  |                  |         | 9   |           | .TERM,TEST POINT:(SEE A6TP141,151,211,<br>.351,397,420,436,468,537 REPL)                                           |             |                 |
| -28                    | 136-0623-00           |                  |         | 3   |           | .SOCKET,PLUG-IN:40 DIP,LOW PROFILE                                                                                 | 73803       | CS9002-40       |
| -29                    | 136-0634-00           |                  |         | 6   |           | .SOCKET,PLUG-IN:20 LEAD DIP,CKT BD MTG                                                                             | 73803       | CS9002-20       |
| -30                    | ----                  |                  |         | 1   |           | CKT BOARD ASSY:TRIG/TIME BASE(SEE A10 REPL)                                                                        |             |                 |
| -31                    | 105-0160-04           |                  |         | 1   |           | .EJECTOR,CKT BD:YELLOW PLASTIC<br>*****ATTACHING PARTS*****                                                        | 80009       | 105-0160-04     |
| -32                    | 214-1337-00           |                  |         | 1   |           | .PIN,SPRING:0.10 OD X 0.25 INCH L,STL<br>*****END ATTACHING PARTS*****                                             | 80009       | 214-1337-00     |
| -33                    | 136-0578-00           |                  |         | 10  |           | .SKT,PL-IN ELEK:MICROCKT,24 PIN,LOW PROFIL                                                                         | 73803       | C S9002-24      |
| -34                    | 136-0634-00           |                  |         | 1   |           | .SOCKET,PLUG-IN:20 LEAD DIP,CKT BD MTG                                                                             | 73803       | CS9002-20       |
| -35                    | 136-0260-02           | B010100          | B011414 | 3   |           | .SKT,PL-IN ELEK:MICROCIRCUIT,16 DIP,LOW CL                                                                         | 71785       | 133-51-92-008   |
|                        | 136-0751-00           | B011415          |         | 3   |           | .SKT,PL-IN ELEK:MICROCKT,24 PIN                                                                                    | 09922       | DILB24P108      |
| -36                    | ----                  |                  |         | 2   |           | .BUS CONDUCTOR:(SEE A10W175,W478 REPL)                                                                             |             |                 |
| -37                    | ----                  |                  |         | 1   |           | .CONN,RCPT,ELEC:(SEE A10J400 REPL)                                                                                 |             |                 |
| -38                    | ----                  |                  |         | 12  |           | .TERMINAL,PIN:(SEE A10J195,200,600 REPL)                                                                           |             |                 |
| -39                    | ----                  |                  |         | 18  |           | .TERM,TEST POINT:(SEE A10TP105,110,208,<br>.221,245,248,255,303,341,378,380,387,<br>.473,537,545,565,567,573 REPL) |             |                 |



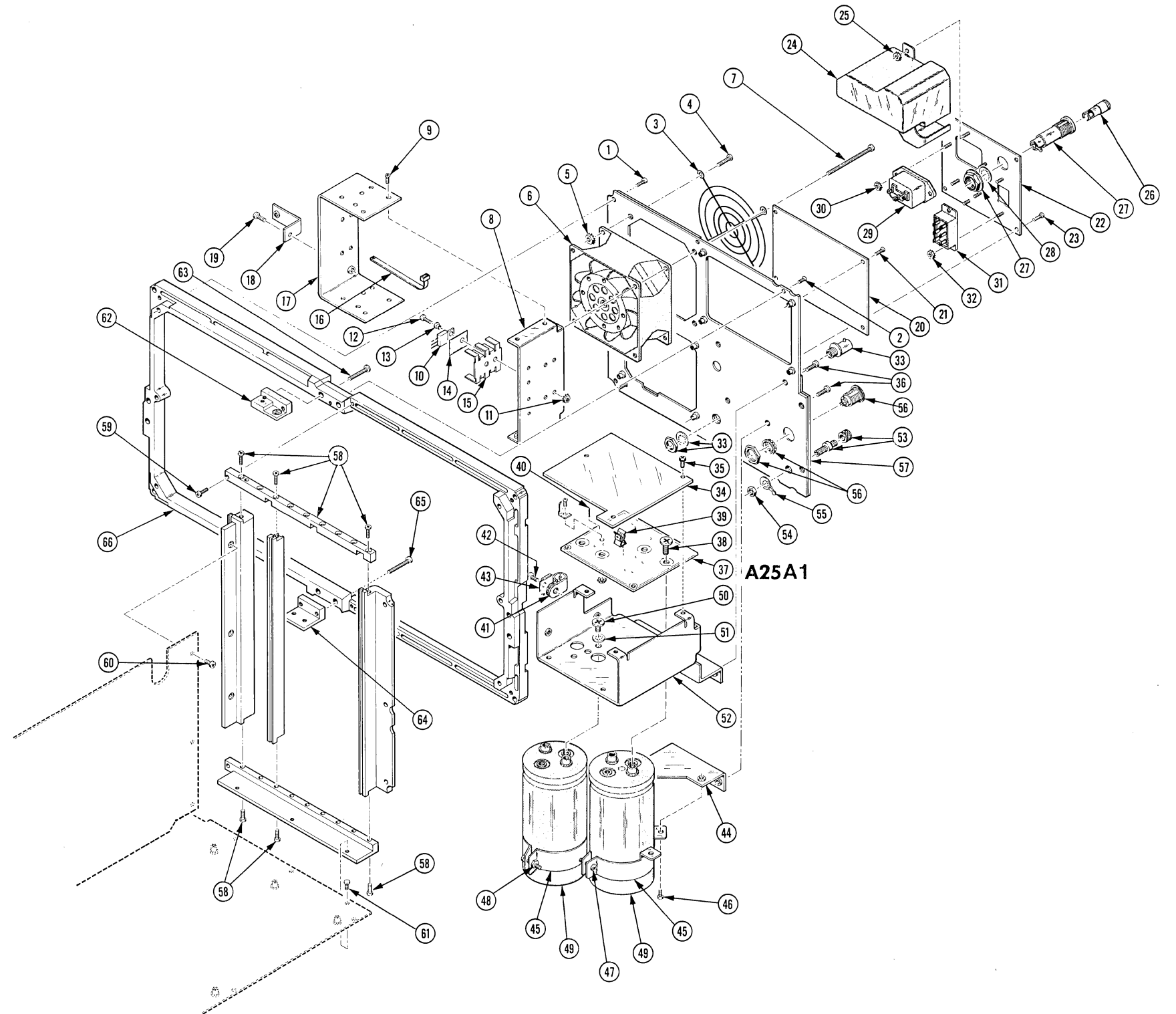


REV APR 1983

DAS 9100 SERIES

FIG. 5 DAS 9109 CIRCUIT BOARD

FIG. 6 REAR PANEL/REAR FAN



| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |         | Qty | 1 2 3 4 5 | Name & Description                                                              | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|------------------|---------|-----|-----------|---------------------------------------------------------------------------------|-------------|------------------|
|                        |                       | Eff              | Dscont  |     |           |                                                                                 |             |                  |
| 6-1                    | 211-0012-00           |                  |         | 4   |           | SCREW,MACHINE:4-40 X 0.375,PNH STL CD PL                                        | 83385       | ORD BY DESCR     |
| -2                     | 211-0038-00           |                  |         | 2   |           | SCREW,MACHINE:4-40 X 0.312,FLH,100 DEG                                          | 83385       | ORD BY DESCR     |
| -3                     | 378-2049-00           |                  |         | 1   |           | GRILL,FAN:3.07 DIA<br>***** (ATTACHING PARTS) *****                             | 80009       | 378-2049-00      |
| -4                     | 211-0513-00           |                  |         | 1   |           | SCREW,MACHINE:6-32 X 0.625 INCH,PNH STL                                         | 83385       | ORD BY DESCR     |
| -5                     | 210-0457-00           |                  |         | 1   |           | NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL                                          | 83385       | ORD BY DESCR     |
|                        | 210-1092-00           |                  |         | 4   |           | WASHER,FLAT:0.147 ID X 0.312" OD,BRS<br>***** (END ATTACHING PARTS) *****       | 12327       | ORD BY DESCR     |
| -6                     | 119-0215-00           |                  |         | 1   |           | FAN,AXIAL:115V,50-60 HZ,18W<br>***** (ATTACHING PARTS) *****                    | 23936       | 8500D            |
| -7                     | 211-0552-00           |                  |         | 3   |           | SCREW,MACHINE:6-32 X 2 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****        | 83385       | ORD BY DESCR     |
| -8                     | 407-2587-00           |                  |         | 1   |           | BRACKET,HT SINK:ALUMINUM<br>***** (ATTACHING PARTS) *****                       | 80009       | 407-2587-00      |
| -9                     | 211-0012-00           |                  |         | 4   |           | SCREW,MACHINE:4-40 X 0.375,PNH STL CD PL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -10                    | -----                 |                  |         | 4   |           | TRANSISTOR:(SEE Q155,Q160,Q165,Q170 REPL)<br>***** (ATTACHING PARTS) *****      |             |                  |
| -11                    | 210-0586-00           |                  |         | 4   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL                                                 | 83385       | ORD BY DESCR     |
| -12                    | 211-0008-00           |                  |         | 4   |           | SCREW,MACHINE:4-40 X 0.250,PNH,STL,POZ                                          | 83385       | ORD BY DESCR     |
| -13                    | 210-1174-00           |                  |         | 4   |           | WASHER,FLAT:1.0 ID X 0.125 THK<br>***** (END ATTACHING PARTS) *****             |             |                  |
| -14                    | 342-0354-00           |                  |         | 4   |           | INSULATOR,PLATE:TRANSISTOR,SILICON RUBBER                                       | 000BB       | 7403-10-52       |
| -15                    | 214-1914-00           |                  |         | 4   |           | HEAT SINK,ELEC:                                                                 | 98978       | PB1-ZCB          |
| -16                    | 346-0120-00           |                  |         | 4   |           | STRAP,TIEDOWN:5.5 L MIN,PLASTIC                                                 | 06383       | SST 1.5M         |
| -17                    | 407-2621-00           |                  |         | 1   |           | BRACKET,HT SINK:ALUMINUM                                                        | 80009       | 407-2621-00      |
| -18                    | 407-2693-00           |                  |         | 1   |           | BRACKET,FAN:<br>***** (ATTACHING PARTS) *****                                   | 80009       | 407-2693-00      |
| -19                    | 211-0504-00           |                  |         | 1   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****     | 83385       | ORD BY DESCR     |
| -20                    | 333-2741-00           |                  |         | 1   |           | PANEL,REAR:BLANK<br>(STANDARD INSTRUMENT ONLY)<br>***** (ATTACHING PARTS) ***** | 80009       | 333-2741-00      |
| -21                    | 211-0097-00           |                  |         | 4   |           | SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****    | 83385       | ORD BY DESCR     |
| -22                    | 333-2668-00           | B010100          | B019999 | 1   |           | PANEL,REAR:                                                                     | 80009       | 333-2668-00      |
|                        | 333-2871-00           | B020000          | B020532 | 1   |           | PANEL,REAR:                                                                     | 80009       | 333-2871-00      |
|                        | 333-2871-01           | B020533          |         | 1   |           | PANEL,REAR:<br>***** (ATTACHING PARTS) *****                                    | 80009       | 333-2871-01      |
| -23                    | 211-0097-00           |                  |         | 4   |           | SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****    | 83385       | ORD BY DESCR     |
| -24                    | 337-2893-00           |                  |         | 1   |           | SHIELD,ELEC:POWER PANEL<br>***** (ATTACHING PARTS) *****                        | 80009       | 337-2893-00      |
| -25                    | 210-0586-00           |                  |         | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>***** (END ATTACHING PARTS) *****            | 83385       | ORD BY DESCR     |
| -26                    | 200-2264-00           |                  |         | 1   |           | CAP.,FUSEHOLDER:3AG FUSES<br>(STANDARD ONLY)                                    | S3629       | FEK 031 1666     |
|                        | 200-2265-00           |                  |         | 1   |           | CAP,FUSEHOLDER:5 X 20MM FUSES<br>(OPTION A1,A2,A3,A4 ONLY)                      | S3629       | FEK 031.1663     |
| -27                    | 204-0832-00           |                  |         | 1   |           | BODY,FUSEHOLDER:3AG,5 X 20MM FUSES                                              | S3629       | 031.1673(MDLFEU) |
| -28                    | 210-1039-00           |                  |         | 1   |           | WASHER,LOCK:INT,0.521 ID X 0.625 INCH O                                         | 24931       | ORD BY DESCR     |
| -29                    | 131-1084-00           |                  |         | 1   |           | CONNECTOR,RCPT,:3 BLADE,6A,250V<br>***** (ATTACHING PARTS) *****                | 82389       | EAC-302          |
| -30                    | 210-0586-00           |                  |         | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>***** (END ATTACHING PARTS) *****            | 83385       | ORD BY DESCR     |
| -31                    | -----                 |                  |         | 1   |           | SWITCH,SLIDE:(SEE S103 REPL)<br>***** (ATTACHING PARTS) *****                   |             |                  |
| -32                    | 210-0586-00           |                  |         | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>***** (END ATTACHING PARTS) *****            | 83385       | ORD BY DESCR     |
| -33                    | 131-1315-01           |                  |         | 2   |           | CONN,RCPT,ELEC:BNC,FEMALE                                                       | 24931       | 28JR 306-1       |
| -34                    | 337-2884-00           |                  |         | 1   |           | SHIELD,ELEC:HIG VOLTAGE<br>***** (ATTACHING PARTS) *****                        | 80009       | 337-2884-00      |
| -35                    | 211-0244-00           |                  |         | 3   |           | SCR,ASSEM WSHR:4-40 X 0.312 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****   | 78189       | ORD BY DESCR     |



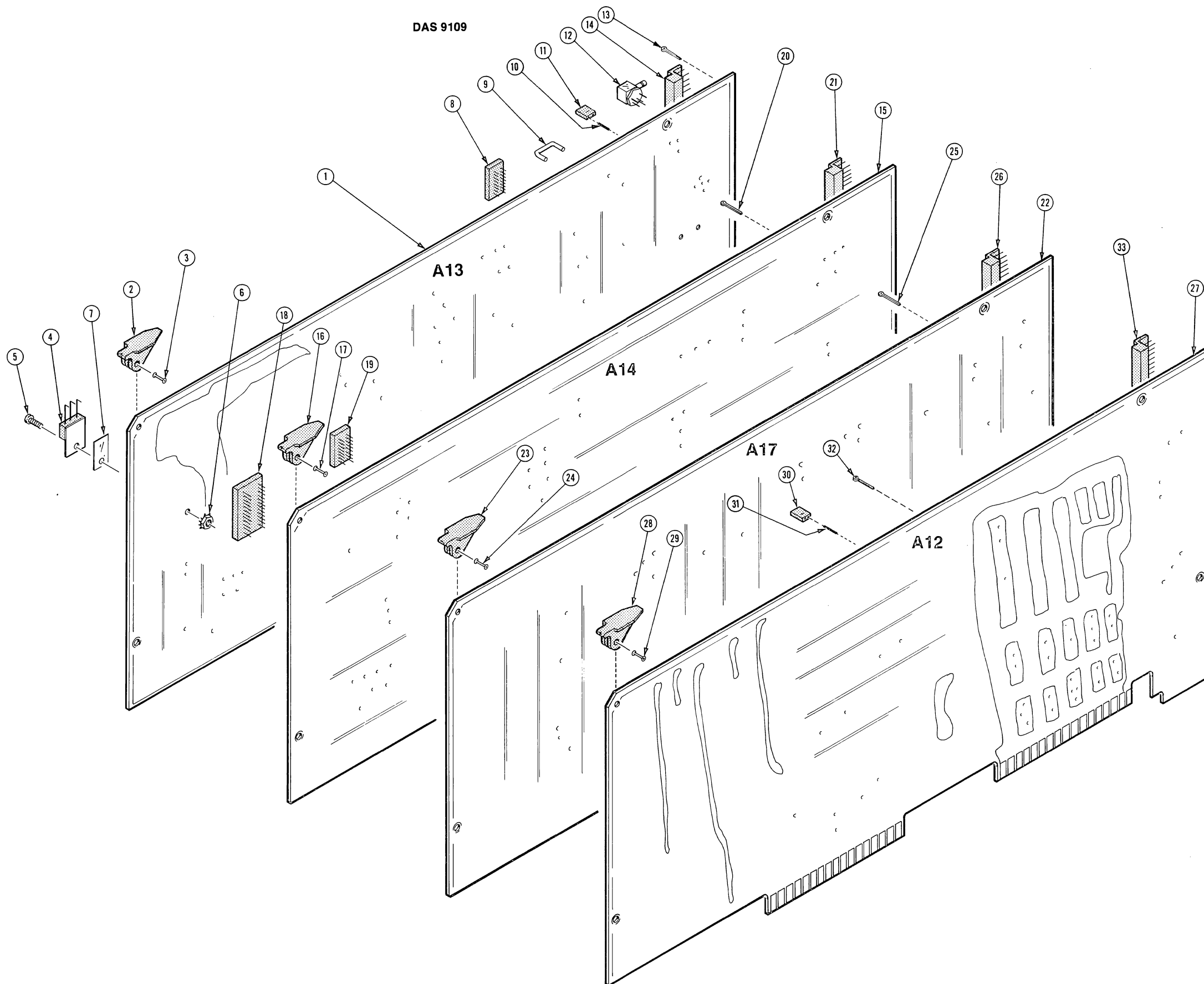
**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |         | Qty | 1 | 2 | 3 | 4 | 5 | Name & Description                                                                                          | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|------------------|---------|-----|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------|-------------|------------------|
|                        |                       | Eff              | Dscont  |     |   |   |   |   |   |                                                                                                             |             |                  |
| 6-                     | ----                  |                  |         | -   |   |   |   |   |   | CAP BRACKET ASSY:(A25)<br>*****<br>(ATTACHING PARTS)*****                                                   |             |                  |
| -36                    | 211-0510-00           |                  |         | 4   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.375,PNH,STL,CD PL<br>*****<br>(END ATTACHING PARTS)*****                             | 83385       | ORD BY DESCR     |
| -37                    | ----                  |                  |         | -   |   |   |   |   |   | CAP BRACKET ASSY INCLUDES:<br>.CKT BOARD ASSY:CAP BRACKET(SEE A25A1 REPL<br>*****<br>(ATTACHING PARTS)***** |             |                  |
| -38                    | 212-0518-00           |                  |         | 4   |   |   |   |   |   | .SCREW,MACHINE:10-32 X 0.312,PNH,STL,CD PL<br>*****<br>(END ATTACHING PARTS)*****                           | 83385       | ORD BY DESCR     |
| -39                    | 344-0326-00           |                  |         | 4   |   |   |   |   |   | .CLIP,ELECTRICAL:FUSE,BRASS                                                                                 | 75915       | 102071           |
| -40                    | 131-0589-00           |                  |         | 5   |   |   |   |   |   | .TERMINAL,PIN:0.46 L X 0.025 SQ                                                                             | 22526       | 48283-029        |
| -41                    | 343-0004-00           |                  |         | 1   |   |   |   |   |   | .CLAMP,LOOP:0.312 INCH DIAMETER,PLSTC<br>*****<br>(ATTACHING PARTS)*****                                    | 95987       | 5-16-6B          |
| -42                    | 211-0507-00           |                  |         | 1   |   |   |   |   |   | .SCREW,MACHINE:6-32 X 0.312 INCH,PNH STL                                                                    | 83385       | ORD BY DESCR     |
| -43                    | 210-0863-00           |                  |         | 1   |   |   |   |   |   | .WSHR,LOOP CLAMP:0.187 ID U/W 0.5 W CLP,ST<br>*****<br>(END ATTACHING PARTS)*****                           | 95987       | C191             |
| -44                    | 407-2747-00           |                  |         | 1   |   |   |   |   |   | .BRACKET,CMPNT:CLAMP,ALUMINUM                                                                               | 80009       | 407-2747-00      |
| -45                    | 343-0976-00           |                  |         | 2   |   |   |   |   |   | .CLAMP,CAPACITOR:<br>*****<br>(ATTACHING PARTS)*****                                                        | 80009       | 343-0976-00      |
| -46                    | 211-0504-00           |                  |         | 2   |   |   |   |   |   | .SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL                                                                     | 83385       | ORD BY DESCR     |
| -47                    | 211-0511-00           |                  |         | 2   |   |   |   |   |   | .SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL                                                                   | 83385       | ORD BY DESCR     |
| -48                    | 210-0457-00           |                  |         | 2   |   |   |   |   |   | .NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL<br>*****<br>(END ATTACHING PARTS)*****                              | 83385       | ORD BY DESCR     |
| -49                    | ----                  |                  |         | 2   |   |   |   |   |   | .CAP.,FXD,ELCTL:(SEE A25A1C1031,3010 REPL<br>*****<br>(ATTACHING PARTS)*****                                |             |                  |
| -50                    | 212-0518-00           |                  |         | 4   |   |   |   |   |   | .SCREW,MACHINE:10-32 X 0.312,PNH,STL,CD PL                                                                  | 83385       | ORD BY DESCR     |
| -51                    | 210-0010-00           |                  |         | 4   |   |   |   |   |   | .WASHER,LOCK:#10 INTL,0.02 THK,STL<br>*****<br>(END ATTACHING PARTS)*****                                   | 78189       | 1210-00-00-0541C |
| -52                    | 407-2586-00           |                  |         | 1   |   |   |   |   |   | .BRACKET,CAP.:ALUMINUM                                                                                      | 80009       | 407-2586-00      |
| -53                    | 129-0103-00           |                  |         | 1   |   |   |   |   |   | POST,BDG,ELEC:ASSEMBLY<br>*****<br>(ATTACHING PARTS)*****                                                   | 80009       | 129-0103-00      |
| -54                    | 210-0455-00           |                  |         | 1   |   |   |   |   |   | NUT,PLAIN,HEX.:0.25-28 X 0.375 INCH,BRASS                                                                   | 73743       | 3089-402         |
| -55                    | 210-0202-00           |                  |         | 1   |   |   |   |   |   | TERMINAL,LUG:0.146 ID,LOCKING,BRZ TINNED<br>*****<br>(END ATTACHING PARTS)*****                             | 78189       | 2104-06-00-2520N |
| -56                    | 131-1011-00           | B010100          | B010494 | 1   |   |   |   |   |   | CONNECTOR,RCPT,:4 CONTACT,FEMALE                                                                            | 0000A       | RA 1.304         |
|                        | 200-2789-00           | B010495          |         | 1   |   |   |   |   |   | BUTTON,PLUG:0.437 DIA,0.125 THK                                                                             |             |                  |
| -57                    | 333-2667-01           |                  |         | 1   |   |   |   |   |   | PANEL,REAR:                                                                                                 | 80009       | 333-2667-01      |
|                        | 210-0202-00           |                  |         | 2   |   |   |   |   |   | TERMINAL,LUG:0.146 ID,LOCKING,BRZ TINNED                                                                    | 78189       | 2104-06-00-2520N |
| -58                    | 426-1869-00           |                  |         | 1   |   |   |   |   |   | FRAME SECT,CAB.:REAR<br>*****<br>(ATTACHING PARTS)*****                                                     | 80009       | 426-1869-00      |
| -59                    | 211-0014-00           |                  |         | 2   |   |   |   |   |   | SCREW,MACHINE:4-40 X 0.50 INCH,PNH STL                                                                      | 83385       | ORD BY DESCR     |
| -60                    | 211-0504-00           |                  |         | 3   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL                                                                      | 83385       | ORD BY DESCR     |
| -61                    | 211-0007-00           |                  |         | 3   |   |   |   |   |   | SCREW,MACHINE:4-40 X 0.188 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****                              | 83385       | ORD BY DESCR     |
| -62                    | 386-4679-00           |                  |         | 1   |   |   |   |   |   | SUPPORT,FRAME:ALUMINUM<br>*****<br>(ATTACHING PARTS)*****                                                   | 80009       | 386-4679-00      |
| -63                    | 211-0511-00           |                  |         | 2   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL<br>*****<br>(END ATTACHING PARTS)*****                             | 83385       | ORD BY DESCR     |
| -64                    | 386-4446-00           |                  |         | 1   |   |   |   |   |   | SUPPORT,CHASSIS:ALUMINUM<br>*****<br>(ATTACHING PARTS)*****                                                 | 80009       | 386-4446-00      |
| -65                    | 211-0511-00           |                  |         | 2   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL<br>*****<br>(END ATTACHING PARTS)*****                             | 83385       | ORD BY DESCR     |
| -66                    | 426-1755-00           |                  |         | 1   |   |   |   |   |   | FRAME,CABINET:REAR                                                                                          | 80009       | 426-1755-00      |

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 |  |  |  |  | Name & Description                                                                                                                                                    | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|------------------|--------|-----|-----------|--|--|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|
|                        |                       | Eff              | Dscont |     |           |  |  |  |  |                                                                                                                                                                       |             |                 |
| 7-1                    | ----                  |                  |        | 1   |           |  |  |  |  | CKT BOARD ASSY:8 CHANNEL DATA ACQUISITION<br>(SEE A13 REPL)                                                                                                           |             |                 |
| -2                     | 105-0160-04           |                  |        | 1   |           |  |  |  |  | .EJECTOR,CKT BD:YELLOW PLASTIC<br>***** (ATTACHING PARTS)*****                                                                                                        | 80009       | 105-0160-04     |
| -3                     | 214-1337-00           |                  |        | 1   |           |  |  |  |  | .PIN,SPRING:0.10 OD X 0.25 INCH L,STL<br>***** (END ATTACHING PARTS)*****                                                                                             | 80009       | 214-1337-00     |
| -4                     | ----                  |                  |        | 1   |           |  |  |  |  | .TRANSISTOR:(SEE A13Q295 REPL)<br>***** (ATTACHING PARTS)*****                                                                                                        |             |                 |
| -5                     | 211-0097-00           |                  |        | 1   |           |  |  |  |  | .SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL                                                                                                                              | 83385       | ORD BY DESCR    |
| -6                     | 210-0586-00           |                  |        | 1   |           |  |  |  |  | .NUT,PL,ASSEM WA:4-40 X 0.25,STL                                                                                                                                      | 83385       | ORD BY DESCR    |
| -7                     | 342-0202-00           |                  |        | 1   |           |  |  |  |  | .INSULATOR,PLATE:TRANSISTOR<br>***** (END ATTACHING PARTS)*****                                                                                                       | 01295       | 10-21-023-106   |
| -8                     | 136-0260-02           | B010181          |        | 8   |           |  |  |  |  | .SKT,PL-IN ELEK:MICROCIRCUIT,16 DIP,LOW CL                                                                                                                            | 71785       | 133-51-92-008   |
| -9                     | 346-0032-00           |                  |        | 5   |           |  |  |  |  | .STRAP,RETAINING:0.075 DIA X 4.0 L,MLD RBR                                                                                                                            | 98159       | 2859-75-4       |
| -10                    | 131-0993-00           |                  |        | 2   |           |  |  |  |  | .BUS,CONDUCTOR:2 WIRE BLACK                                                                                                                                           | 00779       | 850100-01       |
| -11                    | ----                  |                  |        | 7   |           |  |  |  |  | .TERMINAL,PIN:(SEE A13J208,545,615 REPL)                                                                                                                              |             |                 |
| -12                    | ----                  |                  |        | 1   |           |  |  |  |  | .CONN,RCPT:(SEE A13J300 REPL)                                                                                                                                         |             |                 |
| -13                    | ----                  |                  |        | 28  |           |  |  |  |  | .TERM,TEST POINT:(SEE A13TP103,106,111,<br>- .115,148,190,201,204,208,218,225,228,<br>- .281,285,318,321,325,328,378,418,481,<br>- .485,501,511,514,515,548,678 REPL) |             |                 |
| -14                    | 175-0284-00           |                  |        | 1   |           |  |  |  |  | .CONN,RCPT,ELEC:(SEE A13J500 REPL)                                                                                                                                    |             |                 |
| -15                    | ----                  |                  |        | AR  |           |  |  |  |  | .CABLE,RF:50 OHM COAX,GRAY PVC JKT                                                                                                                                    | 90484       | DAB70J AAA GRAY |
| -16                    | 105-0160-04           |                  |        | 1   |           |  |  |  |  | CKT BOARD ASSY:16 CHANNEL DATA ACQUISITION<br>(SEE A14 REPL)                                                                                                          |             |                 |
| -17                    | 214-1337-00           |                  |        | 1   |           |  |  |  |  | .EJECTOR,CKT BD:YELLOW PLASTIC<br>***** (ATTACHING PARTS)*****                                                                                                        | 80009       | 105-0160-04     |
| -18                    | 136-0578-00           |                  |        | 1   |           |  |  |  |  | .PIN,SPRING:0.10 OD X 0.25 INCH L,STL<br>***** (END ATTACHING PARTS)*****                                                                                             | 80009       | 214-1337-00     |
| -19                    | 136-0260-02           |                  |        | 1   |           |  |  |  |  | .SKT,PL-IN ELEK:MICROCKT,24 PIN,LOW PROFIL                                                                                                                            | 73803       | C S9002-24      |
| -20                    | ----                  |                  |        | 12  |           |  |  |  |  | .SKT,PL-IN ELEK:MICROCIRCUIT,16 DIP,LOW CL                                                                                                                            | 71785       | 133-51-92-008   |
| -21                    | ----                  |                  |        | -   |           |  |  |  |  | .TERM,TEST POINT:(SEE A14TP194,205,211,<br>- .230,265,266,294,336,363,604,635,680 REPL)                                                                               |             |                 |
| -22                    | ----                  |                  |        | 2   |           |  |  |  |  | .CONN,RCPT,ELEC:(SEE A14J200,J400 REPL)                                                                                                                               |             |                 |
| -23                    | 105-0160-04           |                  |        | 1   |           |  |  |  |  | .CKT BOARD ASSY:32 CHANNEL PATT GEN EXPANS<br>(SEE A17 REPL)                                                                                                          | 80009       | 105-0160-04     |
| -24                    | 214-1337-00           |                  |        | 1   |           |  |  |  |  | .EJECTOR,CKT BD:YELLOW PLASTIC<br>***** (ATTACHING PARTS)*****                                                                                                        | 80009       | 105-0160-04     |
| -25                    | ----                  |                  |        | 13  |           |  |  |  |  | .PIN,SPRING:0.10 OD X 0.25 INCH L,STL<br>***** (END ATTACHING PARTS)*****                                                                                             | 80009       | 214-1337-00     |
| -26                    | ----                  |                  |        | -   |           |  |  |  |  | .TERM,TEST POINT:(SEE A17TP100,108,138,142<br>- .150,349,353,400,463,535,550,600,605 REPL)                                                                            |             |                 |
| -27                    | ----                  |                  |        | 4   |           |  |  |  |  | .CONN,RCPT,ELEC:(SEE A17J100,300,500,<br>- .600 REPL)                                                                                                                 |             |                 |
| -28                    | 105-0160-04           |                  |        | 1   |           |  |  |  |  | CKT BOARD ASSY:32 CHAN DATA ACQUISITION<br>(SEE A12 REPL)                                                                                                             |             |                 |
| -29                    | 214-1337-00           |                  |        | 1   |           |  |  |  |  | .EJECTOR,CKT BD:YELLOW PLASTIC<br>***** (ATTACHING PARTS)*****                                                                                                        | 80009       | 105-0160-04     |
| -30                    | 131-0993-00           |                  |        | 5   |           |  |  |  |  | .PIN,SPRING:0.10 OD X 0.25 INCH L,STL<br>***** (END ATTACHING PARTS)*****                                                                                             | 80009       | 214-1337-00     |
| -31                    | ----                  |                  |        | 15  |           |  |  |  |  | .BUS,CONDUCTOR:2 WIRE BLACK                                                                                                                                           | 00779       | 850100-01       |
| -32                    | ----                  |                  |        | 16  |           |  |  |  |  | .TERMINAL,PIN:(SEE A12J103,241,243,441,<br>- .445 REPL)                                                                                                               |             |                 |
| -33                    | ----                  |                  |        | 4   |           |  |  |  |  | .TERM,TEST POINT:(SEE A12TP121,131,147,<br>- .148,160,161,162,209,281,331,409,441,<br>- .510,611,651,681 REPL)                                                        |             |                 |
|                        | ----                  |                  |        | -   |           |  |  |  |  | .CONN,RCPT,ELEC:(SEE A12J101,301,501,<br>- .701 REPL)                                                                                                                 |             |                 |



DAS 9109



REV JUN 1982

DAS 9100 SERIES

FIG. 7 DAS 9100 MODULES

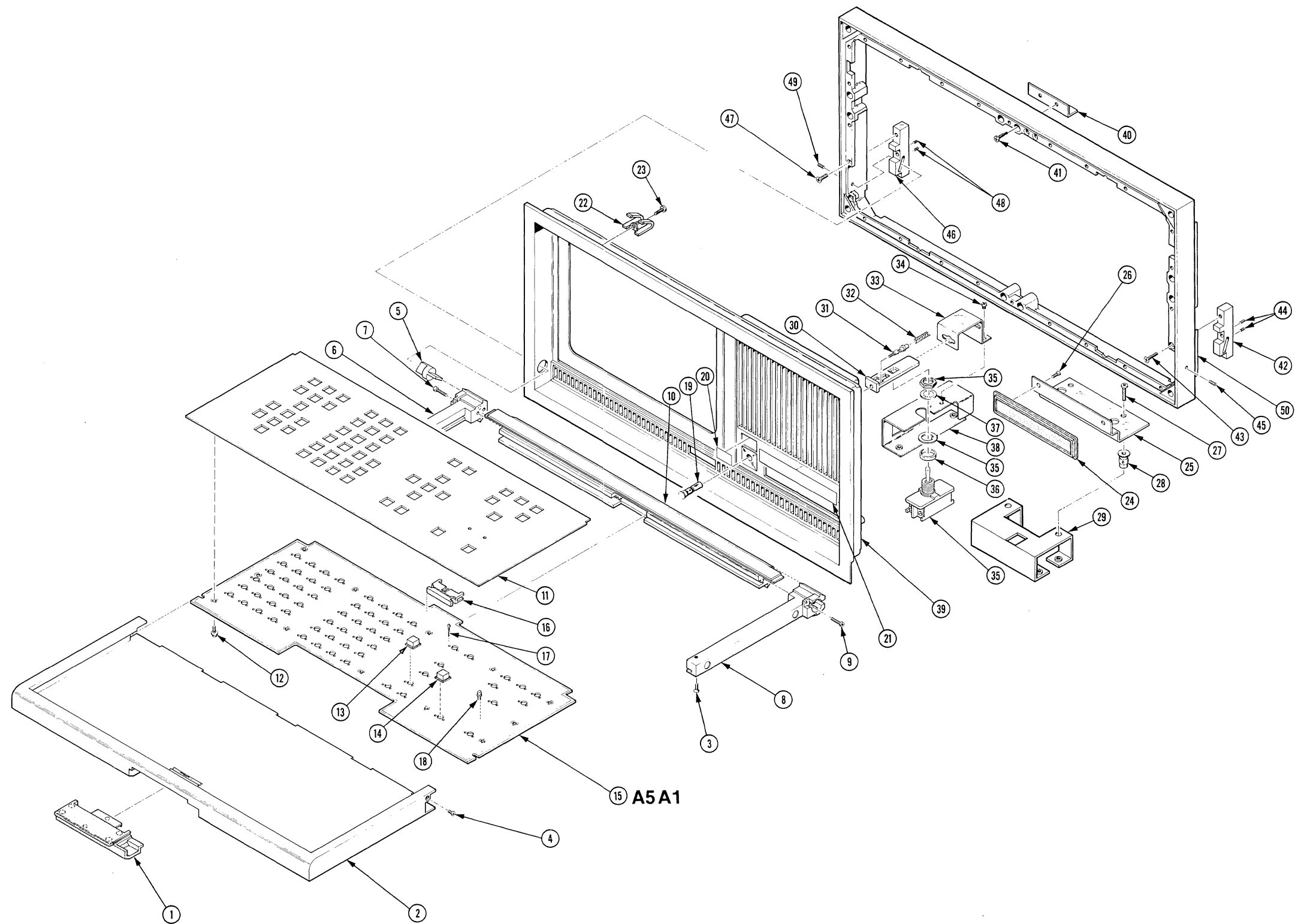


FIG. 8 DAS 9129 FRONT PANEL

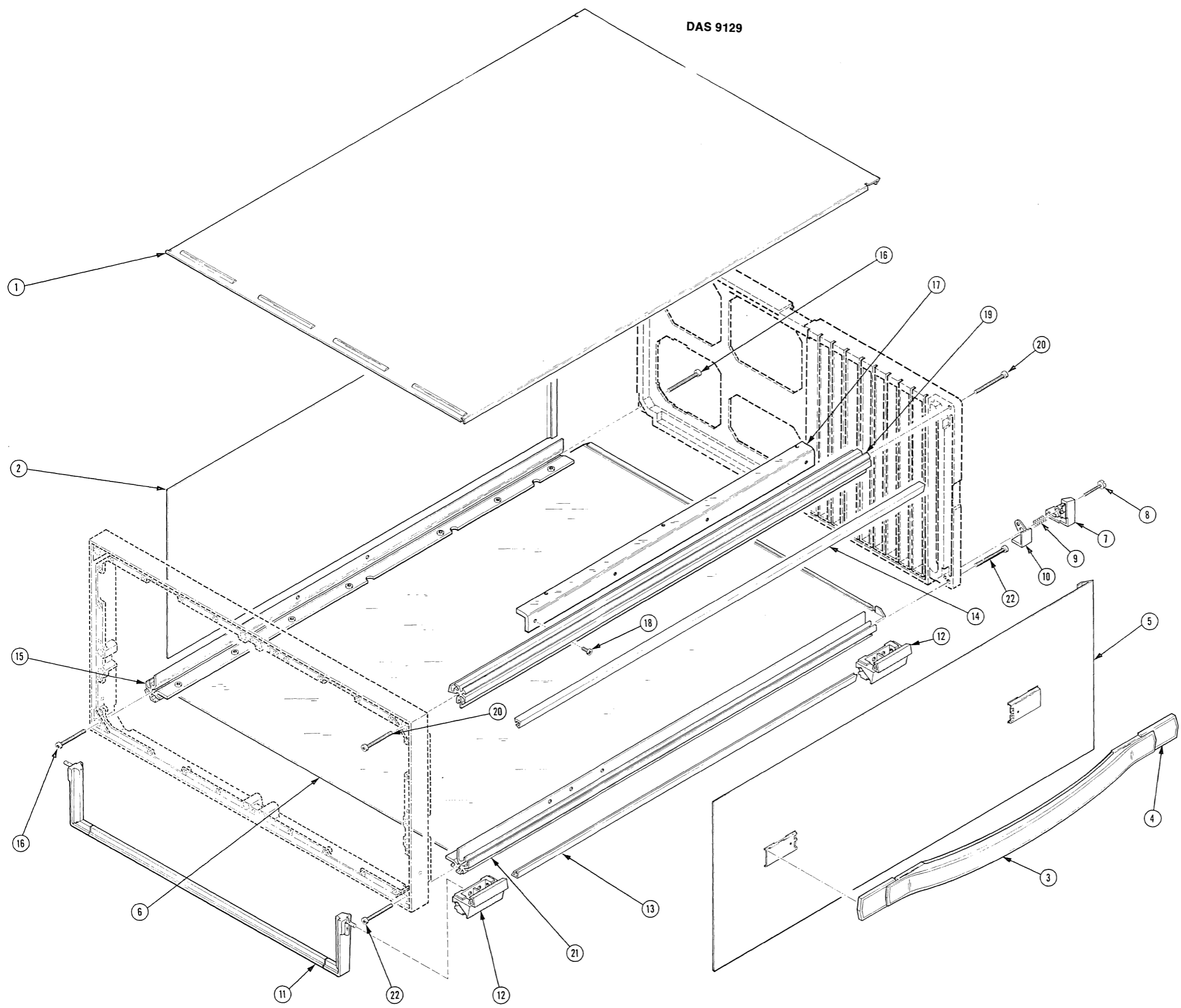
| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                                                      | Mfr   |                 |
|------------------------|-----------------------|------------------|--------|-----|-----------|-------------------------------------------------------------------------|-------|-----------------|
|                        |                       | Eff              | Dscont |     |           |                                                                         | Code  | Mfr Part Number |
| 8-1                    | 105-0891-00           |                  |        | 1   |           | LATCH,KEYBOARD:                                                         | 80009 | 105-0891-00     |
| -2                     | 426-1773-01           |                  |        | 1   |           | FRAME SECT,KYBD:<br>*****ATTACHING PARTS*****                           | 80009 | 426-1773-01     |
| -3                     | 211-0038-00           |                  |        | 2   |           | SCREW,MACHINE:4-40 X 0.312,FLH,100 DEG                                  | 83385 | ORD BY DESCR    |
| -4                     | 211-0253-00           |                  |        | 2   |           | SCREW,CAP.:4-40 X 0.5 L,HEX SCH,SST<br>*****END ATTACHING PARTS*****    | 000EP | ORD BY DESCR    |
| -5                     | 214-3120-00           |                  |        | 2   |           | PIVOT,KEYBOARD:0.5 DIA                                                  | 80009 | 214-3120-00     |
| -6                     | 386-4499-01           |                  |        | 1   |           | SUPPORT,KYBD:LEFT HINGE<br>*****ATTACHING PARTS*****                    | 80009 | 386-4499-01     |
| -7                     | 211-0253-00           |                  |        | 2   |           | SCREW,CAP.:4-40 X 0.5 L,HEX SCH,SST<br>*****END ATTACHING PARTS*****    | 000EP | ORD BY DESCR    |
| -8                     | 386-4500-01           |                  |        | 1   |           | SUPPORT,KYBD:RIGHT HINGE<br>*****ATTACHING PARTS*****                   | 80009 | 386-4500-01     |
| -9                     | 211-0253-00           |                  |        | 2   |           | SCREW,CAP.:4-40 X 0.5 L,HEX SCH,SST<br>*****END ATTACHING PARTS*****    | 000EP | ORD BY DESCR    |
| -10                    | 426-1775-00           |                  |        | 1   |           | FRAME SECT,KYBD:REAR                                                    | 80009 | 426-1775-00     |
| -11                    | 333-2698-00           |                  |        | 1   |           | PANEL,FRONT:KEYBOARD<br>*****ATTACHING PARTS*****                       | 80009 | 333-2698-00     |
| -12                    | 211-0661-00           |                  |        | 10  |           | SCREW,MACHINE:4-40 X 0.25 INCH,PNH,STL<br>*****END ATTACHING PARTS***** | 78189 | ORD BY DESCR    |
| -13                    | 366-2030-00           |                  |        | 22  |           | PUSH BUTTON:IVORY GRAY,0.4 SQ X 0.175                                   | 000FU | OBD             |
|                        | 366-2030-01           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,1                                                | 80009 | 366-2030-01     |
|                        | 366-2030-02           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,2                                                | 000FU | OBD             |
|                        | 366-2030-03           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,3                                                | 000FU | OBD             |
|                        | 366-2030-04           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,4                                                | 000FU | OBD             |
|                        | 366-2030-05           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,5                                                | 000FU | OBD             |
|                        | 366-2030-06           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,6                                                | 000FU | OBD             |
|                        | 366-2030-07           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,7                                                | 000FU | OBD             |
|                        | 366-2030-08           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,8                                                | 000FU | OBD             |
|                        | 366-2030-09           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,9                                                | 000FU | OBD             |
|                        | 366-2030-10           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,0                                                | 000FU | OBD             |
|                        | 366-2030-11           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,A                                                | 000FU | OBD             |
|                        | 366-2030-12           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,B                                                | 000FU | OBD             |
|                        | 366-2030-13           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,C                                                | 000FU | OBD             |
|                        | 366-2030-14           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,D                                                | 000FU | OBD             |
|                        | 366-2030-15           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,E                                                | 000FU | OBD             |
|                        | 366-2030-16           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,F                                                | 000FU | 366-2030-16     |
|                        | 366-2030-17           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,NEXT                                             | 000FU | OBD             |
|                        | 366-2030-18           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,DEL/LINE                                         | 000FU | OBD             |
|                        | 366-2030-19           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,ADD/LINE                                         | 000FU | OBD             |
|                        | 366-2030-20           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,DON'T                                            | 000FU | OBD             |
|                        | 366-2030-21           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,DECR                                             | 000FU | OBD             |
|                        | 366-2030-22           |                  |        | 1   |           | PUSH BUTTON:IVORY GRAY,INCR                                             | 000FU | OBD             |
| -14                    | 366-2033-00           |                  |        | 2   |           | PUSH BUTTON:DOVE GRAY,0.4 SQ X 0.175 H                                  | 000FU | OBD             |
|                        | 366-2033-01           |                  |        | 4   |           | PUSH BUTTON:DOVE GRAY,UP ARROW                                          | 000FU | OBD             |
|                        | 366-2033-02           |                  |        | 2   |           | PUSH BUTTON:DOVE GRAY,DELTA                                             | 000FU | OBD             |
| -15                    | -----                 |                  |        | 1   |           | CKT BOARD ASSY:KEYBOARD(SEE A5A1 REPL)                                  |       |                 |
| -16                    | -----                 |                  |        | 1   |           | .CONN,RCPT,ELEC:(SEE A5A1J141 REPL)                                     |       |                 |
| -17                    | -----                 |                  |        | 2   |           | .TERM,TEST POINT:(SEE A5A1TP115,TP249 REPL)                             |       |                 |
| -18                    | -----                 |                  |        | 2   |           | .LT EMITTING DIO:(SEE A5A1DS572,DS577 REPL)                             |       |                 |
| -19                    | 366-1859-00           |                  |        | 1   |           | KNOB:SLATE GRAY,PWR SW,4-40 INT                                         | 80009 | 366-1859-00     |
| -20                    | 334-4183-00           |                  |        | 1   |           | MARKER,IDENT:MKD POWER ON/OFF                                           | 80009 | 334-4183-00     |
| -21                    | 334-5013-01           |                  |        | 1   |           | EMBLEM:TEKTRONIX                                                        | 80009 | 334-5013-01     |
| -22                    | 344-0343-00           |                  |        | 4   |           | CLIP,RETAINIG:TRIM POLYCARBONATE<br>*****ATTACHING PARTS*****           | 80009 | 344-0343-00     |
| -23                    | 211-0008-00           |                  |        | 4   |           | SCREW,MACHINE:4-40 X 0.250,PNH,STL,POZ<br>*****END ATTACHING PARTS***** | 83385 | ORD BY DESCR    |
| -24                    | 200-2661-00           |                  |        | 1   |           | COVER,HOLE:PLASTIC                                                      | 80009 | 200-2661-00     |
| -25                    | 407-2860-00           |                  |        | 1   |           | BRACKET,COVER:ALUMINUM<br>*****ATTACHING PARTS*****                     | 80009 | 407-2860-00     |
| -26                    | 211-0511-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL                                | 83385 | ORD BY DESCR    |
| -27                    | 211-0504-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****END ATTACHING PARTS***** | 83385 | ORD BY DESCR    |

**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |         | Qty | 1 2 3 4 5 | Name & Description                                                      | Mfr   |                  |
|------------------------|-----------------------|------------------|---------|-----|-----------|-------------------------------------------------------------------------|-------|------------------|
|                        |                       | Eff              | Dscont  |     |           |                                                                         | Code  | Mfr Part Number  |
| 8-28                   | 220-0886-00           |                  |         | 2   |           | NUT,SLEEVE:6-32 X 0.437 OD,NEOPRENE                                     | 00613 | E-632            |
| -29                    | 407-2905-00           |                  |         | 1   |           | BRKT,TAPE DRIVE:ALUMINUM                                                | 80009 | 407-2905-00      |
| -30                    | 105-0874-00           |                  |         | 1   |           | ACTUATOR,SW:POWER                                                       | 80009 | 105-0874-00      |
| -31                    | 384-1606-00           |                  |         | 1   |           | EXTENSION SHAFT:1.08 L X 0.125 OD,ALUMINUM                              | 80009 | 384-1606-00      |
| -32                    | 214-2654-00           |                  |         | 1   |           | SPRING,HLCPS:0.188 OD X 0.69 L,CLOSED EN                                | 000CX | OBD              |
| -33                    | 407-2633-00           |                  |         | 1   |           | BRKT,SW PLT MTG:ALUMINUM<br>*****ATTACHING PARTS*****                   | 80009 | 407-2633-00      |
| -34                    | 211-0008-00           |                  |         | 2   |           | SCREW,MACHINE:4-40 X 0.250,PNH,STL,POZ<br>*****END ATTACHING PARTS***** | 83385 | ORD BY DESCR     |
| -35                    | -----                 |                  |         | 1   |           | SWITCH,SLIDE:(SEE S100 REPL)                                            |       |                  |
| -36                    | 361-1011-00           |                  |         | 1   |           | SPACER,SLEEVE:0.15 L X 0.567 ID,ALUMINUM                                | 80009 | 361-1011-00      |
| -37                    | 210-0021-00           |                  |         | 1   |           | WASHER,LOCK:INTL,0.476 ID X 0.60"OD ST                                  | 78189 | 1222-01-00-0541C |
| -38                    | 407-3022-00           |                  |         | 1   |           | BRACKET,SWITCH:ALUMINUM                                                 | 80009 | 407-3022-00      |
| -39                    | 101-0088-00           |                  |         | 1   |           | TRIM,DECORATIVE:FACADE                                                  | 80009 | 101-0088-00      |
| -40                    | 407-2921-00           |                  |         | 1   |           | BRACKET,CHASSIS:ALUMINUM<br>*****ATTACHING PARTS*****                   | 80009 | 407-2921-00      |
| -41                    | 211-0504-00           |                  |         | 2   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****END ATTACHING PARTS***** | 83385 | ORD BY DESCR     |
|                        | 179-2869-00           |                  |         | 1   |           | WIRING HARNESS:POWER SWITCH                                             | 80009 | 179-2869-00      |
| -42                    | 386-4513-00           |                  |         | 1   |           | SUPPORT,KYBD:MAINFRAME,RIGHT<br>*****ATTACHING PARTS*****               | 80009 | 386-4513-00      |
| -43                    | 211-0512-00           |                  |         | 2   |           | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST                               | 83385 | ORD BY DESCR     |
| -44                    | 213-0218-00           | B010100          | B020627 | 2   |           | SETSCREW:6-32 X 0.25 INCH,HEX SOC ST                                    | 74445 | ORD BY DESCR     |
|                        | 213-0885-00           | B020628          |         | 4   |           | SETSCREW:6-32 X 0.25,STL BLK OXD                                        | 14438 | ORD BY DESCR     |
| -45                    | 213-0115-00           |                  |         | 1   |           | SETSCREW:4-40 X 0.312 INCH,HEX SKT<br>*****END ATTACHING PARTS*****     | 50293 | ORD BY DESCR     |
| -46                    | 386-4510-00           |                  |         | 1   |           | SUPPORT,KYBD:MAINFRAME,LEFT<br>*****ATTACHING PARTS*****                | 80009 | 386-4510-00      |
| -47                    | 211-0512-00           |                  |         | 2   |           | SCREW,MACHINE:6-32 X 0.50" 100 DEG,FLH ST                               | 83385 | ORD BY DESCR     |
| -48                    | 213-0218-00           |                  |         | 2   |           | SETSCREW:6-32 X 0.25 INCH,HEX SOC ST                                    | 74445 | ORD BY DESCR     |
| -49                    | 213-0115-00           |                  |         | 1   |           | SETSCREW:4-40 X 0.312 INCH,HEX SKT<br>*****END ATTACHING PARTS*****     | 50293 | ORD BY DESCR     |
| -50                    | 426-1915-00           |                  |         | 1   |           | FRAME,CABINET:FRONT                                                     | 80009 | 426-1915-00      |

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty |   |   |   |   |   | Name & Description                                                         | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|------------------|--------|-----|---|---|---|---|---|----------------------------------------------------------------------------|-------------|-----------------|
|                        |                       | Eff              | Dscont |     | 1 | 2 | 3 | 4 | 5 |                                                                            |             |                 |
| 9-1                    | 390-0831-00           |                  |        | 1   |   |   |   |   |   | CABINET TOP:FULL RACK X 22.131                                             | 80009       | 390-0831-00     |
| -2                     | 390-0828-03           |                  |        | 1   |   |   |   |   |   | CABINET SIDE:8.75 X 22.131,EARTH BROWN                                     | 80009       | 390-0828-03     |
| -3                     | 367-0248-07           |                  |        | 1   |   |   |   |   |   | HANDLE,CARRYING:16.341 L,W/CLIP,PLASTIC                                    | 80009       | 367-0248-07     |
| -4                     | 200-2191-03           |                  |        | 2   |   |   |   |   |   | CAP.,RETAINER:PLASTIC,EARTH                                                | 80009       | 200-2191-03     |
| -5                     | 390-0829-07           |                  |        | 1   |   |   |   |   |   | CABINET SIDE:8.75 X 22.131,EARTH BROWN                                     | 80009       | 390-0829-07     |
| -6                     | 390-0832-00           |                  |        | 1   |   |   |   |   |   | CABINET BOTTOM:FULL RACK X 22.131                                          | 80009       | 390-0832-00     |
| -7                     | 343-0876-04           |                  |        | 4   |   |   |   |   |   | RTNR,CAB.COVER:OUTER CORNER,POLYCARBONATE<br>***** (ATTACHING PARTS)*****  | 80009       | 343-0876-04     |
| -8                     | 212-0140-00           |                  |        | 4   |   |   |   |   |   | SCREW,MACHINE:8-32 X 0.75,SPCL,0.375 OD                                    | 80009       | 212-0140-00     |
| -9                     | 214-3078-00           |                  |        | 4   |   |   |   |   |   | SPRING,HLCPS:0.24 OD X 0.5 L<br>***** (END ATTACHING PARTS)*****           | 80009       | 214-3078-00     |
| -10                    | 348-0727-01           | B010300          |        | 1   |   |   |   |   |   | FLIP STAND,CAB.:FULL RACK,ALUMINUM                                         | 80009       | 348-0727-01     |
| -11                    | 343-0875-03           |                  |        | 4   |   |   |   |   |   | RTNR,CAB.COVER:INNER CORNER,POLYCARBONATE                                  | 80009       | 343-0875-03     |
| -12                    | 348-0617-04           |                  |        | 4   |   |   |   |   |   | FOOT,CABINET:BOT,EARTH BROWN                                               | 80009       | 348-0617-04     |
| -13                    | 124-0402-03           |                  |        | 2   |   |   |   |   |   | STRIP,TRIM:CORNER W/STEP BOTTOM,PVC                                        | 80009       | 124-0402-03     |
| -14                    | 124-0401-03           |                  |        | 2   |   |   |   |   |   | STRIP,TRIM:CORNER W/STEP TOP,PVC                                           | 80009       | 124-0401-03     |
| -15                    | 426-1754-00           |                  |        | 1   |   |   |   |   |   | FRAME SECT,CAB.:BOTTOM,LEFT & RIGHT<br>***** (ATTACHING PARTS)*****        | 80009       | 426-1754-00     |
| -16                    | 213-0863-00           |                  |        | 2   |   |   |   |   |   | SCREW,TPG,TF:8-32 X 1.375,TAPTITE,FILH<br>***** (END ATTACHING PARTS)***** | 93907       | ORD BY DESCR    |
| -17                    | 407-2888-00           |                  |        | 1   |   |   |   |   |   | BRACKET,ANGLE:CIRCUIT BOARD COVER<br>***** (ATTACHING PARTS)*****          | 80009       | 407-2888-00     |
| -18                    | 211-0504-00           |                  |        | 4   |   |   |   |   |   | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS)***** | 83385       | ORD BY DESCR    |
| -19                    | 426-1753-00           |                  |        | 2   |   |   |   |   |   | FRAME SECT,CAB.:TOP,LEFT & RIGHT<br>***** (ATTACHING PARTS)*****           | 80009       | 426-1753-00     |
| -20                    | 213-0863-00           |                  |        | 4   |   |   |   |   |   | SCREW,TPG,TF:8-32 X 1.375,TAPTITE,FILH<br>***** (END ATTACHING PARTS)***** | 93907       | ORD BY DESCR    |
| -21                    | 426-1839-00           |                  |        | 1   |   |   |   |   |   | FRAME SECT,CAB.:BOTTOM,RIGHT<br>***** (ATTACHING PARTS)*****               | 80009       | 426-1839-00     |
| -22                    | 213-0863-00           |                  |        | 2   |   |   |   |   |   | SCREW,TPG,TF:8-32 X 1.375,TAPTITE,FILH<br>***** (END ATTACHING PARTS)***** | 93907       | ORD BY DESCR    |



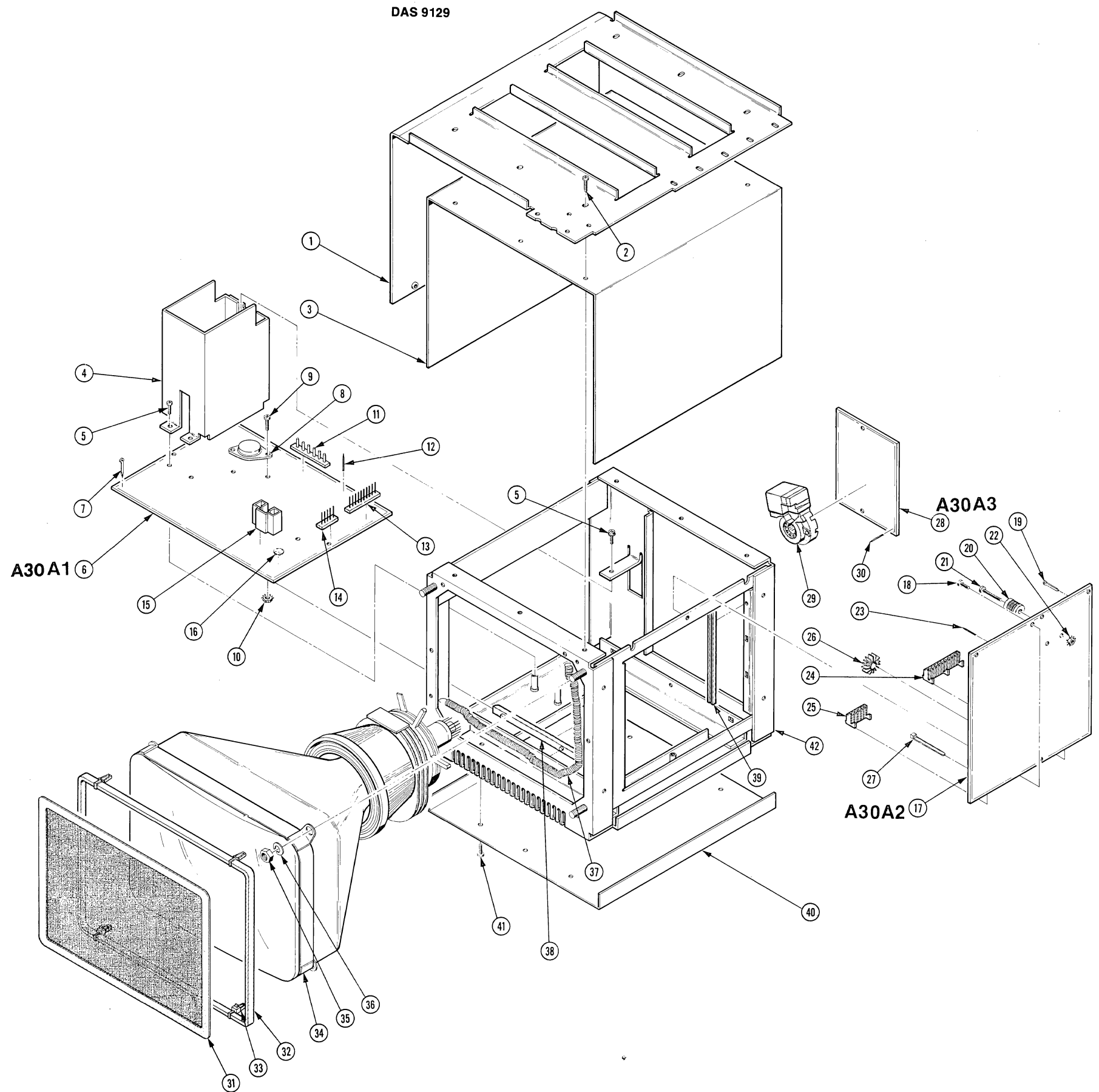


DAS 9129

REV APR 1983

DAS 9100 SERIES

FIG. 10 DAS 9129 CRT





| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |         | Qty | 1 2 3 4 5 | Name & Description                                                                                                       | Mfr   |                 |
|------------------------|-----------------------|------------------|---------|-----|-----------|--------------------------------------------------------------------------------------------------------------------------|-------|-----------------|
|                        |                       | Eff              | Dscont  |     |           |                                                                                                                          | Code  | Mfr Part Number |
| 10-1                   | 386-4800-00           |                  |         | 1   |           | SUPPORT,CHASSIS:DISPLAY,AL<br>***** (ATTACHING PARTS) *****                                                              | 80009 | 386-4800-00     |
| -2                     | 211-0504-00           |                  |         | 5   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****                                              | 83385 | ORD BY DESCR    |
| -3                     | 337-2971-00           |                  |         | 1   |           | SHIELD,CRT:                                                                                                              | 80009 | 337-2971-00     |
| -4                     | 337-2966-00           |                  |         | 1   |           | SHIELD,ELEC:TRANSFORMER<br>***** (ATTACHING PARTS) *****                                                                 | 80009 | 337-2966-00     |
| -5                     | 211-0507-00           |                  |         | 3   |           | SCREW,MACHINE:6-32 X 0.312 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****                                             | 83385 | ORD BY DESCR    |
| -6                     | -----                 |                  |         | 1   |           | CKT BOARD ASSY:DEFLECTION(SEE A30A1 REPL)                                                                                |       |                 |
| -7                     | -----                 |                  |         | 8   |           | .TERM,TEST POINT:(SEE A30A1TP175,TP259,<br>.TP262,TP265,TP268,TP270,TP272,TP275 REPL)                                    |       |                 |
| -8                     | -----                 |                  |         | 1   |           | .TRANSISTOR:(SEE A30A1Q443 REPL)<br>***** (ATTACHING PARTS) *****                                                        |       |                 |
| -9                     | 211-0507-00           |                  |         | 2   |           | .SCREW,MACHINE:6-32 X 0.312 INCH,PNH STL                                                                                 | 83385 | ORD BY DESCR    |
| -10                    | 210-0457-00           |                  |         | 2   |           | .NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL<br>***** (END ATTACHING PARTS) *****                                             | 83385 | ORD BY DESCR    |
| -11                    | -----                 |                  |         | 1   |           | .CONN,RCPT,ELEC:(SEE A30A1J635 REPL)                                                                                     |       |                 |
| -12                    | -----                 |                  |         | 24  |           | .TERMINAL,PIN:(SEE A30A1J615,J645,J650 REP                                                                               |       |                 |
| -13                    | -----                 |                  |         | 1   |           | .TERM,FEEDTRHU:(SEE A30A1J600 REPL)                                                                                      |       |                 |
| -14                    | -----                 |                  |         | 1   |           | .CONN,RCPT,ELEC:(SEE A30A1J100 REPL)                                                                                     |       |                 |
| -15                    | 214-2518-01           |                  |         | 1   |           | .HEAT SINK,XSTR:TO-202/TO-220,AL                                                                                         | 80009 | 214-2518-01     |
| -16                    | 342-0324-00           | B010151          |         | 3   |           | .INSULATOR,DISC:TO-5 TRANSISTOR                                                                                          | 13103 | 7717-5N-BLUE    |
| -17                    | -----                 |                  |         | 1   |           | CKT BOARD ASSY:Z-AXIS(SEE A30A2 REPL)<br>***** (ATTACHING PARTS) *****                                                   |       |                 |
| -18                    | 211-0507-00           |                  |         | 2   |           | SCREW,MACHINE:6-32 X 0.312 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****                                             | 83385 | ORD BY DESCR    |
| -19                    | -----                 |                  |         | -   |           | CKT BOARD ASSY INCLUDES:                                                                                                 |       |                 |
| -19                    | -----                 |                  |         | 13  |           | .TERM,TEST POINT:(SEE A30A2TP100,TP105,<br>.TP111,TP114,TP116,TP118,TP120,TP122,<br>.TP126,TP130,TP230,TP240,TP250 REPL) |       |                 |
| -20                    | -----                 |                  |         | 3   |           | .COIL,RF:(SEE A30A2L100,L111,L121 REPL)<br>***** (ATTACHING PARTS) *****                                                 |       |                 |
| -21                    | 211-0019-00           |                  |         | 3   |           | .SCREW,MACHINE:4-40 X 1.0 INCH,PNH STL                                                                                   | 83385 | ORD BY DESCR    |
| -22                    | 210-0586-00           |                  |         | 3   |           | .NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>***** (END ATTACHING PARTS) *****                                                    | 83385 | ORD BY DESCR    |
| -23                    | -----                 |                  |         | 6   |           | .TERMINAL,PIN:(SEE A30A2P320 REPL)                                                                                       |       |                 |
| -24                    | -----                 |                  |         | 1   |           | .CONN,RCPT,ELEC:(SEE A30A2P600 REPL)                                                                                     |       |                 |
| -25                    | -----                 |                  |         | 1   |           | .CONN,RCPT,ELEC:(SEE A30A2P100 REPL)                                                                                     |       |                 |
| -26                    | 214-1291-00           |                  |         | 3   |           | .HEAT SINK,ELEC:XSTR,0.72 OD X 0.375"H                                                                                   | 05820 | 207SB           |
| -27                    | 346-0120-00           |                  |         | 1   |           | .STRAP,TIEDOWN:5.5 L MIN,PLASTIC                                                                                         | 06383 | SST 1.5M        |
| -28                    | -----                 |                  |         | 1   |           | CKT BOARD ASSY:CRT SOCKET(SEE A30A3 REPL)                                                                                |       |                 |
| -29                    | 136-0782-00           |                  |         | 1   |           | .SKT,PL-IN,ELEC:CRT,10 PIN                                                                                               |       |                 |
| -30                    | -----                 |                  |         | 13  |           | .TERMINAL,PIN:(SEE A30A3J301,J320 REPL)                                                                                  |       |                 |
| -31                    | 378-0214-00           | B010100          | B020179 | 1   |           | FILTER,MESH:EMI DAS 9129                                                                                                 |       |                 |
| -32                    | -----                 |                  |         | 1   |           | COIL,RF:(SEE L100 REPL)                                                                                                  |       |                 |
| -33                    | 346-0154-00           |                  |         | 4   |           | STRAP,TIEDOWN:6.125 L,PLASTIC                                                                                            | 06383 | PLP1.51-M       |
| -34                    | -----                 |                  |         | 1   |           | ELECTRON TUBE:(SEE V315 REPL)<br>***** (ATTACHING PARTS) *****                                                           |       |                 |
| -35                    | 210-0411-00           |                  |         | 4   |           | NUT,PLAIN,HEX.:0.25-20 X 0.438 INCH STL                                                                                  | 73743 | ORD BY DESCR    |
| -36                    | 210-0016-00           |                  |         | 4   |           | WASHER,LOCK:SPLIT,0.259 ID X 0.489 OD,S<br>***** (END ATTACHING PARTS) *****                                             | 77339 | 6507            |
| -37                    | 214-3385-00           |                  |         | 1   |           | SPRING,HLEXT:0.25 OD X 7.0 L,SST                                                                                         | 80009 | 214-3385-00     |
| -38                    | 351-0675-01           |                  |         | 2   |           | GUIDE,CKT BD:DELRLN,7.0 L                                                                                                | 80009 | 351-067-01      |
| -39                    | 351-0604-00           |                  |         | 2   |           | GUIDE,CKT BD:PLASTIC                                                                                                     | 80009 | 351-0604-00     |
| -40                    | 337-2974-00           |                  |         | 1   |           | SHIELD,CRT:BOTTOM<br>***** (ATTACHING PARTS) *****                                                                       | 80009 | 337-2974-00     |
| -41                    | 211-0507-00           |                  |         | 2   |           | SCREW,MACHINE:6-32 X 0.312 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****                                             | 83385 | ORD BY DESCR    |
| -42                    | 441-1634-01           |                  |         | 1   |           | CHASSIS,DAS:DISPLAY                                                                                                      | 80009 | 441-1634-01     |

**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                                                          | Mfr   |                  |
|------------------------|-----------------------|------------------|--------|-----|-----------|-----------------------------------------------------------------------------|-------|------------------|
|                        |                       | Eff              | Dscont |     |           |                                                                             | Code  | Mfr Part Number  |
| 11-1                   | 334-4398-00           |                  |        | 1   |           | MARKER,IDENT:MKD COARD CAGE                                                 | 80009 | 334-4398-00      |
| -2                     | 200-2748-00           |                  |        | 1   |           | COVER,CKT BOARD:POLYCARBONATE,BLACK<br>*****ATTACHING PARTS*****            | 80009 | 200-2748-00      |
| -3                     | 213-0919-00           |                  |        | 6   |           | THUMBSCREW:6-32,0.312 X 0.25 OD                                             | 80009 | 213-0919-00      |
| -4                     | 343-1063-00           |                  |        | 6   |           | RTNR,THUMBSCREW:BRASS<br>*****END ATTACHING PARTS*****                      | 80009 | 343-1063-00      |
| -5                     | 200-2724-00           |                  |        | 1   |           | COVER,PWR SPLY:ALUMINUM<br>*****ATTACHING PARTS*****                        | 80009 | 200-2724-00      |
| -6                     | 211-0541-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 0.25"100 DEG,FLH STL<br>*****END ATTACHING PARTS*****  | 83385 | ORD BY DESCR     |
| -7                     | -----                 |                  |        | 1   |           | CKT BOARD ASSY:MAINFRAME POWER(SEE A2 REPL<br>*****ATTACHING PARTS*****     |       |                  |
| -8                     | 211-0507-00           |                  |        | 3   |           | SCREW,MACHINE:6-32 X 0.312 INCH,PNH STL<br>*****END ATTACHING PARTS*****    | 83385 | ORD BY DESCR     |
| -9                     | 131-0608-00           |                  |        | 2   |           | CKT BOARD ASSY INCLUDES:<br>.TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD       | 22526 | 47357            |
| -10                    | 214-0579-00           |                  |        | 3   |           | .TERM,TEST POINT:BRS CD PL                                                  | 80009 | 214-0579-00      |
| -11                    | 131-0787-00           |                  |        | 12  |           | .CONTACT,ELEC:0.64 INCH LONG                                                | 22526 | 47359            |
| -12                    | 214-3231-00           |                  |        | 1   |           | .HEAT SINK,DIODE:T0-3P,AL<br>*****ATTACHING PARTS*****                      | 80009 | 214-3231-00      |
| -13                    | 211-0510-00           |                  |        | 2   |           | .SCREW,MACHINE:6-32 X 0.375,PNH,STL,CD PL                                   | 83385 | ORD BY DESCR     |
| -14                    | 210-0811-00           |                  |        | 2   |           | .WSHR,SHOULDERED:0.125 ID X 0.50 INCH OD                                    | 86928 | 5604-47          |
| -15                    | 342-0354-00           |                  |        | 1   |           | .INSULATOR,PLATE:TRANSISTOR,SILICON RUBBER<br>*****END ATTACHING PARTS***** | 000BB | 7403-10-52       |
| -16                    | -----                 |                  |        | 1   |           | .SEMICONV DEVICE:(SEE A2CR430 REPL)<br>*****ATTACHING PARTS*****            |       |                  |
| -17                    | 211-0097-00           |                  |        | 1   |           | .SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL                                    | 83385 | ORD BY DESCR     |
| -18                    | 210-1178-00           |                  |        | 1   |           | .WASHER,SHLDR:U/W T0-220 TRANSISTOR                                         | 49671 | DF137A           |
| -19                    | 342-0458-00           |                  |        | 1   |           | .INSULATOR,PLATE:TRANSISTOR,MICA<br>*****END ATTACHING PARTS*****           | 08530 | OBD              |
| -20                    | 214-3302-00           |                  |        | 1   |           | .HEAT SINK,DIODE:D0-4,AL<br>*****ATTACHING PARTS*****                       | 80009 | 214-3302-00      |
| -21                    | 212-0507-00           |                  |        | 2   |           | .SCREW,MACHINE:10-32 X 0.375 INCH,PNH STL<br>*****END ATTACHING PARTS*****  | 83385 | ORD BY DESCR     |
| -22                    | 131-2264-00           |                  |        | 3   |           | .CONN,RCPT,ELEC:CKT BD,10 CONTACT,R ANGLE                                   | 80009 | 131-2264-00      |
| -23                    | 200-2269-00           |                  |        | 1   |           | .COVER,XSTR:<br>*****ATTACHING PARTS*****                                   | 80009 | 200-2269-00      |
| -24                    | 211-0559-00           |                  |        | 2   |           | .SCREW,MACHINE:6-32 X 0.375"100 DEG,FLH ST                                  | 83385 | ORD BY DESCR     |
| -25                    | 361-1078-00           |                  |        | 1   |           | .SPACER,HT SINK:                                                            | 80009 | 361-1078-00      |
| -26                    | 342-0449-01           |                  |        | 1   |           | .INSULATOR,PLATE:TRANSISTOR,ALUMINA,PRINTE<br>*****END ATTACHING PARTS***** | 80009 | 342-0449-01      |
| -27                    | 386-4568-00           |                  |        | 1   |           | .PLATE,HEAT SINK:ALUMINUM                                                   | 80009 | 386-4568-00      |
| -28                    | 342-0564-00           |                  |        | 1   |           | .INSULATOR,PLATE:MAINFRAME POWER BOARD                                      | 80009 | 342-0564-00      |
| -29                    | 380-0632-00           |                  |        | 1   |           | HSG,PWR SPLY:<br>*****ATTACHING PARTS*****                                  | 80009 | 380-0632-00      |
| -30                    | 211-0289-00           |                  |        | 2   |           | SCREW,SHOULDER:4-40 X 0.205 BRS CU-SN<br>*****END ATTACHING PARTS*****      | 80009 | 211-0289-00      |
| -31                    | 200-2269-00           |                  |        | 1   |           | COVER,XSTR:<br>*****ATTACHING PARTS*****                                    | 80009 | 200-2269-00      |
| -32                    | 211-0511-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL                                    | 83385 | ORD BY DESCR     |
| -33                    | 342-0449-01           |                  |        | 1   |           | INSULATOR,PLATE:TRANSISTOR,ALUMINA,PRINTED                                  | 80009 | 342-0449-01      |
| -34                    | 342-0458-00           |                  |        | 1   |           | INSULATOR,PLATE:TRANSISTOR,MICA<br>*****END ATTACHING PARTS*****            | 08530 | OBD              |
| -35                    | 103-0079-00           |                  |        | 1   |           | ADPTR,ELCTD PL:BRS ALBALOY PLATED<br>*****ATTACHING PARTS*****              | 80009 | 103-0079-00      |
| -36                    | 210-0586-00           |                  |        | 1   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>*****END ATTACHING PARTS*****            | 83385 | ORD BY DESCR     |
| -37                    | -----                 |                  |        | 1   |           | RES.,FXD,WW:(SEE R720 REPL)<br>*****ATTACHING PARTS*****                    |       |                  |
| -38                    | 211-0030-00           |                  |        | 1   |           | SCREW,MACHINE:2-56 X 0.25"82 DEG,FLH STL                                    | 83385 | ORD BY DESCR     |
| -39                    | 210-0405-00           |                  |        | 1   |           | NUT,PLAIN,HEX.:2-56 X 0.188 INCH,BRS                                        | 73743 | 12157-50         |
| -40                    | 210-0001-00           |                  |        | 1   |           | WASHER,LOCK:INTL,0.092 ID X 0.18"OD,ST<br>*****END ATTACHING PARTS*****     | 78189 | 1202-00-00-0541C |

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                                                            | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|------------------|--------|-----|-----------|-------------------------------------------------------------------------------|-------------|------------------|
|                        |                       | Eff              | Dscont |     |           |                                                                               |             |                  |
| 11-41                  | 220-0449-00           |                  |        | 4   |           | NUT,SLEEVE:4-40 X 0.188 X 0.50" LONG<br>***** (ATTACHING PARTS) *****         | 80009       | 220-0449-00      |
| -42                    | 211-0661-00           |                  |        | 4   |           | SCREW,MACHINE:4-40 X 0.25 INCH,PNH,STL<br>***** (END ATTACHING PARTS) *****   | 78189       | ORD BY DESCR     |
| -43                    | 129-0826-00           |                  |        | 2   |           | SPACER,POST:0.59 L,W/10-32 EXT THD ONE<br>***** (ATTACHING PARTS) *****       | 80009       | 129-0826-00      |
| -44                    | 211-0504-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -45                    | 214-3094-00           |                  |        | 1   |           | HEAT SINK,DIODE:(2)D0-4,AL<br>***** (ATTACHING PARTS) *****                   | 80009       | 214-3094-00      |
| -46                    | -----                 |                  |        | 2   |           | SEMICONV DEVICE:(SEE CR555,CR755 REPL)                                        |             |                  |
| -47                    | 342-0595-00           |                  |        | 1   |           | INSULATOR,PLATE:HEAT SINK,SILICON RUBBER<br>***** (END ATTACHING PARTS) ***** | 80009       | 342-0595-00      |
| -48                    | -----                 |                  |        | 1   |           | CKT BOARD ASSY:5V AT 15A POWER(SEE A3A1 RE                                    |             |                  |
| -49                    | 131-2264-00           |                  |        | 2   |           | .CONN,RCPT,ELEC:CKT BD,10 CONTACT,R ANGLE                                     | 80009       | 131-2264-00      |
| -50                    | 131-0608-00           |                  |        | 4   |           | .TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD                                     | 22526       | 47357            |
| -51                    | 214-0579-00           |                  |        | 1   |           | .TERM,TEST POINT:BRS CD PL                                                    | 80009       | 214-0579-00      |
| -52                    | 337-3037-00           |                  |        | 2   |           | SHIELD,ELEC:RELAY<br>***** (ATTACHING PARTS) *****                            | 80009       | 337-3037-00      |
| -53                    | 211-0504-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL                                        | 83385       | ORD BY DESCR     |
| -54                    | 129-0278-00           |                  |        | 2   |           | SPACER,POST:6-32 X 0.25 X 1.11 INCHES                                         | 80009       | 129-0278-00      |
| -55                    | 210-0202-00           |                  |        | 2   |           | TERMINAL,LUG:0.146 ID,LOCKING,BRZ TINNED<br>***** (END ATTACHING PARTS) ***** | 78189       | 2104-06-00-2520N |
| -56                    | 210-0205-00           |                  |        | 1   |           | TERMINAL,LUG:SE #8<br>***** (ATTACHING PARTS) *****                           | 86928       | 5442-7           |
| -57                    | 211-0016-00           |                  |        | 1   |           | SCREW,MACHINE:4-40 X 0.625 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****  | 83385       | ORD BY DESCR     |
| -58                    | 210-0205-00           |                  |        | 1   |           | TERMINAL,LUG:SE #8<br>***** (ATTACHING PARTS) *****                           | 86928       | 5442-7           |
| -59                    | 211-0008-00           |                  |        | 1   |           | SCREW,MACHINE:4-40 X 0.250,PNH,STL,POZ<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -60                    | -----                 |                  |        | 1   |           | RELAY,SOL STATE:(SEE K101 REPL)                                               |             |                  |
| -61                    | 407-2876-00           |                  |        | 1   |           | BRKT,PWR SUPPLY:<br>***** (ATTACHING PARTS) *****                             | 80009       | 407-2876-00      |
| -62                    | 211-0504-00           |                  |        | 8   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -63                    | 334-4194-00           |                  |        | 1   |           | MARKER,IDENT:MKD CONFIGURATION                                                | 80009       | 334-4194-00      |
| -64                    | 348-0442-00           |                  |        | 1   |           | GROMMET,PLASTIC:BLACK,ROUND,0.375" ID                                         | 28520       | SB-500-6         |
| -65                    | 380-0630-01           |                  |        | 1   |           | HOUSING,FAN:<br>***** (ATTACHING PARTS) *****                                 | 80009       | 380-0630-01      |
| -66                    | 211-0504-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -67                    | 407-2875-00           |                  |        | 2   |           | BRACKET,CMPNT:FAN HOUSING,AL<br>***** (ATTACHING PARTS) *****                 | 80009       | 407-2875-00      |
| -68                    | 211-0504-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -69                    | 119-0147-00           |                  |        | 1   |           | FAN,AXIAL:115V,50-60HZ,14W<br>***** (ATTACHING PARTS) *****                   | 82877       | 028021           |
| -70                    | 211-0552-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 2 INCH,PNH STL                                           | 83385       | ORD BY DESCR     |
| -71                    | 210-0457-00           |                  |        | 4   |           | NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -72                    | 200-2222-00           |                  |        | 1   |           | GUARD,FAN:                                                                    | 81041       | 6-182-033        |
| -73                    | 351-0604-00           |                  |        | 1   |           | GUIDE,CKT BD:PLASTIC                                                          | 80009       | 351-0604-00      |
| -74                    | 351-0628-01           |                  |        | 3   |           | GUIDE,CKT BOARD:PLASTIC,5.22 L<br>***** (ATTACHING PARTS) *****               | 80009       | 351-0628-01      |
| -75                    | 211-0504-00           |                  |        | 9   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) *****   | 83385       | ORD BY DESCR     |
| -76                    | 337-2965-00           |                  |        | 1   |           | SHIELD,ELEC:THERMO SWITCH<br>***** (ATTACHING PARTS) *****                    | 80009       | 337-2965-00      |
| -77                    | 210-0586-00           |                  |        | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>***** (END ATTACHING PARTS) *****          | 83385       | ORD BY DESCR     |

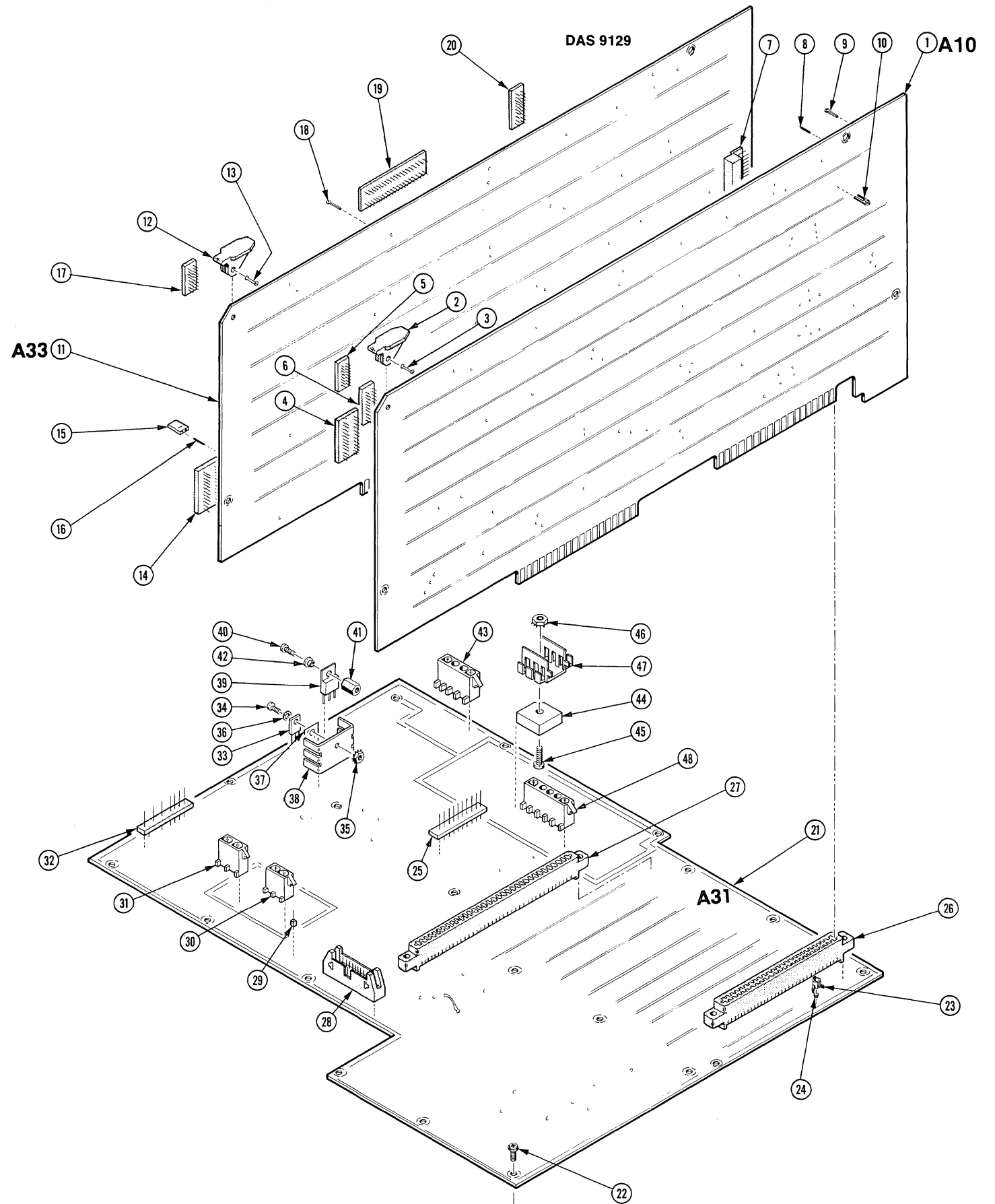
**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No.<br>Eff Dscont | Qty | 1 2 3 4 5 | Name & Description                                                          | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|--------------------------------|-----|-----------|-----------------------------------------------------------------------------|-------------|-----------------|
| 11-78                  | -----                 |                                | 1   |           | SWITCH,THRMSTC:(SEE S101 REPL)<br>***** (ATTACHING PARTS) *****             |             |                 |
| -79                    | 210-0586-00           |                                | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>***** (END ATTACHING PARTS) *****        | 83385       | ORD BY DESCR    |
| -80                    | 252-0571-00           |                                | 1   |           | NEOPRENE EXTR:CHAN,0.234 X 0.156                                            | 85471       | DIE#1353        |
| -81                    | 407-3870-00           |                                | 1   |           | BRACKET,CKT BD:ALUMINUM<br>***** (ATTACHING PARTS) *****                    | 80009       | 407-3870-00     |
| -82                    | 211-0504-00           |                                | 8   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>***** (END ATTACHING PARTS) ***** | 83385       | ORD BY DESCR    |
| -83                    | 337-3028-00           |                                | 1   |           | SHIELD,ELEC:                                                                | 80009       | 337-3028-00     |
| -84                    | 334-3672-00           |                                | 1   |           | MARKER,IDENT:MARKED CAUTION                                                 | 80009       | 334-3672-00     |
| -85                    | 441-1633-00           |                                | 1   |           | CHASSIS,SYSTEM:MAIN                                                         | 80009       | 441-1633-00     |





FIG. 12 DAS 9129  
CIRCUIT BOARDS



| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                                                            | Mfr   |                 |
|------------------------|-----------------------|------------------|--------|-----|-----------|-------------------------------------------------------------------------------|-------|-----------------|
|                        |                       | Eff              | Dscont |     |           |                                                                               | Code  | Mfr Part Number |
| 12-1                   | -----                 |                  |        | 1   |           | CKT BOARD ASSY:TRIG/TIME BASE(SEE A10 REPL                                    |       |                 |
| -2                     | 105-0160-04           |                  |        | 1   |           | .EJECTOR,CKT BD:YELLOW PLASTIC<br>***** (ATTACHING PARTS)*****                | 80009 | 105-0160-04     |
| -3                     | 214-1337-00           |                  |        | 1   |           | .PIN,SPRING:0.10 OD X 0.25 INCH L,STL<br>***** (END ATTACHING PARTS)*****     | 80009 | 214-1337-00     |
| -4                     | 136-0578-00           |                  |        | 13  |           | .SKT,PL-IN ELEK:MICROCKT,24 PIN,LOW PROFIL                                    | 73803 | C S9002-24      |
| -5                     | 136-0260-02           |                  |        | 3   |           | .SKT,PL-IN ELEK:MICROCIRCUIT,16 DIP,LOW CL                                    | 71785 | 133-51-92-008   |
| -6                     | 136-0634-00           |                  |        | 1   |           | .SOCKET,PLUG-IN:20 LEAD DIP,CKT BD MTG                                        | 73803 | CS9002-20       |
| -7                     | -----                 |                  |        | 1   |           | .CONN,RCPT,ELEC:(SEE A10J400 REPL)                                            |       |                 |
| -8                     | -----                 |                  |        | 12  |           | .TERMINAL,PIN:(SEE A10J195,J200,J600 REPL)                                    |       |                 |
| -9                     | -----                 |                  |        | 18  |           | .TERM,TEST POINT:(SEE A10TP105,TP110,TP208                                    |       |                 |
|                        | -----                 |                  |        | -   |           | .TP221,TP245,TP248,TP255,TP303,TP341,TP378                                    |       |                 |
|                        | -----                 |                  |        | -   |           | .TP380,TP387,TP473,TP537,TP545,TP565,TP567                                    |       |                 |
|                        | -----                 |                  |        | -   |           | .TP573 REPL)                                                                  |       |                 |
| -10                    | 131-1493-00           |                  |        | 1   |           | .CONTACT,ELEC:TEST POINT STRAP                                                | 80009 | 131-1493-00     |
| -11                    | -----                 |                  |        | 1   |           | CKT BOARD ASSY:CONTROLLER(SEE A33 REPL)                                       |       |                 |
| -12                    | 105-0160-04           |                  |        | 1   |           | .EJECTOR,CKT BD:YELLOW PLASTIC<br>***** (ATTACHING PARTS)*****                | 80009 | 105-0160-04     |
| -13                    | 214-1337-00           |                  |        | 1   |           | .PIN,SPRING:0.10 OD X 0.25 INCH L,STL                                         | 80009 | 214-1337-00     |
| -14                    | 136-0751-00           |                  |        | 4   |           | .SKT,PL-IN ELEK:MICROCKT,24 PIN                                               | 09922 | DILB24P108      |
| -15                    | 131-0993-00           |                  |        | 6   |           | .BUS,CONDUCTOR:2 WIRE BLACK                                                   | 00779 | 850100-01       |
| -16                    | -----                 |                  |        | 14  |           | .TERMINAL,PIN:(SEE A33J337,J339,J340,J344,                                    |       |                 |
|                        | -----                 |                  |        | -   |           | J498,J499 REPL)                                                               |       |                 |
| -17                    | 136-0729-00           |                  |        | 21  |           | .SKT,PL-IN ELEK:MICROCKT,16 CONTACT                                           | 09922 | DILB16P-108T    |
| -18                    | -----                 |                  |        | 9   |           | .TERM,TEST POINT:(SEE A33TP141,TP151,TP211                                    |       |                 |
|                        | -----                 |                  |        | -   |           | .TP351,TP397,TP420,TP436,TP468,TP637 REPL)                                    |       |                 |
| -19                    | 136-0757-00           |                  |        | 3   |           | .SKT,PL-IN ELEK:MICROCKT,40 PIN                                               | 09922 | DILB40P-108     |
| -20                    | 136-0752-00           |                  |        | 7   |           | .SKT,PL-IN ELEK:MICROCIRCUIT,20 DIP                                           | 09922 | DILB20P-108     |
| -21                    | -----                 |                  |        | 1   |           | CKT BOARD ASSY:MAIN INTRCON(SEE A31 REPL)                                     |       |                 |
|                        | -----                 |                  |        |     |           | ***** (ATTACHING PARTS)*****                                                  |       |                 |
| -22                    | 211-0661-00           |                  |        | 17  |           | SCREW,MACHINE:4-40 X 0.25 INCH,PNH,STL                                        | 78189 | ORD BY DESCR    |
|                        | 211-0244-00           |                  |        | 1   |           | SCR,ASSEM WSHR:4-40 X 0.312 INCH,PNH STL                                      | 78189 | ORD BY DESCR    |
|                        | -----                 |                  |        | -   |           | ***** (END ATTACHING PARTS)*****                                              |       |                 |
|                        | -----                 |                  |        | -   |           | CKT BOARD ASSY INCLUDES:                                                      |       |                 |
| -23                    | -----                 |                  |        | 2   |           | .CONN,RCPT,ELEC:(SEE A31J72,J75 REPL)                                         |       |                 |
| -24                    | 136-0252-07           |                  |        | 2   |           | .SOCKET,PIN CONN:W/O DIMPLE                                                   | 22526 | 75060-012       |
| -25                    | 131-2265-00           |                  |        | 2   |           | .TERM,FEEDTHRU:10 PIN,INSULATED                                               | 80009 | 131-2265-00     |
| -26                    | -----                 |                  |        | 16  |           | .CONN,RCPT,ELEC:(SEE A31J00,J01,J10,J11,                                      |       |                 |
|                        | -----                 |                  |        | -   |           | J20,J21,J30,J31,J40,J41,J50,J51,J60,                                          |       |                 |
|                        | -----                 |                  |        | -   |           | J61,J70,J71 REPL)                                                             |       |                 |
| -27                    | -----                 |                  |        | 1   |           | .CONN,RCPT,ELEC:(SEE A31J131 REPL)                                            |       |                 |
| -28                    | -----                 |                  |        | 1   |           | .CONN,RCPT,ELEC:(SEE A31J429 REPL)                                            |       |                 |
| -29                    | -----                 |                  |        | 4   |           | .TERM SET,PIN:(SEE A31J80,J421,J425,                                          |       |                 |
|                        | -----                 |                  |        | -   |           | J432 REPL)                                                                    |       |                 |
| -30                    | -----                 |                  |        | 1   |           | .CONN,RCPT,ELEC:(SEE A31J419 REPL)                                            |       |                 |
| -31                    | -----                 |                  |        | 1   |           | .CONN,RCPT,ELEC:(SEE A31J410 REPL)                                            |       |                 |
| -32                    | -----                 |                  |        | 4   |           | .CONN,RCPT,ELEC:(SEE A31J211,J221,J312,                                       |       |                 |
|                        | -----                 |                  |        | -   |           | J401 REPL)                                                                    |       |                 |
| -33                    | -----                 |                  |        | 1   |           | .TRANSISTOR:(SEE A31Q205 REPL)                                                |       |                 |
|                        | -----                 |                  |        |     |           | ***** (ATTACHING PARTS)*****                                                  |       |                 |
| -34                    | 211-0097-00           |                  |        | 1   |           | .SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL                                      | 83385 | ORD BY DESCR    |
| -35                    | 210-0586-00           |                  |        | 1   |           | .NUT,PL,ASSEM WA:4-40 X 0.25,STL                                              | 83385 | ORD BY DESCR    |
| -36                    | 210-1171-00           |                  |        | 1   |           | .WSHR,SHOULDERED:0.116 ID X 0.138 INCH OD                                     | 52905 | A7148516P2      |
| -37                    | 342-0202-00           |                  |        | 1   |           | .INSULATOR,PLATE:TRANSISTOR<br>***** (END ATTACHING PARTS)*****               | 01295 | 10-21-023-106   |
| -38                    | 214-1967-00           |                  |        | 1   |           | .HEAT SINK,DIODE:FINGER TYPE                                                  | 13103 | 6107B-14        |
| -39                    | -----                 |                  |        | 1   |           | .TRANSISTOR:(SEE A31Q202 REPL)                                                |       |                 |
|                        | -----                 |                  |        |     |           | ***** (ATTACHING PARTS)*****                                                  |       |                 |
| -40                    | 211-0097-00           |                  |        | 1   |           | .SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL                                      | 83385 | ORD BY DESCR    |
| -41                    | 129-0363-00           |                  |        | 1   |           | .POST,ELEC-MECH:HEX.,0.25 X 0.436 INCH LON                                    | 80009 | 129-0363-00     |
| -42                    | 210-1171-00           |                  |        | 1   |           | .WSHR,SHOULDERED:0.116 ID X 0.138 INCH OD<br>***** (END ATTACHING PARTS)***** | 52905 | A7148516P2      |
| -43                    | -----                 |                  |        | 1   |           | .CONN,RCPT,ELEC:(SEE A31J105 REPL)                                            |       |                 |

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| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 | 2 | 3 | 4 | 5 | Name & Description                                                        | Mfr   |                 |
|------------------------|-----------------------|------------------|--------|-----|---|---|---|---|---|---------------------------------------------------------------------------|-------|-----------------|
|                        |                       | Eff              | Dscont |     |   |   |   |   |   |                                                                           | Code  | Mfr Part Number |
| 12-44                  | -----                 |                  |        | 1   |   |   |   |   |   | .SEMICON DVC,DI:(SEE A31CR120 REPL)<br>*****ATTACHING PARTS)*****         |       |                 |
| -45                    | 211-0511-00           |                  |        | 1   |   |   |   |   |   | .SCREW,MACHINE:6-32 X 0.500,PNH,STL,CD PL                                 | 83385 | ORD BY DESCR    |
| -46                    | 210-0457-00           |                  |        | 1   |   |   |   |   |   | .NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL<br>*****END ATTACHING PARTS)***** | 83385 | ORD BY DESCR    |
| -47                    | 214-3036-00           |                  |        | 1   |   |   |   |   |   | .HEATSINK,XSTR:T0-220,ALUMINUM                                            | 80009 | 214-3036-00     |
| -48                    | -----                 |                  |        | 1   |   |   |   |   |   | .CONN,RCPT,ELEC:(SEE A31J125 REPL)                                        |       |                 |

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                                                          | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|------------------|--------|-----|-----------|-----------------------------------------------------------------------------|-------------|------------------|
|                        |                       | Eff              | Dscont |     |           |                                                                             |             |                  |
| 13-1                   | 337-2958-00           |                  |        | 1   |           | SHIELD,ELEC:CAP BRACKET<br>*****ATTACHING PARTS*****                        | 80009       | 337-2958-00      |
| -2                     | 211-0504-00           |                  |        | 3   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****END ATTACHING PARTS*****     | 83385       | ORD BY DESCR     |
| -3                     | -----                 |                  |        | 1   |           | CKT BOARD ASSY:CAP BRACKET(SEE A32A1 REPL)<br>*****ATTACHING PARTS*****     |             |                  |
| -4                     | 211-0504-00           |                  |        | 2   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****END ATTACHING PARTS*****     | 83385       | ORD BY DESCR     |
|                        | -----                 |                  |        | -   |           | CKT BOARD ASSY INCLUDES:                                                    |             |                  |
| -5                     | 346-0133-00           |                  |        | 1   |           | .STRAP,TIE DOWN:0.091 W X 14.0 L,PLASTIC                                    | 59730       | TY-234M          |
| -6                     | -----                 |                  |        | 2   |           | .CAPACITOR:(SEE A32A1C103,C113 REPL)<br>*****ATTACHING PARTS*****           |             |                  |
| -7                     | 212-0518-00           |                  |        | 8   |           | .SCREW,MACHINE:10-32 X 0.312,PNH,STL,CD PL<br>*****END ATTACHING PARTS***** | 83385       | ORD BY DESCR     |
| -8                     | 348-0141-00           |                  |        | 1   |           | .GROMMET,PLASTIC:U-SHP,0.625 X 0.658 INCH                                   | 80009       | 348-0141-00      |
| -9                     | 407-3868-00           |                  |        | 1   |           | .BRACKET,CAP:ALUMINUM                                                       | 80009       | 407-3868-00      |
| -10                    | 344-0326-00           |                  |        | 4   |           | .CLIP,ELECTRICAL:FUSE,BRASS                                                 | 75915       | 102071           |
| -11                    | -----                 |                  |        | 1   |           | .CONN,RCPT,ELEC:(SEE A32A1J101 REPL)                                        |             |                  |
| -12                    | 348-0141-00           |                  |        | 1   |           | GROMMET,PLASTIC:U-SHP,0.625 X 0.658 INCH                                    | 80009       | 348-0141-00      |
| -13                    | 346-0120-00           |                  |        | 1   |           | STRAP,TIEDOWN:5.5 L MIN,PLASTIC                                             | 06383       | SST 1.5M         |
| -14                    | -----                 |                  |        | 4   |           | TRANSISTOR:(SEE Q155,Q160,Q165,Q170 REPL)<br>(ATTACHING PARTS)              |             |                  |
| -15                    | 211-0097-00           |                  |        | 6   |           | SCREW,MACHINE:4-40 X 0.312 INCH,PNH STL                                     | 83385       | ORD BY DESCR     |
| -16                    | 210-0586-00           |                  |        | 6   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL                                             | 83385       | ORD BY DESCR     |
| -17                    | 214-1914-00           |                  |        | 6   |           | HEAT SINK,ELEC:<br>*****END ATTACHING PARTS*****                            | 98978       | PB1-ZCB          |
| -18                    | 342-0354-00           |                  |        | 4   |           | INSULATOR,PLATE:TRANSISTOR,SILICON RUBBER                                   | 000BB       | 7403-10-52       |
| -19                    | 210-1171-00           |                  |        | 4   |           | WSHR,SHOULDERED:0.116 ID X 0.138 INCH OD                                    | 52905       | A7148516P2       |
| -20                    | 407-3874-00           |                  |        | 1   |           | BRACKET,HT SK:ALUMINUM<br>*****ATTACHING PARTS*****                         | 80009       | 407-3874-00      |
| -21                    | 211-0552-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 2 INCH,PNH STL                                         | 83385       | ORD BY DESCR     |
|                        | 210-1092-00           | B010945          |        | 4   |           | WASHER,FLAT:0.147 ID X 0.312" OD,BRS<br>*****END ATTACHING PARTS*****       | 12327       | ORD BY DESCR     |
| -22                    | 119-0215-00           |                  |        | 1   |           | FAN,AXIAL:115V,50-60 HZ,18W                                                 | 23936       | 8500D            |
| -23                    | 386-4792-00           |                  |        | 1   |           | PANEL,FAN MTG:                                                              | 80009       | 386-4792-00      |
| -24                    | 334-4697-00           |                  |        | 1   |           | MARKER,IDENT:MKD CAUTION                                                    | 80009       | 334-4697-00      |
| -25                    | 333-2865-00           |                  |        | 1   |           | PANEL,REAR:<br>*****ATTACHING PARTS*****                                    | 80009       | 333-2865-00      |
| -26                    | 211-0504-00           |                  |        | 4   |           | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****END ATTACHING PARTS*****     | 83385       | ORD BY DESCR     |
| -27                    | 337-2893-00           |                  |        | 1   |           | SHIELD,ELEC:POWER PANEL<br>*****ATTACHING PARTS*****                        | 80009       | 337-2893-00      |
| -28                    | 210-0586-00           |                  |        | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>*****END ATTACHING PARTS*****            | 83385       | ORD BY DESCR     |
| -29                    | 131-1084-00           |                  |        | 1   |           | CONNECTOR,RCPT,:3 BLADE,6A,250V<br>*****ATTACHING PARTS*****                | 82389       | EAC-302          |
| -30                    | 210-0586-00           |                  |        | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL<br>*****END ATTACHING PARTS*****            | 83385       | ORD BY DESCR     |
| -31                    | 210-0202-00           |                  |        | 2   |           | TERMINAL,LUG:0.146 ID,LOCKING,BRZ TINNED<br>*****ATTACHING PARTS*****       | 78189       | 2104-06-00-2520N |
| -32                    | 210-0407-00           |                  |        | 2   |           | NUT,PLAIN,HEX.:6-32 X 0.25 INCH,BRS<br>*****END ATTACHING PARTS*****        | 73743       | 3038-0228-402    |
| -33                    | 200-2264-00           |                  |        | 1   |           | CAP.,FUSEHOLDER:3AG FUSES<br>(STANDARD ONLY)                                | S3629       | FEK 031 1666     |
|                        | 200-2265-00           |                  |        | 1   |           | CAP,FUSEHOLDER:5 X 20MM FUSES<br>(OPTION A1,A2,A3,A4 ONLY)                  | S3629       | FEK 031.1663     |
| -34                    | 204-0832-00           |                  |        | 1   |           | BODY,FUSEHOLDER:3AG,5 X 20MM FUSES                                          | S3629       | 031.1673(MDLFEU) |
| -35                    | 210-0845-00           |                  |        | 1   |           | WASHER,FLAT:0.500 ID X 0.625 INCH OD,ST                                     | 89663       | 634-R            |
| -36                    | -----                 |                  |        | 1   |           | SWITCH,SLIDE:(SEE S103 REPL)<br>*****ATTACHING PARTS*****                   |             |                  |
| -37                    | 210-0586-00           |                  |        | 2   |           | NUT,PL,ASSEM WA:4-40 X 0.25,STL                                             | 83385       | ORD BY DESCR     |

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| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No.<br>Eff Dscont | Qty     | 1 2 3 4 5 | Name & Description                                                             | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|--------------------------------|---------|-----------|--------------------------------------------------------------------------------|-------------|------------------|
| 13-38                  | 333-2871-00           | B010100                        | B020527 | 1         | PANEL,REAR:                                                                    | 80009       | 333-2871-00      |
|                        | 333-2871-01           | B020528                        |         | 1         | PANEL,REAR:<br>*****<br>(ATTACHING PARTS)*****                                 | 80009       | 333-2871-01      |
| -39                    | 211-0504-00           |                                |         | 4         | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL                                         | 83385       | ORD BY DESCR     |
| -40                    | 366-0494-00           |                                |         | 1         | KNOB:GRAY WITH SETSCREW                                                        | 80009       | 366-0494-00      |
| -41                    | -----                 |                                |         | 1         | RES.,VAR,NONWIR:(SEE R645 REPL)<br>*****<br>(ATTACHING PARTS)*****             |             |                  |
| -42                    | 210-0583-00           |                                |         | 1         | NUT,PLAIN,HEX:0.25-32 X 0.312 INCH,BRS                                         | 73743       | 2X20317-402      |
| -43                    | 210-0046-00           |                                |         | 1         | WASHER,LOCK:0.261 ID,INTL,0.018 THK,BRS                                        | 78189       | 1214-05-00-0541C |
| -44                    | 210-0940-00           |                                |         | 1         | WASHER,FLAT:0.25 ID X 0.375 INCH OD,STL<br>*****<br>(END ATTACHING PARTS)***** | 79807       | ORD BY DESCR     |
| -45                    | -----                 |                                |         | 1         | SWITCH,PUSH:(SEE S104 REPL)                                                    |             |                  |
| -46                    | -----                 |                                |         | 2         | CONN,RCPT,ELEC:(SEE J150,J151 REPL)                                            |             |                  |
| -47                    | 129-0103-00           |                                |         | 1         | POST,BDG,ELEC:ASSEMBLY<br>*****<br>(ATTACHING PARTS)*****                      | 80009       | 129-0103-00      |
| -48                    | 210-0455-00           |                                |         | 1         | NUT,PLAIN,HEX:0.25-28 X 0.375 INCH,BRASS                                       | 73743       | 3089-402         |
| -49                    | 210-0223-00           |                                |         | 1         | TERMINAL,LUG:0.25 INCH DIA,SE<br>*****<br>(END ATTACHING PARTS)*****           | 86928       | A313-136         |
| -50                    | 333-2861-00           |                                |         | 1         | PANEL,REAR:<br>*****<br>(ATTACHING PARTS)*****                                 | 80009       | 333-2861-00      |
| -51                    | 211-0504-00           |                                |         | 4         | SCREW,MACHINE:6-32 X 0.25 INCH,PNH STL<br>*****<br>(END ATTACHING PARTS)*****  | 83385       | ORD BY DESCR     |
| -52                    | 334-4193-01           |                                |         | 1         | MARKER,IDENT:MKD PROBE #1                                                      | 80009       | 334-4193-01      |
|                        | 334-4336-00           |                                |         | 1         | MARKER,IDENT:MKD PROBE #2                                                      | 80009       | 334-4336-00      |
|                        | 334-4337-00           |                                |         | 1         | MARKER,IDENT:MKD PROBE #3                                                      | 80009       | 334-4337-00      |
|                        | 334-4338-00           |                                |         | 1         | MARKER,IDENT:MKD PROBE #4                                                      | 80009       | 334-4338-00      |
|                        | 334-4339-00           |                                |         | 1         | MARKER,IDENT:MKD #5                                                            | 80009       | 334-4339-00      |
|                        | 334-4340-00           |                                |         | 1         | MARKER,IDENT:MKD PROBE #6                                                      | 80009       | 334-4340-00      |
|                        | 334-4341-00           |                                |         | 1         | MARKER,IDENT:MKD PROBE #7                                                      | 80009       | 334-4341-00      |
| -53                    | 426-1881-01           |                                |         | 1         | FRAME PNL,CAB:REAR<br>*****<br>(ATTACHING PARTS)*****                          | 80009       | 426-1881-01      |
| -54                    | 211-0514-00           |                                |         | 2         | SCREW,MACHINE:6-32 X 0.750 INCH,PNH STL                                        | 83385       | ORD BY DESCR     |
| -55                    | 213-0863-00           |                                |         | 8         | SCREW,TPG,TF:8-32 X 1.375,TAPTITE,FILH<br>*****<br>(END ATTACHING PARTS)*****  | 93907       | ORD BY DESCR     |
|                        | 131-1011-00           | B010100                        | B010495 | 1         | CONNECTOR,RCPT,:4 CONTACT,FEMALE                                               | 0000A       | RA 1.304         |
|                        | 200-2789-00           | B010495                        |         | 1         | BUTTON,PLUG:0.437 DIA,0.125 THK                                                |             |                  |

DAS 9129

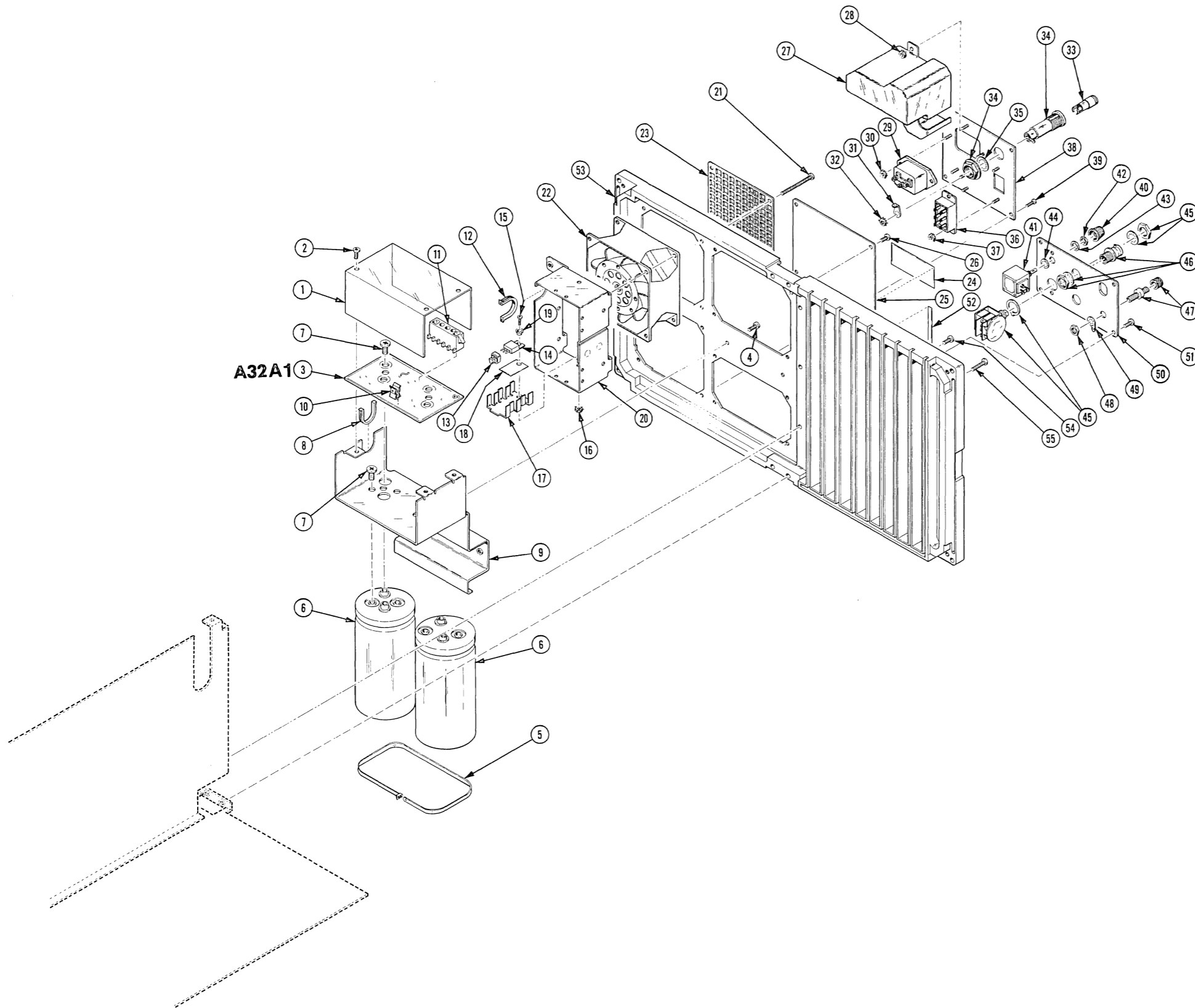


FIG. 13 DAS 9129 REAR PANEL

ADD JUN 1982

DAS 9100 SERIES

OPTION 01 TAPE TRANSPORT

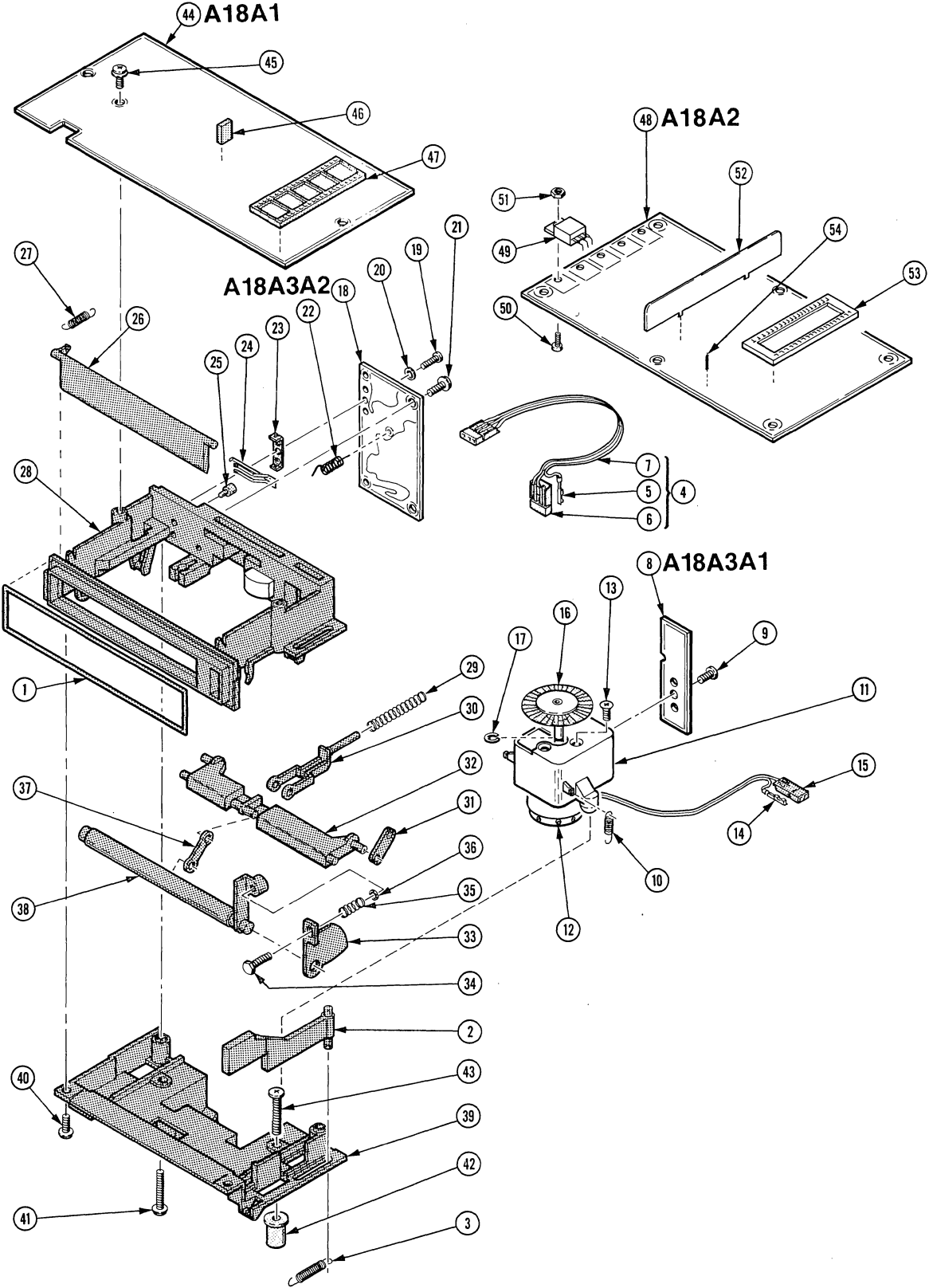


FIG. 14 DAS 9100 OPTION 01

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |         | Qty | 1 | 2 | 3 | 4 | 5 | Name & Description                         | Mfr<br>Code | Mfr Part Number  |
|------------------------|-----------------------|------------------|---------|-----|---|---|---|---|---|--------------------------------------------|-------------|------------------|
|                        |                       | Eff              | Dscont  |     |   |   |   |   |   |                                            |             |                  |
| 14-                    | ----                  |                  |         | 1   |   |   |   |   |   | TAPE TRANSPORT ASSY:(SEE A18A3 REPL)       |             |                  |
| -1                     | 348-0661-00           |                  |         | 1   |   |   |   |   |   | .GASKET:TAPE DRIVE,VINYL                   | 80009       | 348-0661-00      |
| -2                     | 105-0861-00           |                  |         | 1   |   |   |   |   |   | .EJCTR,TAPE CRTG:PLASTIC                   | 80009       | 105-0861-00      |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (ATTACHING PARTS) *****              |             |                  |
| -3                     | 214-3103-00           |                  |         | 1   |   |   |   |   |   | .SPRING,HLEXT:0.187 OD X 0.94 L            |             |                  |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (END ATTACHING PARTS) *****          |             |                  |
| -4                     | 175-2583-00           |                  |         | 1   |   |   |   |   |   | .CA ASSY,SP,ELEC:3.26 AWG,3.0 L            | 80009       | 175-2583-00      |
| -5                     | 131-0707-00           |                  |         | 6   |   |   |   |   |   | .CONNECTOR,TERM:22-26 AWG,BRS & CU BE GOL  | 22526       | 47439            |
| -6                     | 352-0161-03           |                  |         | 2   |   |   |   |   |   | .CONN BODY,PL,EL:3 WIRE ORANGE             | 80009       | 352-0161-03      |
| -7                     | 175-0826-00           |                  |         | AR  |   |   |   |   |   | .WIRE,ELECTRICAL:3 WIRE RIBBON             | 80009       | 175-0826-00      |
| -8                     | ----                  |                  |         | 1   |   |   |   |   |   | .CKT BOARD ASSY:SENSOR(SEE A18A3A1 REPL)   |             |                  |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (ATTACHING PARTS) *****              |             |                  |
| -9                     | 211-0244-00           |                  |         | 1   |   |   |   |   |   | .SCR,ASSEM WSHR:4-40 X 0.312 INCH,PNH STL  | 78189       | ORD BY DESCR     |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (END ATTACHING PARTS) *****          |             |                  |
| -10                    | 214-3102-00           |                  |         | 2   |   |   |   |   |   | .SPRING,HLEXT:0.178 OD X 0.636 L           | 80009       | 214-3102-00      |
| -11                    | 426-1752-01           |                  |         | 1   |   |   |   |   |   | .MOUNT,MOTOR:TAPE DRIVE,PLASTIC            | 80009       | 426-1752-01      |
| -12                    | 147-0054-02           |                  |         | 1   |   |   |   |   |   | .MOTOR,DC:7600 RPM,12V W/CONNECTOR         | 80009       | 147-0054-02      |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (ATTACHING PARTS) *****              |             |                  |
| -13                    | 211-0290-00           |                  |         | 3   |   |   |   |   |   | .SCREW,MACHINE:M2 X 3.0MM,FLH,90 DEG       | 000BK       | ORD BY DESCR     |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (END ATTACHING PARTS) *****          |             |                  |
|                        |                       |                  |         | -   |   |   |   |   |   | .MOTOR ASSY INCLUDES:                      |             |                  |
| -14                    | 131-0707-00           |                  |         | 2   |   |   |   |   |   | .CONNECTOR,TERM:22-26 AWG,BRS & CU BE GOL  | 22526       | 47439            |
| -15                    | 352-0169-00           |                  |         | 1   |   |   |   |   |   | .HLDR,TERM CONN:2 WIRE BLACK               | 80009       | 352-0169-00      |
| -16                    | 384-1588-02           |                  |         | 1   |   |   |   |   |   | .SHAFT,SHLDR:W/DRIVER AND TIMING DISC      | 80009       | 384-1588-02      |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (ATTACHING PARTS) *****              |             |                  |
| -17                    | 354-0393-00           |                  |         | 1   |   |   |   |   |   | .RING,RETAINING:                           | 79136       | 555-15MD         |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (END ATTACHING PARTS) *****          |             |                  |
| -18                    | ----                  |                  |         | 1   |   |   |   |   |   | .CKT BOARD ASSY:STATUS(SEE A18A3A2 REPL)   |             |                  |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (ATTACHING PARTS) *****              |             |                  |
| -19                    | 213-0113-00           |                  |         | 1   |   |   |   |   |   | .SCR,TPG,THD FOR:2-32 X 0.312 INCH,PNH STL | 93907       | ORD BY DESCR     |
| -20                    | 210-0001-00           |                  |         | 1   |   |   |   |   |   | .WASHER,LOCK:INTL,0.092 ID X 0.18"OD,ST    | 78189       | 1202-00-00-0541C |
| -21                    | 211-0244-00           |                  |         | 1   |   |   |   |   |   | .SCR,ASSEM WSHR:4-40 X 0.312 INCH,PNH STL  | 78189       | ORD BY DESCR     |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (END ATTACHING PARTS) *****          |             |                  |
|                        |                       |                  |         | -   |   |   |   |   |   | .STATUS BOARD INCLUDES:                    |             |                  |
| -22                    | 214-3245-01           | B010100          | B010557 | 1   |   |   |   |   |   | .SPRING,GROUND:CU BE                       | 80009       | 214-3245-01      |
|                        | 214-3245-02           | B010558          |         | 1   |   |   |   |   |   | .SPRING, GROUND:TIN PLATED                 |             |                  |
| -23                    | 343-0907-00           |                  |         | 1   |   |   |   |   |   | .RETAINER,CONT:TAPE DRIVE SWITCH,PLSTC     | 80009       | 343-0907-00      |
| -24                    | ----                  |                  |         | 2   |   |   |   |   |   | .CONTACT,ELEC:(SEE S1,S2 REPL)             |             |                  |
| -25                    | 214-3111-00           |                  |         | 2   |   |   |   |   |   | .ACTUATOR,CONT:ACETAL                      | 80009       | 214-3111-00      |
| -26                    | 200-2521-00           |                  |         | 1   |   |   |   |   |   | .DOOR,ACCESS:TAPE DRIVE                    | 80009       | 200-2521-00      |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (ATTACHING PARTS) *****              |             |                  |
| -27                    | 214-3101-00           |                  |         | 1   |   |   |   |   |   | .SPRING,HLEXT:0.125 OD X 0.7 L,SST XLOOP   |             |                  |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (END ATTACHING PARTS) *****          |             |                  |
| -28                    | 119-1410-00           |                  |         | 1   |   |   |   |   |   | .HEAD,RCDG,MAG T:W/CHASSIS                 | 11983       | DCA21P007N-35C16 |
| -29                    | 214-3104-00           |                  |         | 1   |   |   |   |   |   | .SPRING,HLCPS:0.18 OD X 1.25 L,CLOSED ENDS |             |                  |
| -30                    | 214-3085-00           |                  |         | 1   |   |   |   |   |   | .PAWL:TAPE CARTRIDGE,PLSTC                 | 80009       | 214-3085-00      |
| -31                    | 384-1587-00           |                  |         | 2   |   |   |   |   |   | .CONN LK,RIGID:CARRIAGE & SHAFT,ACETAL     | 80009       | 384-1587-00      |
| -32                    | 214-3107-00           |                  |         | 1   |   |   |   |   |   | .CARRIAGE,CRTG:TAPE DRIVE                  | 80009       | 214-3107-00      |
| -33                    | 401-0498-00           |                  |         | 1   |   |   |   |   |   | .CAM,CARRIAGE:CASSETTE LOCKING             | 80009       | 401-0498-00      |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (ATTACHING PARTS) *****              |             |                  |
| -34                    | 211-0291-00           |                  |         | 1   |   |   |   |   |   | .SCREW,MACHINE:4-40 X 0.437,HEX HD         | 000CY       | ORD BY DESCR     |
| -35                    | 214-3105-00           |                  |         | 1   |   |   |   |   |   | .SPRING,HLCPS:0.18 OD X 0.375 L,CLOSED END |             |                  |
| -36                    | 210-1240-00           |                  |         | 1   |   |   |   |   |   | .WASHER,FLAT:0.125 ID X 0.016 THK,BRS      | 80009       | 210-1240-00      |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (END ATTACHING PARTS) *****          |             |                  |
| -37                    | 386-4485-00           |                  |         | 2   |   |   |   |   |   | .SPRT,CARRIAGE:LOCKING MECHANISM           | 80009       | 386-4485-00      |
| -38                    | 214-3113-00           |                  |         | 1   |   |   |   |   |   | .ACTR,CARRIAGE:TAPE CARTRIDGE,PLSTC        | 80009       | 214-3113-00      |
| -39                    | 432-0136-00           | B010100          | B011134 | 1   |   |   |   |   |   | .BASE,TAPE DRIVE:119-1311-00 OPT 1         | 80009       | 432-0136-00      |
|                        | 432-0136-01           | B011135          |         | 1   |   |   |   |   |   | .BASE,TAPE DRIVE:199-1311-00 OPT 1         | 80009       | 432-0136-01      |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (ATTACHING PARTS) *****              |             |                  |
| -40                    | 211-0244-00           |                  |         | 2   |   |   |   |   |   | .SCR,ASSEM WSHR:4-40 X 0.312 INCH,PNH STL  | 78189       | ORD BY DESCR     |
| -41                    | 211-0301-00           |                  |         | 2   |   |   |   |   |   | .SCREW,MACHINE:4-40 X 0.375,PNH,STL,CD PL  | 78189       | ORD BY DESCR     |
|                        |                       |                  |         |     |   |   |   |   |   | ***** (END ATTACHING PARTS) *****          |             |                  |



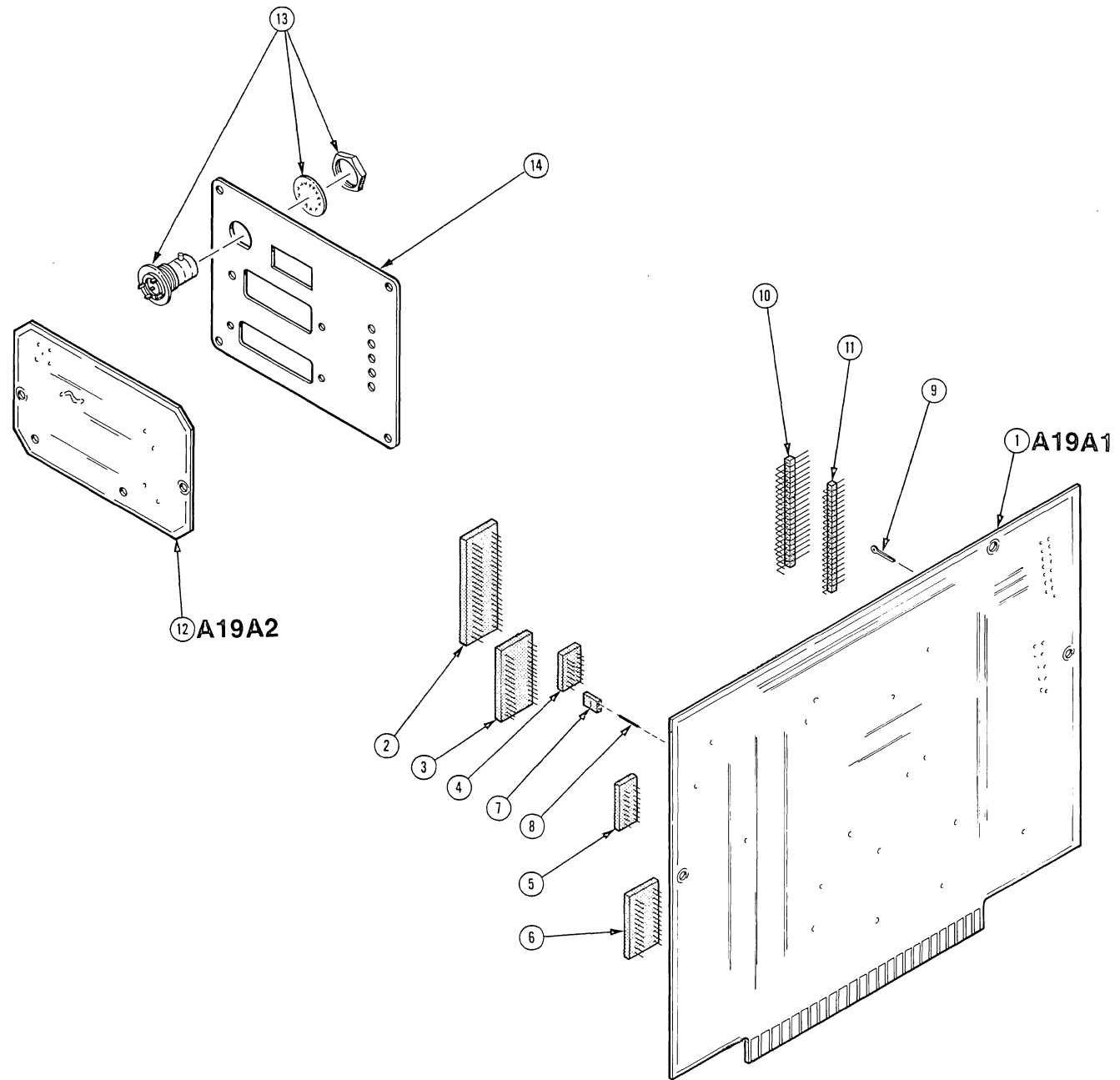
**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |         | Qty | 1 2 3 4 5 | Name & Description                                                            | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|------------------|---------|-----|-----------|-------------------------------------------------------------------------------|-------------|-----------------|
|                        |                       | Eff              | Dscont  |     |           |                                                                               |             |                 |
| 14-42                  | 220-0886-00           |                  |         | 2   |           | .NUT,SLEEVE:6-32 X 0.437 OD,NEOPRENE<br>***** (ATTACHING PARTS) *****         | 00613       | E-632           |
| -43                    | 211-0514-00           | B010100          | B010579 | 2   |           | .SCREW,MACHINE:6-32 X 0.750 INCH,PNH STL                                      | 83385       | ORD BY DESCR    |
|                        | 211-0514-00           | B010580          | B011134 | 1   |           | .SCREW,MACHINE:6-32 X 0.750 INCH,PNH STL                                      | 83385       | ORD BY DESCR    |
|                        | 211-0687-00           | B011135          |         | 2   |           | .SCREW,MACHINE:6-32 X 0.75,FLH,STL,CD PL                                      | 83294       | ORD BY DESCR    |
|                        | 211-0544-00           | B010580          |         | 1   |           | .SCREW,MACHINE:6-32 X 0.750,TRH STL<br>***** (END ATTACHING PARTS) *****      | 83385       | ORD BY DESCR    |
| -44                    | -----                 |                  |         | 1   |           | CKT BOARD ASSY:DATA(SEE A18A1 REPL)<br>***** (ATTACHING PARTS) *****          |             |                 |
| -45                    | 211-0244-00           |                  |         | 2   |           | SCR,ASSEM WSHR:4-40 X 0.312 INCH,PNH STL<br>***** (END ATTACHING PARTS) ***** | 78189       | ORD BY DESCR    |
|                        | -----                 |                  |         | -   |           | CKT BOARD ASSY INCLUDES:                                                      |             |                 |
| -46                    | 131-0993-00           |                  |         | 1   |           | .BUS,CONDUCTOR:2 WIRE BLACK                                                   | 00779       | 850100-01       |
| -47                    | 136-0757-00           |                  |         | 1   |           | .SKT,PL-IN ELEK:MICROCKT,40 PIN                                               | 09922       | DILB40P-108     |
| -48                    | -----                 |                  |         | 1   |           | CKT BOARD ASSY:SERVO(SEE A18A2 REPL)                                          |             |                 |
| -49                    | -----                 |                  |         | 5   |           | .TRANSISTOR:(SEE Q165,260,265,360,365 REPL<br>***** (ATTACHING PARTS) *****   |             |                 |
| -50                    | 211-0008-00           |                  |         | 5   |           | .SCREW,MACHINE:4-40 X 0.250,PNH,STL,POZ                                       | 83385       | ORD BY DESCR    |
| -51                    | 210-0406-00           |                  |         | 5   |           | .NUT,PLAIN,HEX.:4-40 X 0.188 INCH,BRS<br>***** (END ATTACHING PARTS) *****    | 73743       | 12161-50        |
| -52                    | 337-2816-00           |                  |         | 1   |           | .SHIELD,ELEC:CKT BD                                                           | 80009       | 337-2816-00     |
| -53                    | 136-0757-00           |                  |         | 1   |           | .SKT,PL-IN ELEK:MICROCKT,40 PIN                                               | 09922       | DILB40P-108     |
| -54                    | 131-1343-00           |                  |         | 1   |           | .TERM. SET,PIN:36-0.525 L X 0.025 SQ                                          | 22526       | 65501-136       |

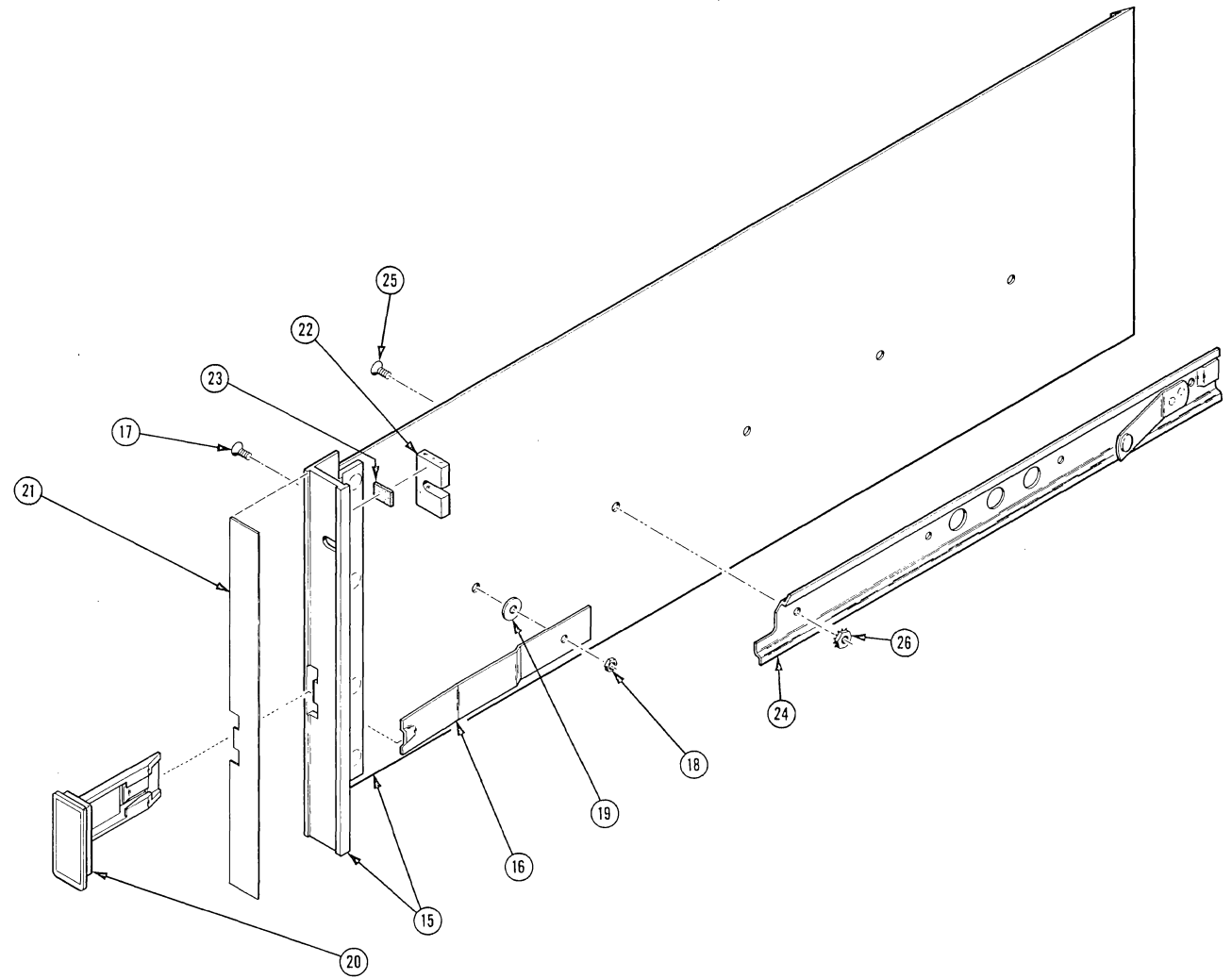
| Fig. &<br>Index<br>No.      | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                                                            | Mfr   |                 |  |
|-----------------------------|-----------------------|------------------|--------|-----|-----------|-------------------------------------------------------------------------------|-------|-----------------|--|
|                             |                       | Eff              | Dscont |     |           |                                                                               | Code  | Mfr Part Number |  |
| 15-1                        | -----                 |                  |        | 1   |           | CKT BOARD ASSY:I/O OPTION(SEE A19A1 REPL)                                     |       |                 |  |
| -2                          | 136-0623-00           |                  |        | 1   |           | .SOCKET,PLUG-IN:40 DIP,LOW PROFILE                                            | 73803 | CS9002-40       |  |
| -3                          | 136-0694-00           |                  |        | 1   |           | .SKT,PL-IN ELEK:MICROCIRCUIT,28 CONTACT                                       | 73803 | CS9002-28       |  |
| -4                          | 136-0269-02           |                  |        | 1   |           | .SKT,PL-IN ELEK:MICROCIRCUIT,14 DIP,LOW CL                                    | 73803 | CS9002-14       |  |
| -5                          | 136-0260-02           |                  |        | 2   |           | .SKT,PL-IN ELEK:MICROCIRCUIT,16 DIP,LOW CL                                    | 71785 | 133-51-92-008   |  |
| -6                          | 136-0578-00           |                  |        | 4   |           | .SKT,PL-IN ELEK:MICROCKT,24 PIN,LOW PROFIL                                    | 73803 | C S9002-24      |  |
| -7                          | -----                 |                  |        | 2   |           | .BUS,CONDUCTOR:(SEE A19A1J440 REPL)                                           |       |                 |  |
| -8                          | 131-0608-00           |                  |        | 6   |           | .TERMINAL,PIN:0.365 L X 0.025 PH BRZ GOLD                                     | 22526 | 47357           |  |
| -9                          | -----                 |                  |        | 2   |           | .TERM,TEST POINT:(SEE A19A1TP122,139 REPL)                                    |       |                 |  |
| -10                         | -----                 |                  |        | 1   |           | .TERM SET,PIN:(SEE A19A1J121 REPL)                                            |       |                 |  |
| -11                         | 131-1426-00           |                  |        | 1   |           | .TERM SET,PIN:(36) 0.025 SQ RTANG,0.25L                                       | 22526 | 65524-136       |  |
| -12                         | -----                 |                  |        | 1   |           | CKT BOARD ASSY:I/O CONNECTOR(SEE A19A2 REP                                    |       |                 |  |
| -13                         | -----                 |                  |        | 1   |           | .CONNECTOR,RCPT:(SEE A19A2J130 REPL)                                          |       |                 |  |
| -14                         | 333-2862-01           |                  |        | 1   |           | .PANEL,REAR:W/CONNECTORS                                                      | 80009 | 333-2862-01     |  |
|                             | 016-0463-00           |                  |        | 1   |           | HDW KIT,ELEK EQ:                                                              | 80009 | 016-0463-00     |  |
| -15                         | 390-0834-02           |                  |        | 1   |           | .CABINET SIDE:RIGHT W/HANDLE                                                  | 80009 | 390-0834-02     |  |
|                             | 390-0836-02           |                  |        | 1   |           | .CABINET SIDE:LEFT W/HANDLE                                                   | 80009 | 390-0836-02     |  |
| -16                         | 105-0787-00           |                  |        | 2   |           | .LATCH,RETAINING:RACKMOUNT,SST<br>***** (ATTACHING PARTS) *****               | 80009 | 105-0787-00     |  |
| -17                         | 212-0070-00           |                  |        | 2   |           | .SCREW,MACHINE:8-32 X 0.312"100 DEG,FLH ST                                    | 83385 | ORD BY DESCR    |  |
| -18                         | 220-0555-00           |                  |        | 2   |           | .NUT,PLAIN,HEX.:8-32 X 0.25 INCH STL                                          | 000EL | ORD BY DESCR    |  |
| -19                         | 210-0858-00           |                  |        | 2   |           | .WASHER,FLAT:0.500 OD X 0.171 ID X 0.063<br>***** (END ATTACHING PARTS) ***** | 80009 | 210-0858-00     |  |
| -20                         | 105-0786-03           |                  |        | 2   |           | .RELEASE,LATCH:PLASTIC,SMOKE GY                                               | 80009 | 105-0786-03     |  |
| -21                         | 124-0387-01           |                  |        | 1   |           | .STRIP,TRIM:RACK MOUNT HANDLE,LEFT                                            | 80009 | 124-0387-01     |  |
|                             | 124-0392-01           |                  |        | 1   |           | .STRIP,TRIM:RACK MOUNT HANDLE,RIGHT                                           | 80009 | 124-0392-01     |  |
| -22                         | 361-1007-00           |                  |        | 2   |           | .SPACER,HANDLE:0.156 THK,1.25 W,0.65 H                                        | 80009 | 361-1007-00     |  |
| -23                         | 348-0631-00           |                  |        | 4   |           | .PAD,CUSHIONING:0.375 X 0.5 X 0.062                                           | 85471 | OBD             |  |
| -24                         | 351-0104-03           |                  |        | PR  |           | .SLIDE SECT,DWR:12.625 L,W/O HARDWARE<br>***** (ATTACHING PARTS) *****        | 06666 | C-720-3         |  |
| -25                         | 212-0070-00           |                  |        | 8   |           | .SCREW,MACHINE:8-32 X 0.312"100 DEG,FLH ST                                    | 83385 | ORD BY DESCR    |  |
| -26                         | 210-0458-00           |                  |        | 8   |           | .NUT,PL,ASSEM WA:8-32 X 0.344 INCH,STL<br>***** (END ATTACHING PARTS) *****   | 83385 | ORD BY DESCR    |  |
| OPTIONAL RACKMOUNTING PARTS |                       |                  |        |     |           |                                                                               |       |                 |  |
|                             | 351-0623-00           |                  |        | PR  |           | .SLIDE,DWR,EXT:22.0 L X 1.54,STEEL<br>***** (ATTACHING PARTS) *****           | 80009 | 351-0623-00     |  |
|                             | 210-1298-00           |                  |        | 2   |           | .WSHR,SHLDR&RECD:0.195 ID X 0.195 THK<br>***** (END ATTACHING PARTS) *****    | 80009 | 210-1298-00     |  |



OPTION 02 I/O OPTION AND CONNECTOR



OPTION 05 RACKMOUNT HARDWARE



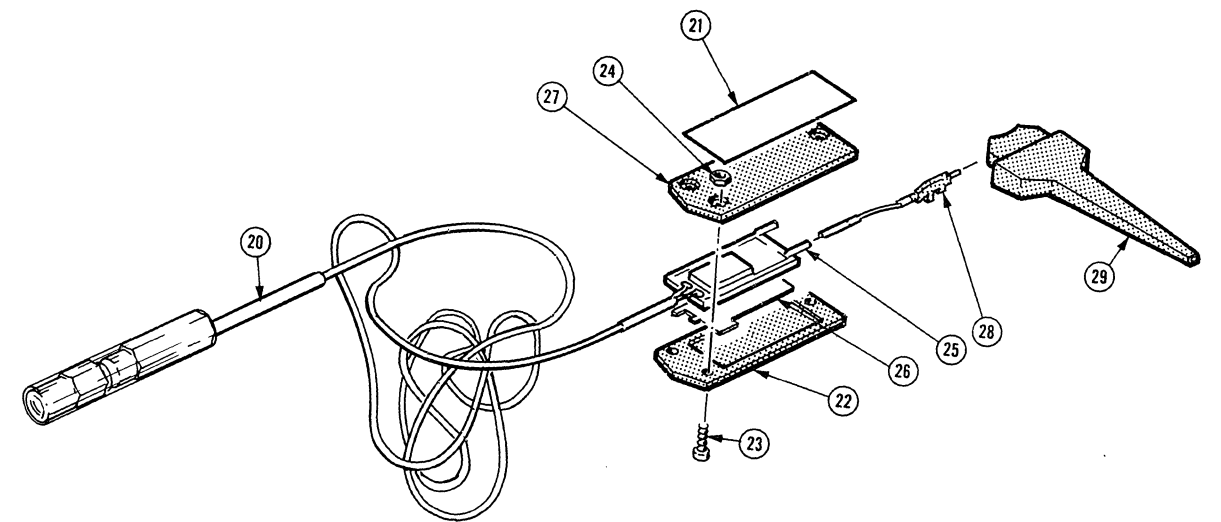
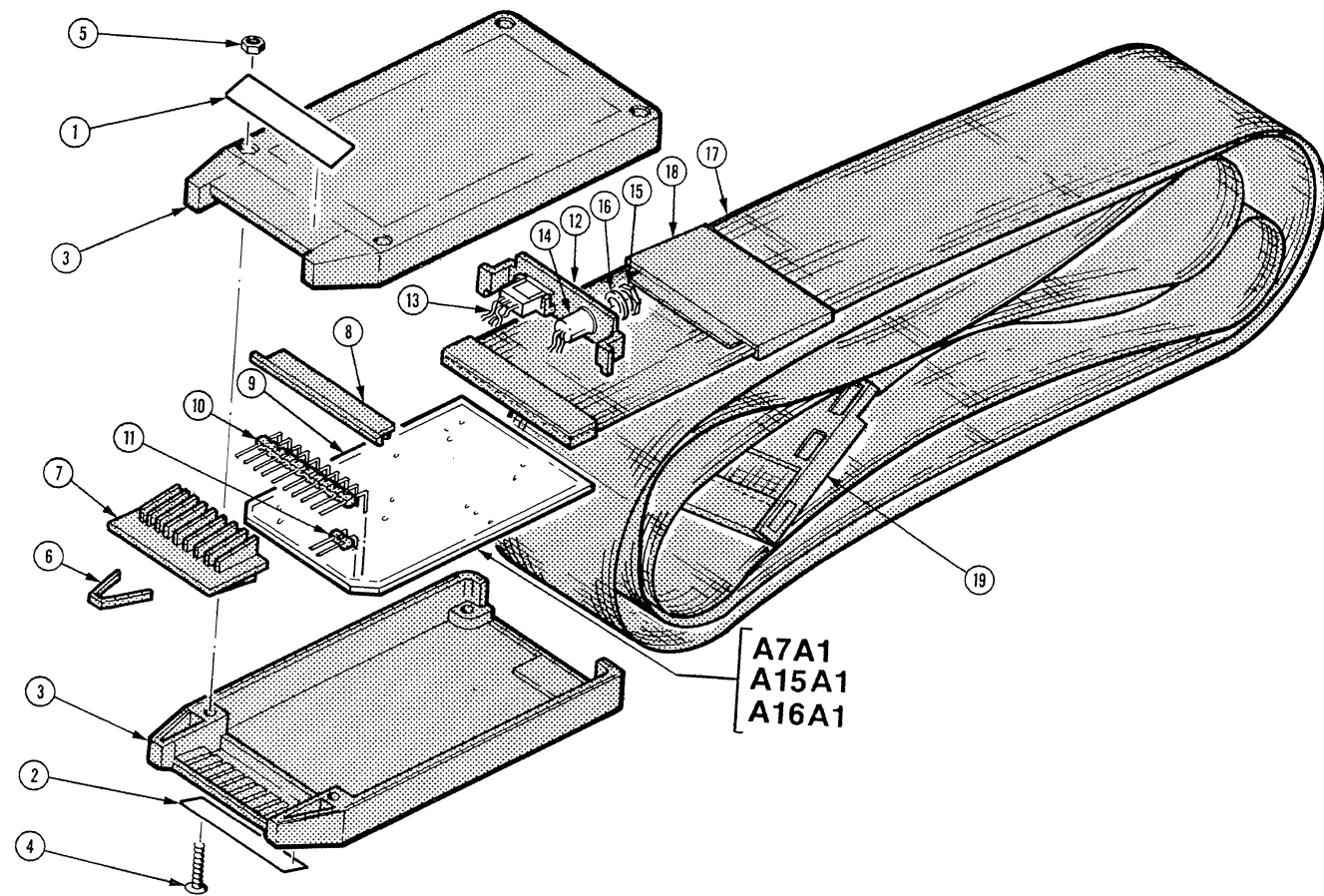
ADD JUN 1982

DAS 9100 SERIES

FIG. 15 DAS 9100  
OPTIONS 02 & 05

FIG. 16 DAS 9100 PROBES

DAS 9100 SERIES



| Fig. & Index No.                                                                                                                                                                                                           | Tektronix Part No. | Serial/Model No. Eff | Dscont  | Qty | 1 2 3 4 5 | Name & Description                         | Mfr Code | Mfr Part Number  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------|---------|-----|-----------|--------------------------------------------|----------|------------------|
| REFER TO THE LEFT HALF OF THIS ILLUSTRATIO FOR THREE PROBES:P6452,P6455 AND P6456 ALTHOUGH THE FIGURE AND INDEX NUMBERS (16-1 THRU 16-19) ARE THE SAME,THE TEKTRONIX PART NUMBER AND ITS DESCRIPTION VARY WITH EACH PROBE. |                    |                      |         |     |           |                                            |          |                  |
| THE RIGHT HALF OF THIS ILLUSTRATION (FIG. & INDEX 16-20 THRU 16-27) REFERS TO P6454                                                                                                                                        |                    |                      |         |     |           |                                            |          |                  |
| EACH PARTS LIST IS FOLLOWED BY AN ACCESS LIST FOR THAT PROBE.                                                                                                                                                              |                    |                      |         |     |           |                                            |          |                  |
| 16-                                                                                                                                                                                                                        | P6452              |                      |         | 1   |           | PROBE,DATA ACQ:P6452,8-CHANNEL             | 80009    | P6452            |
| -1                                                                                                                                                                                                                         | 334-4239-00        |                      |         | 1   |           | .MARKER,IDENT:MKD 1M OHM,5PF               | 80009    | 334-4239-00      |
| -2                                                                                                                                                                                                                         | 334-4174-00        |                      |         | 1   |           | .MARKER,IDENT:MKD EXTERNAL CLOCK           | 80009    | 334-4174-00      |
|                                                                                                                                                                                                                            | 334-4175-00        |                      |         | 1   |           | .MARKER,IDENT:MKD 91A32/91A08 DATA ACQUIS  | 80009    | 334-4175-00      |
| -3                                                                                                                                                                                                                         | 380-0682-00        |                      |         | 2   |           | .HOUSING,PROBE:POLYCARB,SLATE GRAY         | 80009    | 380-0682-00      |
|                                                                                                                                                                                                                            |                    |                      |         |     |           | .***** (ATTACHING PARTS)*****              |          |                  |
| -4                                                                                                                                                                                                                         | 211-0086-00        |                      |         | 4   |           | .SCREW,MACHINE:4-40 X 0.75 100° DEG,FLH ST | 83385    | ORD BY DESCR     |
| -5                                                                                                                                                                                                                         | 210-0406-00        |                      |         | 4   |           | .NUT,PLAIN,HEX.:4-40 X 0.188 INCH,BRS      | 73743    | 12161-50         |
|                                                                                                                                                                                                                            |                    |                      |         |     |           | .***** (END ATTACHING PARTS)*****          |          |                  |
| -6                                                                                                                                                                                                                         | 200-2731-00        |                      |         | 2   |           | .COVER,HOLE:POLYCARB,GRAY                  | 80009    | 200-2731-00      |
| -7                                                                                                                                                                                                                         | 361-0758-01        |                      |         | 1   |           | .SPACER,PROBE:ACETAL,SLATE GRAY            | 80009    | 361-0758-01      |
| -8                                                                                                                                                                                                                         | 343-1018-00        |                      |         | 1   |           | .STRAIN RLF,CA:1.89 L                      | 80009    | 343-1018-00      |
| -9                                                                                                                                                                                                                         | -----              |                      |         | 1   |           | .CKT BOARD ASSY:DATA ACQUISITION PROBE     |          |                  |
|                                                                                                                                                                                                                            |                    |                      |         | -   |           | .(SEE A7A1 REPL)                           |          |                  |
| -10                                                                                                                                                                                                                        | -----              |                      |         | 1   |           | ..TERM SET,PIN:(SEE A7A1J100 REPL)         |          |                  |
| -11                                                                                                                                                                                                                        | -----              |                      |         | 1   |           | ..TERM SET,PIN:(SEE A7A1J202 REPL)         |          |                  |
| -12                                                                                                                                                                                                                        | 343-1019-00        |                      |         | 1   |           | .STRAIN RLF,CA:1.89 L                      | 80009    | 343-1019-00      |
| -13                                                                                                                                                                                                                        | -----              |                      |         | 1   |           | .SWITCH,SLIDE:(SEE A7A1S2 REPL)            |          |                  |
| -14                                                                                                                                                                                                                        | -----              |                      |         | 1   |           | .SWITCH,PUSH:(SEE A7A1S1 REPL)             |          |                  |
|                                                                                                                                                                                                                            |                    |                      |         |     |           | .***** (ATTACHING PARTS)*****              |          |                  |
| -15                                                                                                                                                                                                                        | 358-0660-00        |                      |         | 1   |           | .BUSHING,SW MTNG:ALUMINUM                  | 80009    | 358-0660-00      |
| -16                                                                                                                                                                                                                        | 210-0008-00        |                      |         | 1   |           | .WASHER,LOCK:INTL,0.172 ID X 0.331"OD,S    | 78189    | 1208-00-00-0541C |
|                                                                                                                                                                                                                            |                    |                      |         |     |           | .***** (END ATTACHING PARTS)*****          |          |                  |
| -17                                                                                                                                                                                                                        | -----              |                      |         | 1   |           | .CA ASSY,SP,ELEC:(SEE A7A1W140 REPL)       |          |                  |
| -18                                                                                                                                                                                                                        | 343-1036-00        |                      |         | 1   |           | .STRAIN RLF,CA:PVC BLANK                   | 80009    | 343-1036-00      |
| -19                                                                                                                                                                                                                        | 343-0979-00        |                      |         | 1   |           | .STRAIN RLF,CA:ACETAL,SLATE GRAY           | 80009    | 343-0979-00      |
| P6452 STANDARD ACCESSORIES                                                                                                                                                                                                 |                    |                      |         |     |           |                                            |          |                  |
|                                                                                                                                                                                                                            | 012-0747-00        |                      |         | 1   |           | LEAD SET,ELEC:10 WIDE,25 CML               | 80009    | 012-0747-00      |
|                                                                                                                                                                                                                            | 012-0989-00        |                      |         | 1   |           | LEAD SET,ELEC:GROUND OR VL SENSE LEAD      | 80009    | 012-0989-00      |
|                                                                                                                                                                                                                            | 020-0720-00        |                      |         | 1   |           | ACCESSORY KIT:PKG OF 12                    | 80009    | 020-0720-00      |
|                                                                                                                                                                                                                            | 070-3615-00        |                      |         | 1   |           | SHEET,TECHNICAL:INSTRUCTION,010-6452-00    | 80009    | 070-3615-00      |
| P6452 OPTIONAL ACCESSORIES                                                                                                                                                                                                 |                    |                      |         |     |           |                                            |          |                  |
|                                                                                                                                                                                                                            | 003-0709-00        |                      |         | 1   |           | EXTRACTOR,1C:16 PIN TEST CLIP              | 80009    | 003-0709-00      |
|                                                                                                                                                                                                                            | 012-0800-00        |                      |         | 1   |           | LEAD SET,ELEC:10 WIDE,9.843 L              | 80009    | 012-0800-00      |
|                                                                                                                                                                                                                            | 012-0968-00        |                      |         | 1   |           | LEAD SET,ELEC:12 WIDE,5.0 L                | 80009    | 012-0968-00      |
|                                                                                                                                                                                                                            | 012-0987-00        |                      |         | 1   |           | LEAD SET,ELEC:18 WIDE,5.0 L                | 80009    | 012-0987-00      |
|                                                                                                                                                                                                                            | 012-0989-01        |                      |         | 1   |           | LEAD SET,ELEC:GRND OR UL SENSE LEAD,4.0 L  | 80009    | 012-0989-01      |
|                                                                                                                                                                                                                            | 012-1000-00        |                      |         | 1   |           | LEAD SET,ELEC:12 WIDE,10.0 L               | 80009    | 012-1000-00      |
|                                                                                                                                                                                                                            | -----              |                      |         | -   |           | (DAS9109 ONLY)                             |          |                  |
|                                                                                                                                                                                                                            | 012-1000-00        | B010100              | B010184 | 1   |           | LEAD SET,ELEC:12 WIDE,10.0 L               | 80009    | 012-1000-00      |
|                                                                                                                                                                                                                            | -----              |                      |         | -   |           | (DAS9129 ONLY)                             |          |                  |
|                                                                                                                                                                                                                            | 015-0330-00        |                      |         | 1   |           | ADPTR,TEST CLIP:16 DIP                     | 80009    | 015-0330-00      |
|                                                                                                                                                                                                                            | 015-0339-00        |                      |         | 1   |           | ADPTR,TEST CLIP:40 DIP                     | 80009    | 015-0339-00      |
|                                                                                                                                                                                                                            | 015-0339-02        |                      |         | 1   |           | ADPTR,TEST CLIP:40 DIP                     | 80009    | 015-0339-02      |
|                                                                                                                                                                                                                            | 103-0209-00        |                      |         | 1   |           | ADAPTER,CONN:GRIB TO PROBE                 | 80009    | 103-0209-00      |

**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No.     | Tektronix<br>Part No. | Serial/Model No.<br>Eff Dscont | Qty | 1 2 3 4 5 | Name & Description                                                       | Mfr<br>Code | Mfr Part Number  |
|----------------------------|-----------------------|--------------------------------|-----|-----------|--------------------------------------------------------------------------|-------------|------------------|
| 16-                        | P6455                 |                                | 1   |           | PROBE,WORD GEN:P6455,TTL/MOS<br>(SEE A15 REPL)                           | 80009       | P6455            |
| -1                         | 334-4176-00           |                                | 1   |           | .MARKER,IDENT:MKD TTL/MOS PATT GEN                                       | 80009       | 334-4176-00      |
| -2                         | 334-4240-00           |                                | 1   |           | .MARKER,IDENT:MKD VH VL                                                  | 80009       | 334-4240-00      |
| -3                         | 380-0682-00           |                                | 2   |           | .HOUSING,PROBE:POLYCARB,SLATE GRAY<br>*****ATTACHING PARTS*****          | 80009       | 380-0682-00      |
| -4                         | 211-0086-00           |                                | 4   |           | .SCREW,MACHINE:4-40 X 0.75 100° DEG,FLH ST                               | 83385       | ORD BY DESCR     |
| -5                         | 210-0406-00           |                                | 4   |           | .NUT,PLAIN,HEX.:4-40 X 0.188 INCH,BRS<br>*****END ATTACHING PARTS*****   | 73743       | 12161-50         |
| -6                         | 200-2731-00           |                                | 2   |           | .COVER,HOLE:POLYCARB,GRAY                                                | 80009       | 200-2731-00      |
| -7                         | 361-0758-01           |                                | 1   |           | .SPACER,PROBE:ACETAL,SLATE GRAY                                          | 80009       | 361-0758-01      |
| -8                         | 343-1018-00           |                                | 1   |           | .STRAIN RLF,CA:1.89 L                                                    | 80009       | 343-1018-00      |
| -9                         | -----                 |                                | 1   |           | .CKT BOARD ASSY:TTL/MOS PATTERN GEN<br>(SEE A15A1 REPL)                  |             |                  |
| -10                        | -----                 |                                | 1   |           | ..CONN,RCPT,ELEC:(SEE A15A1J102 REPL)                                    |             |                  |
| -11                        | -----                 |                                | 3   |           | ..TERM SET,PIN:(SEE A15A1J100,200,300 REPL)                              |             |                  |
| -12                        | 343-1019-00           |                                | 1   |           | .STRAIN RLF,CA:1.89 L                                                    | 80009       | 343-1019-00      |
| -13                        | -----                 |                                | 1   |           | .SWITCH,SLIDE:(SEE A15A1S2 REPL)                                         |             |                  |
| -14                        | -----                 |                                | 1   |           | .SWITCH,PUSH:(SEE A15A1S1 REPL)<br>*****ATTACHING PARTS*****             |             |                  |
| -15                        | 358-0660-00           |                                | 1   |           | .BUSHING,SW MTNG:ALUMINUM                                                | 80009       | 358-0660-00      |
| -16                        | 210-0008-00           |                                | 1   |           | .WASHER,LOCK:INTL,0.172 ID X 0.331"OD,S<br>*****END ATTACHING PARTS***** | 78189       | 1208-00-00-0541C |
| -17                        | -----                 |                                | 1   |           | .CA ASYS,SP,ELEC:(SEE A15A1W120 REPL)                                    |             |                  |
| -18                        | 343-1036-00           |                                | 1   |           | .STRAIN RLF,CA:PVC BLANK                                                 | 80009       | 343-1036-00      |
| -19                        | 343-0979-00           |                                | 1   |           | .STRAIN RLF,CA:ACETAL,SLATE GRAY                                         | 80009       | 343-0979-00      |
| P6455 STANDARD ACCESSORIES |                       |                                |     |           |                                                                          |             |                  |
|                            | 012-0926-00           |                                | 1   |           | LEAD SET,ELEC:18 WIDE,8.25 L                                             | 80009       | 012-0926-00      |
|                            | 012-0989-00           |                                | 1   |           | LEAD SET,ELEC:GROUND OR VL SENSE LEAD                                    | 80009       | 012-0989-00      |
|                            | 012-0990-00           |                                | 1   |           | LEAD SET,ELEC:GROUND OR VL SENSE LEAD                                    | 80009       | 012-0990-00      |
|                            | 020-0720-00           |                                | 1   |           | ACCESSORY KIT:PKG OF 12                                                  | 80009       | 020-0720-00      |
|                            | 070-3616-00           |                                | 1   |           | SHEET,TECHNICAL:INSTRUCTION,010-6455-00                                  | 80009       | 070-3616-00      |
| P6455 OPTIONAL ACCESSORIES |                       |                                |     |           |                                                                          |             |                  |
|                            | 012-0747-00           |                                | 1   |           | LEAD SET,ELEC:10 WIDE,25 CML                                             | 80009       | 012-0747-00      |
|                            | 012-0989-01           |                                | 1   |           | LEAD SET,ELEC:GRND OR UL SENSE LEAD,4.0 L                                | 80009       | 012-0989-01      |
|                            | 012-0990-01           |                                | 1   |           | LEAD SET,ELEC:GROUND OR VL SENSE LEAD 4.0                                | 80009       | 012-0990-01      |
|                            | 012-1000-00           |                                | 1   |           | LEAD SET,ELEC:12 WIDE,10.0 L                                             | 80009       | 012-1000-00      |
|                            | 012-1001-00           |                                | 1   |           | LEAD SET,ELEC:20 WIDE,5.0 L                                              | 80009       | 012-100          |

| Fig. &<br>Index<br>No.     | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                                                         | Mfr   |                  |  |
|----------------------------|-----------------------|------------------|--------|-----|-----------|----------------------------------------------------------------------------|-------|------------------|--|
|                            |                       | Eff              | Dscont |     |           |                                                                            | Code  | Mfr Part Number  |  |
| 16-                        | P6456                 |                  |        | 1   |           | PROBE,PAT GEN:P6456,ECL                                                    | 80009 | P6456            |  |
| -1                         | 334-4241-00           |                  |        | 1   |           | .MARKER,IDENT:MKD VH VL                                                    | 80009 | 334-4241-00      |  |
| -2                         | 334-4182-00           |                  |        | 1   |           | .MARKER,IDENT:MKD ECL                                                      | 80009 | 334-4182-00      |  |
| -3                         | 380-0682-00           |                  |        | 2   |           | .HOUSING,PROBE:POLYCARB,SLATE GRAY<br>.....(ATTACHING PARTS).....          | 80009 | 380-0682-00      |  |
| -4                         | 211-0086-00           |                  |        | 4   |           | .SCREW,MACHINE:4-40 X 0.75 100° DEG,FLH ST                                 | 83385 | ORD BY DESCR     |  |
| -5                         | 210-0406-00           |                  |        | 4   |           | .NUT,PLAIN,HEX.:4-40 X 0.188 INCH,BRS<br>.....(END ATTACHING PARTS).....   | 73743 | 12161-50         |  |
| -6                         | 200-2731-00           |                  |        | 2   |           | .COVER,HOLE:POLYCARB,GRAY                                                  | 80009 | 200-2731-00      |  |
| -7                         | 361-0758-01           |                  |        | 1   |           | .SPACER,PROBE:ACETAL,SLATE GRAY                                            | 80009 | 361-0758-01      |  |
| -8                         | 343-1018-00           |                  |        | 1   |           | .STRAIN RLF,CA:1.89 L                                                      | 80009 | 343-1018-00      |  |
| -9                         | -----                 |                  |        | 1   |           | .CKT BOARD ASSY:ECL PATTERN GEN PROBE<br>(SEE A16A1 REPL)                  |       |                  |  |
| -10                        | -----                 |                  |        | 1   |           | ..CONN,RCPT,ELEC:(SEE A16A1J102 REPL)                                      |       |                  |  |
| -11                        | -----                 |                  |        | 3   |           | ..TERM SET,PIN:(SEE A16A1J100,200,300 REPL)                                |       |                  |  |
| -12                        | 343-1019-00           |                  |        | 1   |           | .STRAIN RLF,CA:1.89 L                                                      | 80009 | 343-1019-00      |  |
| -13                        | -----                 |                  |        | 1   |           | .SWITCH,SLIDE:(SEE A16A1S2 REPL)                                           |       |                  |  |
| -14                        | -----                 |                  |        | 1   |           | .SWITCH,PUSH:(SEE A16A1S1 REPL)<br>.....(ATTACHING PARTS).....             |       |                  |  |
| -15                        | 358-0660-00           |                  |        | 1   |           | .BUSHING,SW MTNG:ALUMINUM                                                  | 80009 | 358-0660-00      |  |
| -16                        | 210-0008-00           |                  |        | 1   |           | .WASHER,LOCK:INTL,0.172 ID X 0.331"OD,S<br>.....(END ATTACHING PARTS)..... | 78189 | 1208-00-00-0541C |  |
| -17                        | -----                 |                  |        | 1   |           | .CA ASSY,SP,ELEC:(SEE A16A1W147 REPL)                                      |       |                  |  |
| -18                        | 343-1036-00           |                  |        | 1   |           | .STRAIN RLF,CA:PVC BLANK                                                   | 80009 | 343-1036-00      |  |
| -19                        | 343-0979-00           |                  |        | 1   |           | .STRAIN RLF,CA:ACETAL,SLATE GRAY                                           | 80009 | 343-0979-00      |  |
| P6456 STANDARD ACCESSORIES |                       |                  |        |     |           |                                                                            |       |                  |  |
|                            | 012-0926-00           |                  |        | 1   |           | LEAD SET,ELEC:18 WIDE,8.25 L                                               | 80009 | 012-0926-00      |  |
|                            | -----                 |                  |        | 1   |           | .CKT BOARD ASSY:PATT GEN LEAD SET<br>(SEE A16A1A1 REPL)                    |       |                  |  |
|                            | 012-0989-00           |                  |        | 1   |           | LEAD SET,ELEC:GROUND OR VL SENSE LEAD                                      | 80009 | 012-0989-00      |  |
|                            | 012-0990-00           |                  |        | 1   |           | LEAD SET,ELEC:GROUND OR VL SENSE LEAD                                      | 80009 | 012-0990-00      |  |
|                            | 012-1001-00           |                  |        | 1   |           | LEAD SET,ELEC:20 WIDE,5.0 L                                                | 80009 | 012-100          |  |
|                            | 020-0720-00           |                  |        | 1   |           | ACCESSORY KIT:PKG OF 12                                                    | 80009 | 020-0720-00      |  |
|                            | 070-3753-00           |                  |        | 1   |           | SHEET,TECHNICAL:INSTRUCTION,010-6456-00                                    | 80009 | 070-3753-00      |  |
| P6456 OPTIONAL ACCESSORIES |                       |                  |        |     |           |                                                                            |       |                  |  |
|                            | 012-0989-01           |                  |        | 1   |           | LEAD SET,ELEC:GRND OR UL SENSE LEAD,4.0 L                                  | 80009 | 012-0989-01      |  |
|                            | 012-0990-00           |                  |        | 1   |           | LEAD SET,ELEC:GROUND OR VL SENSE LEAD                                      | 80009 | 012-0990-00      |  |
|                            | 012-1000-00           |                  |        | 1   |           | LEAD SET,ELEC:12 WIDE,10.0 L                                               | 80009 | 012-1000-00      |  |



**Replaceable Mechanical Parts  
DAS 9100 Series Service Vol.II**

| Fig. &<br>Index<br>No. | Tektronix<br>Part No. | Serial/Model No. |        | Qty | 1 2 3 4 5 | Name & Description                         | Mfr<br>Code | Mfr Part Number |
|------------------------|-----------------------|------------------|--------|-----|-----------|--------------------------------------------|-------------|-----------------|
|                        |                       | Eff              | Dscont |     |           |                                            |             |                 |
| 16-                    | P6454                 |                  |        | 1   |           | PROBE,DATA ACQ:P6454,100MHZ CLOCK          | 80009       | P6454           |
| -20                    | 175-4790-00           |                  |        | 1   |           | .CABLE ASSY,RF:50 OHM COAX,10.5 L          | 80009       | 175-4790-00     |
| -21                    | 334-4244-00           |                  |        | 1   |           | .MARKER,IDENT:MKD P6454                    | 80009       | 334-4244-00     |
|                        | 119-1475-00           |                  |        | 1   |           | .HYBRID CKT ASSY:                          | 80009       | 119-1475-00     |
| -22                    | 426-1794-00           |                  |        | 1   |           | ..FR SECT,PROBE:LOWER                      | 80009       | 426-1794-00     |
|                        |                       |                  |        |     |           | ..*****ATTACHING PARTS*****                |             |                 |
| -23                    | 211-0317-00           |                  |        | 3   |           | ..SCREW,MACHINE:0-80 X 0.12,PNH            | 80009       | 211-0317-00     |
| -24                    | 210-0504-00           |                  |        | 3   |           | ..NUT,PLAIN,HEX.:0-8 X 0.156 INCH,BRS      | 73743       | 3004-402        |
|                        |                       |                  |        |     |           | ..*****END ATTACHING PARTS*****            |             |                 |
| -25                    | 131-2695-00           |                  |        | 2   |           | ..CONTACT,ELEC:MICROMINATURE CONN          | 71468       | 031-9569-000    |
| -26                    | 386-4566-00           |                  |        | 1   |           | ..PLATE,GROUND:                            | 80009       | 386-4566-00     |
| -27                    | 426-1795-00           |                  |        | 1   |           | ..FR SECT,PROBE:UPPER                      | 80009       | 426-1795-00     |
| -28                    | 195-2234-00           |                  |        | 2   |           | .LEAD,ELECTRICAL:30 AWG,1.75 L,0-N         | 80009       | 195-2234-00     |
| -29                    | 195-3659-00           |                  |        | 1   |           | .LEAD,ELECTRICAL:23 AWG,1.5 L,0-N          | 80009       | 195-3659-00     |
|                        |                       |                  |        |     |           | P6454 STANDARD ACCESSORIES                 |             |                 |
|                        | 070-3837-00           |                  |        | 1   |           | SHEET TECHNICAL:INSTRUCTION                | 80009       | 070-3837-00     |
|                        |                       |                  |        |     |           | P6454 OPTIONAL ACCESSORIES                 |             |                 |
|                        | 195-1943-06           |                  |        | 1   |           | LEAD,ELECTRICAL:30 AWG,2.0 L,4-N,PKG OF 10 | 80009       | 195-1943-06     |
|                        | 195-2234-06           |                  |        | 1   |           | LEAD,ELECTRICAL:30 AWG,1.75L,0-N,PKG OF 10 | 80009       | 195-2234-06     |

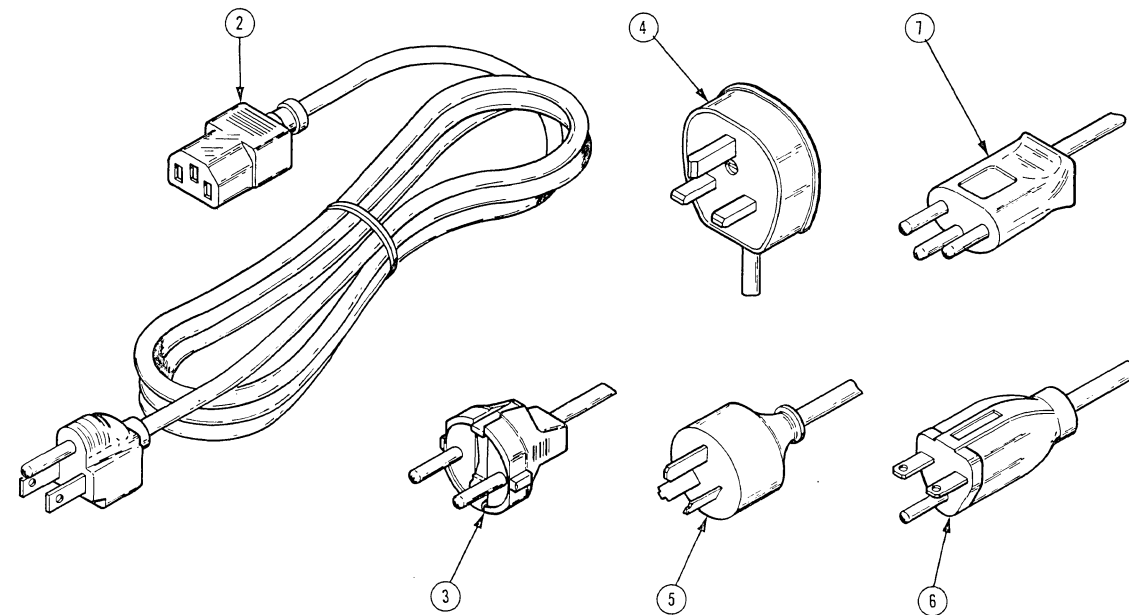
| Fig. & Index No. | Tektronix Part No. | Serial/Model No. Eff Dscont | Qty | 1 | 2 | 3 | 4 | 5 | Name & Description | Mfr Code | Mfr Part Number |
|------------------|--------------------|-----------------------------|-----|---|---|---|---|---|--------------------|----------|-----------------|
|------------------|--------------------|-----------------------------|-----|---|---|---|---|---|--------------------|----------|-----------------|

OPTIONS

|             |  |  |  |  |  |  |  |  |                                      |  |  |
|-------------|--|--|--|--|--|--|--|--|--------------------------------------|--|--|
| DAS 9129 01 |  |  |  |  |  |  |  |  | TAPE DRIVE FOR DC100 TYPE CARTRIDGES |  |  |
| DAS 9129 02 |  |  |  |  |  |  |  |  | RS-232, GPIB AND HARD COPY INTERFACE |  |  |
| DAS 9129 03 |  |  |  |  |  |  |  |  | ADDITIONAL POWER SUPPLY              |  |  |
| DAS 9129 04 |  |  |  |  |  |  |  |  | TWO ADDITIONAL POWER SUPPLIES        |  |  |
| DAS 9129 05 |  |  |  |  |  |  |  |  | RACKMOUNT HARDWARE (655-1524-00)     |  |  |

STANDARD ACCESSORIES

|     |             |         |         |   |  |  |  |  |                                                                        |       |             |
|-----|-------------|---------|---------|---|--|--|--|--|------------------------------------------------------------------------|-------|-------------|
| -1  | P6452       |         |         | 1 |  |  |  |  | PROBE,DATA ACQ:P6452,8-CHANNEL                                         | 80009 | P6452       |
|     | 012-1000-00 |         |         | 1 |  |  |  |  | LEAD SET,ELEC:12 WIDE,10.0 L (DAS9109 ONLY)                            | 80009 | 012-1000-00 |
|     | 012-1000-00 | B010100 | B010184 | 1 |  |  |  |  | LEAD SET,ELEC:12 WIDE,10.0 L (DAS9129 ONLY)                            | 80009 | 012-1000-00 |
|     | 062-5847-03 |         |         | 1 |  |  |  |  | MANUAL SET,TECH:OPERATORS                                              | 80009 | 062-5847-02 |
|     | 070-3624-01 |         |         | 1 |  |  |  |  | .MANUAL,TECH:OPERATOR, DAS 9100 SERIES                                 | 80009 | 070-3624-01 |
|     | 070-3694-01 |         |         | 1 |  |  |  |  | .MANUAL,TECH:REFERENCE,DAS 9100 SERIES                                 | 80009 | 070-3694-01 |
|     | 070-3781-01 |         |         | 1 |  |  |  |  | .MANUAL,TECH:PROGRAMMING GUIDE, DAS 9100                               | 80009 | 070-3781-01 |
|     | 070-4254-00 |         |         | 1 |  |  |  |  | .MANUAL,TECH:OPERATORS ADDENDUM,41A04                                  | 80009 | 070-4254-00 |
|     | 070-3836-01 |         |         | 1 |  |  |  |  | MANUAL,TECH:SERVICE,W/OPTIONS VOL. 2                                   | 80009 | 070-3836-01 |
| -2  | 161-0118-00 |         |         | 1 |  |  |  |  | CABLE ASSY,PWR.:3,16 AWG,125V,90.0 L (STANDARD ONLY)                   | 16428 | CH-8686     |
| -3  | 161-0066-09 |         |         | 1 |  |  |  |  | CABLE ASSY,PWR:3,0.75MM SQ,220V,96.0 L (OPTION A1 EUROPEAN ONLY)       | S3109 | OBD         |
| -4  | 161-0066-10 |         |         | 1 |  |  |  |  | CABLE ASSY,PWR:3,0.75MM SQ,240V,96.0 L (OPTION A2 UNITED KINGDOM ONLY) | S3109 | OBD         |
| -5  | 161-0066-11 |         |         | 1 |  |  |  |  | CABLE ASSY,PWR:3,0.75MM,240V,96.0L (OPTION A3 AUSTRALIAN ONLY)         | S3109 | 1600        |
| -6  | 161-0066-12 |         |         | 1 |  |  |  |  | CABLE ASSY,PWR:3,18 AWG,240V,96.0 L (OPTION A4 NORTH AMERICAN ONLY)    | T1105 | OBD         |
| --7 | 161-0154-00 |         |         | 1 |  |  |  |  | CABLE ASSY,PWR:3,0.75MM SQ,240V,6A,2.5M L (OPTION A5-SWITZERLAND ONLY) | 000JA | A25SW       |
| -8  | 214-3154-00 |         |         | 1 |  |  |  |  | EXTRACTOR,CKT B:                                                       | 80009 | 214-3154-00 |



OPTIONAL ACCESSORIES

|  |             |         |         |   |  |  |  |  |                                     |       |                  |
|--|-------------|---------|---------|---|--|--|--|--|-------------------------------------|-------|------------------|
|  | P6452       |         |         | 1 |  |  |  |  | PROBE,DATA ACQ:P6452,8-CHANNEL      | 80009 | P6452            |
|  | P6453       |         |         | 1 |  |  |  |  | PROBE,DATA ACQ:P6453,300MHZ         | 80009 | P6453            |
|  | P6454       |         |         | 1 |  |  |  |  | PROBE,DATA ACQ:P6454,100MHZ CLOCK   | 80009 | P6454            |
|  | P6455       |         |         | 1 |  |  |  |  | PROBE,WORD GEN:P6455,TTL/MOS        | 80009 | P6455            |
|  | P6456       |         |         | 1 |  |  |  |  | PROBE,PAT GEN:P6456,ECL             | 80009 | P6456            |
|  | 012-0074-00 |         |         | 1 |  |  |  |  | CABLE ASSY,RF:75 OHM COAX,42.0 L    | 80009 | 012-0074-00      |
|  | 012-0630-01 |         |         | 1 |  |  |  |  | CABLE,INTCON:2 METERS LONG          | 74868 | AC30111102 REVC  |
|  | 012-0630-02 |         |         | 1 |  |  |  |  | CABLE,INTCON:4.0 M                  | 02660 | OBD              |
|  | 012-0815-00 |         |         | 1 |  |  |  |  | CABLE,INTCON:2.0 METERS             | 04919 | OBD              |
|  | 012-0820-00 |         |         | 1 |  |  |  |  | CABLE,INTCON:60.0 L                 | 80009 | 012-0820-00      |
|  | 016-0463-00 |         |         | 1 |  |  |  |  | HDW KIT,ELEK EQ:                    | 80009 | 016-0463-00      |
|  | 020-0707-00 |         |         | 1 |  |  |  |  | COMPONENT KIT:POWER SUPPLY MODULE   | 80009 | 020-0707-00      |
|  | 070-3836-01 |         |         | 1 |  |  |  |  | MANUAL,TECH:SERVICE,W/OPTIONS VOL.2 | 80009 | 070-3836-01      |
|  | 070-3625-01 |         |         | 1 |  |  |  |  | MANUAL,TECH:SERVICE,W/OPTIONS VOL.1 | 80009 | 070-3625-01      |
|  | 062-5848-00 | B010100 | B020549 | 1 |  |  |  |  | MANUAL SET,TECH:SERVICE             | 80009 | 062-5848-00      |
|  | 062-5848-01 | B020550 |         | 1 |  |  |  |  | MANUAL SET,TECH:SERVICE             | 80009 | 062-5848-01      |
|  | 070-3204-00 | B020550 |         | 1 |  |  |  |  | MANUAL,TECH:SERVICE                 | 80009 | 070-3204-00      |
|  | 067-0980-00 |         |         | 1 |  |  |  |  | FIXTURE,CAL:DAS SERVICE             | 80009 | 067-0980-00      |
|  | 175-7322-00 |         |         | 2 |  |  |  |  | .CABLE ASSY,RF:50 OHM COAX,10.0 L   | 80009 | 175-7322-00      |
|  | 195-0995-00 |         |         | 1 |  |  |  |  | .LEAD,ELECTRICAL:26 AWG,12.0 L,9-4  | 80009 | 195-0995-00      |
|  | 067-1037-00 |         |         | 1 |  |  |  |  | FIXTURE,CAL:SET-UP & HOLD           | 80009 | 067-1037-00      |
|  | 119-1350-01 |         |         | 1 |  |  |  |  | CARTRIDGE,TAPE:BOX OF 5             | 53387 | DC-100A BOX OF 5 |
|  | 175-2753-00 |         |         | 1 |  |  |  |  | CABLE ASSY:75 OHM COAX,120.0 L      | 80009 | 175-2753-00      |

