

Ξ

Maintenance Analysis Procedures

Revised July, 1981 S241-6250-4

IBM 6360 Diskette Unit IBM 6580 Display Station Communications

SAFETY PRECAUTIONS

The drawings and specifications contained herein shall not be reproduced in whole or in part without written permission.

IBM has prepared this maintenance manual for the use of IBM Customer Engineers in the installation, maintenance and repair of the specific machines indicated. IBM makes no representations that it is suitable for any other purpose.

Information contained in this manual is subject to change from time to time. Any such change will be reported in subsequent revisions or distributed through Customer Engineering Memorandums (CEMs) to all subscribers.

Requests for copies of IBM publications should be made to your IBM representative or to the IBM Branch Office servicing your locality.

Comments about the publications may be addressed to (IBM Corporation, 740 New Circle Road N.W., Publications Department 901, Lexington, Ky. 40511). IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation whatever. You may, of course, continue to use the information you supply.

"It is possible that this material may contain reference to, or information about, IBM products (machines and programs), programming, or services that are not announced in your country. Such references or information must not be construed to mean that IBM intends to announce such IBM products, programming, or services in your country."

"IBM," "Executive," "IBM EXECUTARY," and "Selectric" are registered trademarks of the IBM Corporation.

©Copyright International Business Machines Corporation 1980, 1981 All IBM Customer Engineers are expected to take every safety precaution possible and observe the following safety practices when servicing IBM equipment.

Mechanical Safety:

- 1. Safety glasses must be worn.
- 2. All safety devices, such as guards, shields, signs, ground wires, etc., must be restored after maintenance. When a guard or shield is removed to observe or make an adjustment, that shield must be replaced when work in the area is completed.
- 3. Watches, rings, necklaces, ID bracelets, etc., must be removed when servicing the machine.
- 4. Care must be used when working near moving parts. Keep hair away from moving parts. Avoid wearing loose clothing that might be caught in the machine. Shirt sleeves must be kept buttoned or rolled above the elbows. Ties must be tucked in the shirt or have a tie clasp approximately three inches from the end. Tie chains are not recommended.

Electrical Safety:

- 1. The equipment referenced in this manual may use high voltages. Check voltage labels!
- 2. Safety glasses must be worn when checking energized circuits.
- 3. If a circuit is disconnected for servicing or parts replacement, it must be reconnected and tested before allowing the use of the machine.
- Power should be removed from the machine for servicing whenever possible. Remember, when checking voltages, avoid contacting ground potential, such as metal floor strips, machine frame, etc.
- 5. Meter continuity checks should be used instead of voltage checks whenever possible.
- 6. Do not apply power to any part, component, or subassembly when it is not physically mounted in the machine, or its approved service position.

General Safety:

- 1. Each Customer Engineer is responsible to be certain no action on his/her part makes the product unsafe or exposes customer personnel to hazards.
- 2. Store the removed machine covers in a safe, out of the way place where no one can trip over them.
- 3. If you must leave the machine in a down condition, always install the covers and disconnect the power before leaving the customer's office.
- 4. Always place CE tool kit away from walk areas where no one can trip over it.
- 5. Maintain safe conditions in the area of the machine while performing and after completing maintenance.
- 6. Before starting the equipment, make sure fellow CEs and customer personnel are not in a hazardous position.
- 7. All the machine covers must be in place before the machine is returned to the customer.

Note: Refer to the Safety CEMs relating to this product(s) for further safety precautions.

MAP REFERENCE TABLE

MAP NO.	TITLE	MAP NO.
0001	TABLE OF CONTENTS	7010
0002 j	INTRODUCTION	7020
0009 j	START-OF-CALL MAP	7030
0010 j	SYSTEM ENTRY MAP	7060
0015 j	ERROR LED STATUS MAP	7061
0017 j	LED STATUS MAP	7062
0019 j	ERROR CODE (03,06,08,09) MAP	8020
1010	KEYBOARD ENTRY MAP	8021
1011	SPEAKER CHECK MAP	8022
1012 j	DISTRIBUTION CABLE MAP	8025
1013	KEYLOCK ON FAILURE	8026
1014	KEYLOCK OFF FAILURE	8028
4011	CABLE DETECTION REPAIR- CONN. 0	8030
4012	RECEIVE CIRCUIT REPAIR- CONN. 0	8032
4013	TRANSMIT CIRCUIT REPAIR- CONN. 0	8060
4211	SHARING INTERRUPT REPAIR	8061
4212	SHARING INTERRUPT REPAIR	8062
4213	CABLE DETECTION REPAIR- CONN. 6A	8064
4214	RECEIVE CIRCUIT REPAIR- CONN. 6A	8065
4215	TRANSMIT CIRCUIT REPAIR- CONN. 6A	9010
4216	CABLE DETECTION REPAIR- CONN. 6B	9020
4217	RECEIVE CIRCUIT REPAIR- CONN. 6B	9030
4218	TRANSMIT CIRCUIT REPAIR- CONN. 6B	9040
5011	CABLE DETECTION REPAIR- CONN. 0	9050
5012	RECEIVE CIRCUIT REPAIR- CONN. 0	
5013	TRANSMIT CIRCUIT REPAIR-CONN. 0	i i
5030 j	FREQUENCY DRIFT ON PRINTER COMMO.	
6010	POWER SUPPLY MAP	+

TITLE

INTERNAL COMMUNICATIONS CABLE

DISKETTE DRIVE NOT READY MAP UNSAFE WRITE CONDITION MAP NO INDEX PULSES MAP SEEK ERROR MAP

NOT WRITING/WRITE ERRORS MAP H/S WRAP AND/OR CABLE WRAP ERRORS DISKETTE UNIT +5 VDC POWER MAP DISKETTE UNIT +24 VDC POWER MAP DISKETTE UNIT -5 VDC POWER MAP DISKETTE UNIT A/C POWER FAILURE

DISTORTED DISPLAY IMAGE MAP NO CONTRAST ADJUSTMENT MAP

APPENDIX A - DISPLAY IMAGE FIGURES

DC SHORT FAILURE MAP BLANK DISPLAY MAP DISPLAY ADAPTER MAP NO VIDEO DATA MAP

APPENDIX B - GLOSSARY APPENDIX C - CUSTOMER PRINT

COMMUNICATIONS INTERNAL EIA CABLE

PORT 4 NO VOLTAGE P4A/P4B NO VOLTAGE FEATURE CARD POWER RNA START MAP READ ID ERROR MAP IBM Displaywriter

INTRODUCTION

PAGE 1 OF 4

M A P S (MAINTENANCE ANALYSIS PROCEDURES)

- 1. THESE MAPS ARE USED FOR TWO REASONS.
 - a. They aid in diagnosing System failures.
 - b. They aid in learning Diagnostic Procedures.
- 2. STEPS FOR USING MAPS.
 - a. You should have received a Service Request Number when notified of the Call. The Service Request Number is used to determine which FRU to bring.
 - b. Make a quick visual check for problems (loose or broken parts, loose connectors, etc.) A visual check may be quicker than a MAP diagnosis.
 - c. You should begin in the Start-of-Call MAP. The Start-of-Call MAP will send you to an area MAP, determined by your Service Request Number or to the System Entry MAP if you do not have a Service Request Number.
 - d. These MAPs aid in finding problems. An instruction or question can be read wrong. If the problem is not solved, you should start again in the MAPs and read each step very carefully. If you go through the MAPs a second time and you still have not solved the problem, it may be because the machine has two problems or an intermittent problem. The EC levels of the MAPs may not be correct. Verify the EC Level of the MAPs. If this does not solve the problem and you cannot repair it, follow your normal escalation procedure.

IBM Displaywriter

INTRODUCTION

PAGE 2 OF 4

e. ESCALATION PROCEDURE

When it is necessary to follow your normal escalation procedure, you should be prepared in the following way:

- 1) The type of jobs or functions that fail should be listed.
- 2) You should know the sequence leading to the failure.
- You should have the History Card available with all options, EC levels and CEMs listed.
- 3. BASIC MAP INFORMATION:
 - a. A MAP aids you in finding a problem by using questions concerning the System symptoms. Each question is written so it can be answered YES or NO. When you answer "YES" or "NO" to a question, the MAP will lead you to a fix, a question, or another MAP.
 - b. At the start of each MAP, an Entry and Exit Table specifies the locations in the MAPs of any Entry or Exit Points.

DIAGNOSTIC PROCEDURES

INTRODUCTION: VOLTAGE, GROUND AND CONTINUITY READINGS

The following text describes some SAFETY Procedures. It has information on voltage, ground and continuity readings. Unless you understand these MAPs, read the information below before you go to the Start-of-Call MAP.

MAP 0002-2

CAUTION

ALWAYS POWER-OFF WHEN CHECKING THE PRIMARY POWER FUSE, DISCONNECTING OR CONNECTING ANY ELECTRICAL PART, UNLESS OTHERWISE DIRECTED. IT IS A GOOD IDEA TO REMOVE POWER WHEN CHECKING ANY FUSE.

1. VOLTAGE READINGS

- a. Every time a voltage reading is requested in these MAPs, the readings are to be taken with the CE Meter (PN 9900628). If a different meter is used in a World Trade Country, that Country must check the readings with their meter and make a conversion table if necessary. All AC voltages must be accurate to plus or minus 10% (WT: plus 8%, minus 12%).
- b. All DC voltages must be accurate to plus or minus 10%. Unless stated otherwise, all connectors should be connected normally when a voltage reading is taken.
- c. The AC line voltage on U.S. machines should be between 104 (ac) volts and 127 (ac) volts. On GBG/I machines, the voltage will differ by Country.
- 2. GROUND CHECKS

To check a ground point, measure between the ground point and a known voltage source. The reading must equal the voltage on that source if the ground is good. Continuity readings may be used to check grounds, but measure to a known ground point. Use the lowest ohm scale and check for less than two (2.0) ohms.

CAUTION

ALWAYS REMOVE POWER BEFORE TAKING A CONTINUITY READING.

INTRODUCTION

PAGE 4 OF 4

3. CONTINUITY READINGS

When taking continuity readings, back circuits can affect the reading. If necessary, disconnect connectors. An open circuit will read over range (A one with no decimal point or zeros). A circuit with good continuity will read less than two (2.0) ohms.

	STA	RT-	OF-	CALL	MAP
--	-----	-----	-----	------	-----

PAGE 1 OF 7

ENTRY POINTS

FROM	THIS MAP	
NUMBER	NUMBER	
No en	n this t	

001

(ENTRY POINT A)

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
1	004	0010	A
2	012	0010	A
6	020	0010	A
6	024	0010	A

вс	D	MAP	0009-1
	 004		
	You are now di the System Ent		
	GO TO MAP 0010 ENTRY POINT A.	,	
0	05		
	Instruct the the Problem Package (Probl Determination Problem Determ Diskette) to Service Reques	Deter em Guio ination gene	rmination de and n erate a
	Locate the S Number in the Number Table a MAP indicated MDI indicated.	Service nd go or exe	e Request
(lo	the problem eas ose keytops, les, etc.)		
3 2			

MAP 0009-1

ΕF

F 1	START-OF-CALL MAP	K L	НJ	MAP 0009-2
1	MAP 0009	<u>.</u>	ļļ	
	PAGE 2 OF 7			
 007		(Step 012 continued) MAP.	 01	5
Do you sus problem? Y N	spect a Paper Handling	GO TO MAP 0010, ENTRY POINT A.		Make sure the Mag Card Cable is attached.
008		 013		POWER-ON the System.
 Do vou s	suspect the Printer?	Load the DISPLAYWRIT		POWER-ON the Mag Card.
Y N		DIAGNOSTICS.	i	Load the DISPLAYWRITER SYSTEM MAG CARD UNIT DIAGNOSTICS.
009 	a suspect the Mag Card?	Select MDIs. Select Shared Resour		Select MDIs.
Y N	a suspect the may card:	or "g".		Select Mag Card ID "i".
010		Run Shared Resource	Tests.	Run Mag Card Tests.
	you suspect a nunications problem?	014	016	
	-	Make sure all the ca the Media Module are a		ke sure the Printer Cable is tached.
	you suspect a Shared	POWER-ON the System.	PO	WER-ON the System.
	esource problem?	Load the DISPLAYWRITE COMMUNICATIONS DIAGNOS'		WER-ON the Printer.
	012	Select the Communica "j".		ad the DISPLAYWRITER SYSTEM AGNOSTICS.
	You are now directed to go to the System Entry	J . Run Communications Tes		lect MDIs.
	(Step 012 continues)			p 016 continues)
3 СНЈКЦ				MAP 0009-2

A E G START-OF-CALL MAP
MAP 0009
PAGE 3 OF 7
(Step 016 continued) Select Printer ID "e".
Run Printer Tests. 017
Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.
Select MDIs.
Select Paper Handling ID "h".
 Run Paper Handling Tests.
018
Repair or Replace parts as necessary.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Service System Area MAP No.
Request or Device or Number MDI ID
000001 Memory c 000001 Keyboard ID NOTE * 000001 Mag Card i (Step 019 continues)

(Step 0 Service Request Number		MAP No. or MDI ID
	+	+
000001	Communications	j
000001	Printer	e
000001	Shared Printer	g
000001	(Secondary)	
000001	Shared Printer	f
000001	(Primary) Sheet Feed	
000001	•	h
000001	Tractor Feed	h
000002	Call operator	N/A
	for specific information.	
00800	LED A, B or C	6010
000800	I TED A'' B OL C	0010
000800	LED D, E, F, G or	0015
000000	H "ON"	0015
000801	Post-CRT Code	1010
	"01"	
000801	Post-CRT Code	1010
	"02"	
000801	Post-CRT Code	0019
	"03"	
000801	Post-CRT Code	8032
	"04"	
000801	Post-CRT Code	8032
000001	05"	0010
000801	Post-CRT Code "06"	0019
	1 06.	I
(Step 0	19 continues)	
	· · · · · · · · · · · · · · · · · · ·	

(Step 01	19 contin	ued)			
Service	Area	MAP No.			
Request	or De	or Device			
Number			MDI ID		
	+		+		
000801	Post-CR "08		0019		
000801	Post-CR		0019		
	"09				
000900	*900*	FFFO	0010		
000900	*900*	FFF1	0010		
000900	*900*	FFF2	0010		
000900	*900*	FFF3	0010		
000900	*900*	FFF4	0010		
000900	*900*	FFFA	0010		
000900	*900*	FFFB	0010		
000900	*900*	FFFF	0010		
000900	*900*	Other	N/A		
000900	*903*		N/A		
000900	*90B*		d		
021000	Memory		C		
021001	Memory		l c		
021002	Memory		c		
050002	Printer	Link	e		
050100	Printer		e		
052002	Printwh		e		
	Print				
052007	Printwh		e		
052008	Print		-		
052008	Printwh		e		
052010	Print Printwh		-		
032010	Printwn Print		e		
(Sten O	l9 contin		I		
(areb 0.	is contin	uesj			

PAGE 4 OF 7

(Step 0	19 continued)		(Step 01	19 continued)		(Step 019 continued)	
Service	System Area	MAP No.	Service	System Area	MAP No.	Service System Area	MAP No.
Request	or Device	or	Request	or Device	or	Request or Device	or
Number		MDI ID	Number		MDI ID	Number	MDI ID
	+	+			+	+	+
052011	Printwheel	e	180015	Diskette	d d	310012 Keyboard	NOTE *
	Printer	1	180025	Diskette	l d	321011 Memory	С
110001	Keyboard	NOTE *	181015	Diskette	l d	321012 Memory	c
110004	Keyboard	NOTE *	190001	Display	9020	321021 Memory	c l
110013	Keyboard	NOTE *	190002	Display	9040	321022 Memory	с
120001	System	0010	190004	Display	9020	321023 Memory	l c
120004	Memory	c	210007	Keyboard	NOTE *	321024 Memory	c
120005	Memory	с	210010	Keyboard	0010	321025 Memory	l c
120006	Memory	с	220008	Memory	c	321031 Memory	c
120007	Memory	с	220009	Memory	c	321032 Memory	С
120011	System	с	220010	Memory	0010	321033 Memory	с
130001	Mag Card	i	231004	Mag Card	i	321034 Memory	c
130005	Mag Card	i	231006	Mag Card	i i	321035 Memory	с
131001	Mag Card	i	240001	See SR# 540001	i	331003 Mag Card	j i
131002	Mag Card	i	251008	5215 Printer	e	331007 Mag Card	i
131021	Mag Card	i	252001	Printwheel	e	331011 Mag Card	j i
131022	Mag Card	i		Printer	Í	331016 Mag Card	i
140002	Printer	g	270701	Communications	j	332101 Mag Card	i
	Sharing	-	270743	Communications	İi	332103 Mag Card	i
142001	Printer	f	270764	Communications	i ī	332202 Mag Card	i
	Sharing		270775	Communications	i j	332203 Mag Card	i
150001	Printer Link	e	270786	Communications	i i	332301 Mag Card	(i
160001	Power Supply	0010	270807	Communications	i i	332302 Mag Card	i i
180001	Diskette	d	280005	Diskette	d	332303 Mag Card) i
170701	Communications	i	281037	Diskette	d	332401 Mag Card	i
170721	Communications	i	290003	Display	0010	332402 Mag Card	i
170722	Communications	j	310008	Keyboard	NOTE *	332403 Mag Card	i
180001	Diskette	d	310009	Keyboard	NOTE *	332503 Mag Card	i
(Step 01	19 continues)		(Step 0	9 continues)		(Step 019 continues)	
•	•		• •	•		· - /	

PAGE 5 OF 7

(Step 0 Service Request Number		MAP No. or MDI ID	(Step 019 continued) Service System Area Request or Device Number
332603 332703 332803 332903 342002 342003	Mag Card Mag Card Mag Card Mag Card Printer Sharing Printer	i i i f f	381033 Diskette 430002 Mag Card 431005 Mag Card 431012 Mag Card 431013 Mag Card 431014 Mag Card 431018 Mag Card
352003 352004	Finiter Sharing Printwheel Printer Printwheel Printer		431010 Mag Card 432001 Mag Card 432002 Mag Card 432002 Mag Card 432004 Mag Card 432501 Mag Card
352005	Printwheel Printer	е	432601 Mag Card 432701 Mag Card
354001 370753 380004 380006	Tractor Feed Communications Diskette Diskette	e j d d	432801 Mag Card 432901 Mag Card 453003 Sheet Feed Paper Handler
380007 380026 380033	Diskette Diskette Diskette	d d d	453004 Sheet Feed Paper Handler 480008 Diskette
380037 381004 381006	Diskette Diskette Diskette	d d 8020	480009 Diskette 480016 Diskette 480024 Diskette
381026 381027 381028 381031	Diskette Diskette Diskette Diskette	d d d	480034 Diskette 481008 Diskette 481009 Diskette 481016 Diskette
(Step 0	19 continues)	•	(Step 019 continues)

(Step O Service Request Number		MAP No. or MDI ID
481034	Diskette	l d
531008	Mag Card	i i
531010	Mag Card	i 1
532003	Mag Card	1 1
532103	Mag Card	1 1
540001	Printer	d T
	Sharing	9
540003	Printer	g
	Sharing	9
553001	Sheet Feed	е
	Paper Handler	Ŭ
553002	Sheet Feed	е
	Paper Handler	Ũ
580010	Diskette	d
581010	Diskette	d
581011	Diskette	d
630004	Mag Card	i
632201	Mag Card	i
652009	Printwheel	е
	Printer	
680011	Diskette	d
680017	Diskette	8020
681017	Diskette	8020
730003	Mag Card	i
731015	Mag Card	i
731017	Mag Card	i
731019	Mag Card	i
732300	Mag Card	i
(Step 0)	9 continues)	

| MAP No.

or

MDI ID

d i i i i i i i i i i i i i i е

е

d d d d d d d d

PAGE 6 OF 7

(Step 03 Service Request Number		MAP No. or MDI ID
732400 752006 777777 780018 780035 781018 781035 832200 880013 880036 881013 881036 888888	Mag Card Frintwheel Printer Communications Diskette Diskette Diskette Diskette Diskette Diskette Diskette Diskette Diskette Customer made	i e \$020 8020 8020 8020 i 8020 8020 8020 8020
900004 931009 932100 932500 932600 932800 932900 932900 880013 951001 980014 980019 981019 (Step 0.	PDG error Multiple Fault Mag Card Mag Card Mag Card Mag Card Mag Card Mag Card Diskette 5215 Printer Diskette Diskette Diskette Diskette I) continues)	0010 i i i 8020 e d 8020 8020 8020

(Step 019 continued)
***** NOTE SECTION: *****
NOTE * Load DISPLAYWRITER SYSTEM DIAGNOSTICS. Open and close disk handle, MDIs will load. Open and close disk handle, keyboard tests will load.
++ TABLE 1 MAP 0009
Is your Service Request Number in the Table? Y N
020
 You are now directed to go to the System Entry MAP.
GO TO MAP OO10, ENTRY POINT A.
I

Ó21 Does the Service Request Number appear in the Table more than once? ΥN 022 Go to the MAP indicated or execute the MDI listed in the Service Request Table. Ó23 Does the additional information you received match any of the additional information listed for that Service Request Number? ΥN 024 You are now directed to go to the System Entry MAP. GO TO MAP 0010, ENTRY POINT A. Ó25 Go to the MAP indicated or

(Step 025 continues)

MAP 0009-6

М

PAGE 7 OF 7

(Step 025 continued) execute the MDI listed in the Service Request Table. SYSTEM ENTRY MAP

MAP 0010

001

(ENTRY POINT A)

in the Drive.

(Step 001 continues)

POWER-OFF.

POWER-ON.

PAGE 1 OF 7

ENTRY POINTS

FROM				THIS				
MAP NUMBER		ENT POI	CRY INT	PAG NUM	E	ST NU	TEP JMBER	
							0010	

Remove any Diskette that may be

EXIT POINTS				
EXIT TH	IS MAP	TO		
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT	
4 4 4 6 7 3 5 3 4 5	028 024 027 029 039 040 046 014 036 017 021 032	0015 0017 0017 6010 8020 8020 8064 9020 9030 9030 9030 9040	A A A A A A A A A A A	

(Step 001 continued) Wait 20 seconds for BAT to complete. Is the IBM LOGO visible on the Display? YN 002 Is an Error Code displayed at the bottom of the screen? ΥN 003 Check the LED Indicators. | Are there any Led Indicators ON? ΥN 1 1 i i 004 Check to see if the Fan 1 1 in the Electronic Module 1 1 is running. Is the Fan in the Electronic Module running? ΥN 1 55432 MAP 0010-1 ABCDE

e sistem 1	ENTRI MAP		G H	MAP 0010-2
MAP 001	.0			
PAGE	2 OF 7			
005		(Step 006 continued)	007	
It appears that A present at the Po			Disconnec Connector outlet.	
POWER-OFF. Remove the Primar	N Power Fuce	=== N	Using t	the 200(ac) voltage
from Panel 2.	-		range, me the outle	easure the voltage at et.
Using the lowes check the continu 2 ohms) of the Fu	ity (less than	Using the 200(ac) voltage range, measure the voltage at Power Cord Connector (9).	Is the volt voltage ran Y N	cage in the correct nge?
Is the Power Supply Y N	Fuse bad?	++	 008 	
 006 DANGE	R	Connector (ac) Pins Voltage Range 	Inform 009	the Customer.
 HIGH VOLTAGE I THE POWER CORD		L to G 104 to 127 volts L to N 104 to 127 volts	Install a	a new Power Cord.
Disconnect the Connector (9) a	Power Cord	(WT-GBG/I refer to Voltage Chart in the Product Support Manual.)		0010, ENTRY POINT A, System Operation.
 Power Cord C configuration.	connector (9)	Is the voltage in the correct voltage range? Y N	POWER-OFF.	new Power Supply.
(Step 006 continu	les)			10, ENTRY POINT A, to
3 F		G H		MAP 0010-2

F 2	SYSTEM ENTRY MAP	D Ј К 1	L M	MAP 0010-3
-	MAP 0010	- 		
	PAGE 3 OF 7			
	continued) stem Operation. new Fuse.	<pre> (Step 013 continued) Install a new Powe Supply. GO TO MAP 0010, ENTRY POIN A, to Verify System Operation.</pre>	 You are n T the Display	now directed to go to y No Video Data MAP.
POWER-ON.		014	GO TO MAP	9030, ENTRY POINT A.
Is the Far Module runni Y N	n in the Electronic .ng?	014 The Problem is in th Diskette Area.		isplay Brightness and
012		You are now directed to go t You are now directed to go t the Diskette Unit A/C Powe	o Contrast (Control Knobs fully
POWER-OF		Failure MAP.	Is the Dis illumination	play still blank? (no)
	ect the Diskette Unit (t) Cable Connector Panel 2.	GO TO MAP 8064, ENTRY POINT A.	Y N 019	
Install	a new Fuse.	015	Is the IBM Display?	LOGO visible on the
POWER-ON . Is the Far Module rur	in the Electronic	GO TO MAP 0010, ENTRY POINT A to Verify System Operation. 016	, YN 020	
Y N		Is the Display Screen totall		ror Code displayed at om of the screen?
013	077	blank? (no illumination) Y N	Y N 	
POWER- (Step 0] 	OFF. 3 continues)		021 (Step (021 continues)
 J K			4 4 4 N P Q	MAP 0010-3

Q 3	SYSTEM ENTRY MA	AP	C N P 1 3 3	R MAP 0010-4
	MAP 0010			
	PAGE 4 OF	7		
You are the Displ GO TO MAP 022 Adjust the to obtain level. Select the	continued) now directed to ay No Video Data 9030, ENTRY PO e Brightness (n a correct he Error Code Chart and go	MAP. INT A. Control visual in the	<pre> 023 Adjust the Brightness Control to obtain a correct visual level. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 024 You are now directed to go to the LED Status MAP.</pre>	<pre>(Step 026 continued) While observing the LED Indicators, POWER-ON. At the start, did all the LED Indicators light? Y N 027 Y 027 You are now directed to go to the LED Status MAP. GO TO MAP 0017,</pre>
indicated	nnr.			ENTRY POINT A.
Post-CRT E	rror Code Table		GO TO MAP 0017, ENTRY POINT A.	028
Error LED Code Cod DEFG	e Number Point		l 025 Are any of the A, B or C LED Indicators ON?	You are now directed to go to the Error LED Status MAP.
01 0011 02 0011 03 0011 04 0100 05 0100	0 1010 A 1 0019 A 0 8032 A		V N 026 POWER-OFF.	 GO TO MAP OO15, ENTRY POINT A. 029
06 0100 08 0101 09 0110	1 0019 A 0 0019 A		Power-off. Position the Electronic Module so the LED Indicators may be easily observed.	You are now directed to go to the Power Supply MAP. GO TO MAP 6010, ENTRY POINT A.
			(Step 026 continues)	· · · · · · · · · · · · · · · · · · ·

R

A B SYSTEM ENTRY MAP		T	MAP 0010-5
1 1 MAP 0010		1	
PAGE 5 OF 7			
030	(Step 031 continued)	i 034	
030 Select the Error Code in following Chart and go to indicated MAP. Post-CRT Error Code Table Error LED MAP Entry Code Code Number Point DEFGH +	the normal? (Ignore any characters the the lower left corner.) Y N 032 You are now directed to go the Display Distorted In MAP. GO TO MAP 9040, ENTRY POINT 033 The Diskette Unit may have or two Diskette Drives. Check the left Diskette Dr first. Load the DISPLAYWRITER SYS DIAGNOSTICS in the D Diskette Drive.	look s in Is the IBM LOGO stil the Display? Y N 035 0 to Is the Display S mage blank? (no illumin Y N 036 A. 1 036 A. 1 037 STEM 1 008 A. 1 007 NAP.001 037 STEM 1 008 1 007 NAP.001 1 007 1 007	ccreen totally ation) ccted to go to pplay Adapter
	the Screen? Y N 	(Step 037 continue 	
	6 S T	6 U	MAP 0010-5

U SYSTEM ENTRY MAP 5	S 5	MAP 0010-6
MAP 0010	5	
PAGE 6 OF 7		
(Step 037 continued)	041	(Step 043 continued)
Is the Display Screen totally blank? (no illumination) Y N 038	Can you select the MDI function and load it? Y N 	Does the System have a right Diskette Drive? Y N 044
Obtain a new DISPLAYWRITER SYSTEM DIAGNOSTIC diskette. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	042 Turn the Diskette Load Lever to the left, then to the right. The DISPLAYWRITER SYSTEM DIAGNOSTICS Procedures (MDIs) will load.	Run all MDI unit tests required for your configuration. If no unit tests failed, run the System Exerciser. If no trouble is found, and you think the System is
You are now directed to go to the RNA Start MAP. 	Repeat the above procedure and the Keyboard Diagnostic procedures (MDIs) will load.	<pre>working correctly, return it to the customer. I If you think there is still a</pre>
GO TO MAP 8020, ENTRY POINT A. 040	Follow the instructions on the Display. 043	problem, go to the Intermittent Strategy Procedure.
The Problem is in the Diskette Area.	The System may have two Diskette Drives, left and	045 Select Diskette ID "d".
You are now directed to go to the RNA Start MAP.	right. (Step 043 continues)	Run Diskette Tests.
GO TO MAP 8020, ENTRY POINT A.		Remove the DISPLAYWRITER SYSTEM DIAGNOSTICS from the left (Step 045 continues)

```
SYSTEM ENTRY MAP
           MAP 0010
           PAGE 7 OF 7
(Step 045 continued)
                                      (Step 047 continued)
 Diskette Drive.
                                        If no unit tests failed, run
                                        the System Exerciser.
  POWER-OFF, then POWER-ON the
  System.
                                        If no trouble is found, and you
                                        think the System is working
  Load the DISPLAYWRITER SYSTEM
                                        correctly, return it to the
  DIAGNOSTICS
                in the right
                                        customer.
  Diskette Drive.
                                        If you think there is still a
Did a readable CE Diagnostic
                                        problem, go to the Intermittent
Function Selection Menu appear on
                                        Strategy Procedure.
the Screen?
Y N
 046
   The Problem is in the
   Diskette Area.
 You are now directed to go to
  the RNA Start MAP.
 GO TO MAP 8020, ENTRY POINT A.
047
  Select MDIs.
 Run all MDI unit tests required
  for your configuration.
```

(Step 047 continues)

ERROR LED STATUS MAP		E	MAP 0015-1
MAP 0015		ļ	
PAGE 1 OF 10			
ENTRY POINTS	(Step 001 continued) question yes.	 005	
FROM ENTER THIS MAP	Is the "D" indicator "ON"		ror Indicators
MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER	or	(D,E,F,G,H) equ Y N 	al (0,1,1,1,0)?
0009 A 1 001 0010 A 1 001 001 OO1 A 1 001 001 (ENTRY POINT A) 1 001 This MAP locates the failing part when an error occurs during the POWER-ON sequence. 1 The Error LED Indicators are marked by (D.E.F.G.H). 1 Where: 0=0FF, 1=0N **** NOTE **** When the "D" indicator is on, the other indicators are meaningless. 1 The question below has two parts. If you can answer EITHER part yes, answer the (Step 001 continues) 1	<pre>do the Error Indicators (D,E,F,G,H) equal (0,1,1,1,1)? Y N 002 Do the Error Indicators (D,E,F,G,H) equal (0,0,0,0,1)? Y N 003 003 003 004 005 005 005 005 005 005 005 005 005</pre>	<pre>(D,E,F,G,H) e Y N 007 Do the (D,E,F,G,H) (0,0,1,0,1) Y N 008 008 Select Error not rea LED Er followi the ind </pre>	

H ERROR LED STATUS MAP		KLM	MAP 0015-2
MAP 0015		111	
PAGE 2 OF 10			
(Step 008 continued)	(Step 009 continued)		
Post-CRT Error Code Table	Did the BAT fail with Error Indicators (D,E,F,G,H) equal	POWER-OFI	3.
Error LED MAP Entry Code Code Number Point	(0,0,1,0,1)? Y N	Install a	a new Power Supply.
<pre>DEFGH DEFGH DEFGH DefGH D</pre>	<pre>010 Using the 20(dc) voltage range, measure from Pin 2 (ground) to Pin 7 (+5V) of the Internal Distribution Cable Connector (2) (pin side). Is the voltage reading between +4.6 volts and +5.5 volts? Y N 01 011 Using the 20(dc) voltage range, measure from frame ground to Pin 8 of the Internal Distribution Cable Connector (P2). Is the voltage reading between +4.6 volts and +5.5 volts? Y N 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0</pre>	A, to Operation. 013 POWER-OFF. Install a Distribution GO TO MAP OF to Verify System 014 POWER-OFF. Install a net	DIO, ENTRY POINT A, stem Operation. w Display Module. , ENTRY POINT A, to
	3 J K L M		MAP 0015-2

J ERROR LED STATUS MAP	Ν	P MAP 0015-3
2 MAP 0015	ļ	I
PAGE 3 OF 10		
015	(Step 018 continued) Install a new System Card.	(Step 020 continued) Reinstall one of the removed Cards.
Has a new Display Adapter Card been installed? Y N I	Reconnect the Display Module Cable Connector (2).	POWER-ON.
016 POWER-OFF.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	<pre>(D,E,F,G,H) = (0,0,1,0,1), the Card just reinstalled is defective. If not, repeat</pre>
Install a new Display Adapter Card.	019 POWER-OFF.	this procedure until the failing Card is identified. Exchange the failing Card.
Reconnect the Display Module Cable Connector (2).	Reinstall the original Display Adapter Card.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Reconnect the Display Module Cable Connector (2).	021
ó17	Remove the Card(s) from slot(s) "A" and/or "C".	POWER-OFF.
Do you have Cards plugged in slot "A" or "C" of the Electronic Module Distribution Board? Y N	POWER-ON. Do the Error Indicators	Install a new System Card. Reinstall Card(s) in slot(s) "A" and/or "C".
018 POWER-OFF.	(D,E,F,G,H) equal (0,0,1,0,1)? Y N 020	GO TO MAP 0010, ENTRY FOINT A, to Verify System Operation.
Reinstall the original Display Adapter Card.	POWER-OFF.	
(Step 018 continues) 	(Step 020 continues) 	
Ν	P	MAP 0015-3

G 1	ERROR LED STATUS MAP	Q	F R MAP 0015-4	
T	MAP 0015	1	- . !	
	PAGE 4 OF 10			
022		(Step 025 continued)	(Step 027 continued)	
been inst Y N 023 	new Display Adapter Card talled? R-OFF.	<pre> GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 026 POWER-OFF. Remove the Card(s) from slot(s) "A" and/or "C".</pre>	<pre> Exchange the failing Card GO TO MAP 0010, ENTRY POIN A, to Verify Syst. Operation. 028 POWER-OFF.</pre>	NT
Card.	all a new Display Adapter MAP 0010, ENTRY FOINT A,	POWER-ON. Do the Error Indicators	Install a new Electron Module Distribution Board.	ic
	ify System Operation.	(D,E,F,G,H) equal (0,0,1,0,0)? Y N 	GO TO MAP 0010, ENTRY POINT . to Verify System Operation.	A,
"A" or Module D: Y N 025 POWEH Insta Modul Reina Displ	ave Cards plugged in slot "C" of the Electronic istribution Board? R-OFF. all a new Electronic le Distribution Board. stall the original lay Adapter Card. D25 continues)	<pre>027 POWER-OFF. Reinstall one of the removed Cards. POWER-ON. If the Error Indicators (D,E,F,G,H) = (0,0,1,0,0), the Card just reinstalled is defective. If not, repeat this procedure until the failing Card is identified. (Step 027 continues)</pre>	029 Has a New Memory Card be- installed in slot "E"? Y N 030 POWER-OFF. Install a new Memory Card slot "E". GO TO MAP 0010, ENTRY POINT to Verify System Operation.	in
Q		R	S MAP 0015-4	

S	ERROR LED STATUS MAP	Т	D MAP 0015-5
4	MAP 0015	I	1
	PAGE 5 OF 10		
031		(Step 034 continued)	(Step 035 continued) Verify System Operation.
Has a r installed?	new System Card been	Reinstall one of the removed Cards.	 036
Y N		POWER-ON.	Has a new System Card been installed?
032		If the Error Indicators $(D, E, F, G, H) = (0, 1, 1, 1, 0)$,	Y N
POWER-C		the Card just reinstalled is defective. If not, repeat	037
Ì	l a new System Card.	<pre>this procedure until the failing Card is identified.</pre>	POWER-OFF.
	P 0010, ENTRY POINT A, y System Operation.	Exchange the failing Card.	Install a new System Card.
033		GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-OFI	F.	035	о́зв
and any	he Display Adapter Card card or cards in	POWER-OFF.	POWER-OFF.
	"A", "C" and "F".	Install a new Electronic Module	Remove all cards from the Electronic Module Distribution
POWER-ON	-	Distribution Board.	Board except the Display Adapter Card.
Do the (D,E,F,G,H) Y N	Error Indicators) equal (0,1,1,1,0)?	Reinstall all the original cards.	Reinstall the original System Card.
034		Reconnect all the cable connectors.	POWER-ON.
POWER-0 (Step 034	OFF. 4 continues)	GO TO MAP 0010, ENTRY POINT A, to (Step 035 continues)	Do the Error Indicators (Step 038 continues)
i			

1

ERROR LED STATUS MAP		C MAP 0015-6
MAP 0015		1
PAGE 6 OF 10		
(Step 038 continued) (D,E,F,G,H) equal (0,0,0,1,1)? Y N	(Step 040 continued) POWER-ON.	043
039	Do the Error Indicators (D,E,F,G,H) equal (0,0,0,1,1)? Y N	Has a New Memory Card been installed in slot "E"? Y N
POWER-OFF.	041	044
Reinstall one of the removed Cards.	POWER-OFF.	POWER-OFF.
POWER-ON.	Install a new Display Adapter Card.	Install a new Memory Card in slot "E".
If the Error Indicators (D,E,F,G,H) = (0,0,0,1,1), the Card just reinstalled is defective. If not, repeat this procedure until the	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
failing Card is identified.	POWER-OFF.	Using the 20(dc) voltage range,
Exchange the failing Card. GO TO MAP 0010, ENTRY POINT A,	Install a new Electronic Module Distribution Board.	measure from frame ground to the pins in the following Chart.
to Verify System Operation. 040	Reinstall all the original cards.	Conn. Pin Voltage Range
POWER-OFF.	Reconnect all the cable connectors.	E1 11 +4.6 to +5.5 E1 13 -4.6 to -5.5
Remove the Display Adapter Card and install the Memory Card in slot "E".	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	E1 15 +8.245 to +8.925 E1 20 +11.04 to +13.20 + CHART CONTINUES+
(Step 040 continues)		(Step 045 continues)

ERROR LED STATUS MAP

MAP 0015

PAGE 7 OF 10

(Step 045 continued)

+	CHART	CONTINU	lED	+
Conn.	Pin	Volta	ge R	ange
E2	11	+4.6	to	+5.5
E2	13	-4.6	to	-5.5
E2	15	+8.245	to	+8.925
E2	20	+11.04	to	+13.20
E3	11	+4.6	to	+5.5
E4	11	+4.6	to	+5.5
+				+

Were all the voltage measurements correct?

-	~	-	-	
Y		N		

8 U 046

POWER-OFF.

Test Conditions:

- a. Position the Electronic Module Distribution Board to permit access for making voltage measurements on Connector (A1).
- b. All cables are to be (Step 046 continues)

place. POWER-ON. Using the 20(dc) voltage range, measure from each pin in the following Chart to frame ground at the Power Supply Case. ------+ Voltage Range Pin 3 -0.1 to +0.1 4 -0.1 to +0.1 5 -0.1 to +0.1 6 -0.1 to +0.1 8 -11.04 to -13.20 9 +4.6 to +5.5 10 +4.6 to +5.5 11 ' +4.6 to +5.5 12 +4.6 to +5.5 13 -4.6 to -5.5

+8.245 to +8.9251

-0.1 to +0.1

-0.1 to +0.1

-0.1 to +0.1

+11.04 to +13.20

c. All cards are to be in

(Step 046 continued)

21 +4.6 to +5.5 22 +4.6 to +5.5 23 +4.6 to +5.5 24 +4.6 to +5.5	+ (Pin	CHART CONTI Volta			+
	22	+4.6 +4.6	to to	+5.5	

Were all the voltage measurements correct?

ΥN

8

v

047

POWER-OFF.

Disconnect System Power Cable Connectors P1 and A1.

Using the lowest ohms range, check the continuity of each wire in the System Power Cable.

Refer to the Product Support Manual for pin assignments. (Step 047 continues)

MAP 0015-7

(Step 046 continues)

+----- CHART CONTINUES -----+

15

16

17

20

18

(Step 046 continued)

connected.

MAP UUIS-/

V ERROR LED STATUS MAP	U	BW	MAP 0015-8
7 MAP 0015	, ,	1	
PAGE 8 OF 10			
(Step 047 continued)	(Step 050 continued) connectors.	(Step 054 c	continued) ? 0010, ENTRY POINT
 Was the cable continuity correct? (less than 2 ohms) Y N 048	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.	A, to Operation. 055	Verify System
		POWER-OFF.	
Install a new System Power Cable. 	Do you have a Memory Card in slot "F"? Y N	 Install a r slot "F".	new Memory Card in
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	052 POWER-OFF.	Reinstall cards.	all the original
049	Install a new System Card.	Reconnect connectors	all the cable
<pre>Install a new Power Supply. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.</pre>	GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.	to Verify Sys	10, ENTRY POINT A, stem Operation.
 050	053	056	
POWER-OFF.	Has a new System Card been installed? Y N	Has a New Me installed in si Y N	
Install a new Electronic Module Distribution Board.	054	057	
Reinstall all the original cards.	POWER-OFF.	POWER-OFF.	
Reconnect all the cable	Install a new System Card.	Install a slot "E".	new Memory Card in
(Step 050 continues)	(Step 054 continues)	(Step 057 con	ntinues)
	1	9	
	W	Х	MAP 0015-8

X ERROR LED STATUS MAP	A 1	MAP 0015-9
8 MAP 0015	1	
I MAE 0015	1	
PAGE 9 OF 10		
(Step 057 continued)	(Step 060 continued) GO TO MAP 0010, ENTRY POINT A,	(Step 063 continued)
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	to Verify System Operation.	c. All cards are to be in place.
 058	061	-
Has a new System Card been	Has a new System Card been installed?	POWER-ON.
installed?	Y N	Using the 20(dc) voltage range,
Y N		measure from each pin in the
	062	following Chart to frame ground
059		at the Power Supply Case.
	POWER-OFF.	
POWER-OFF.		Pin Voltage Range
	Install a new System Card.	Pin Voitage Kange
Install a new System Card.		3 -0.1 to +0.1
CO TO MAD COLO ENTERN DOLMER	GO TO MAP 0010, ENTRY POINT A,	4 -0.1 to $+0.1$
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	to Verify System Operation.	5 -0.1 to +0.1
i co verify system operation.	063	6 -0.1 to +0.1
060	005	8 -11.04 to -13.20
000	POWER-OFF.	9 + 4.6 to $+ 5.5$
POWER-OFF.		10 +4.6 to +5.5
	Test Conditions:	11 +4.6 to +5.5
Install a new Electronic Module		12 +4.6 to +5.5
Distribution Board.	a. Position the Electronic	13 -4.6 to -5.5
	Module Distribution Board	15 +8.245 to +8.925
Reinstall all the original	to permit access for making	16 -0.1 to +0.1
cards.	voltage measurements on	17 -0.1 to +0.1
	Connector (A1).	18 -0.1 to +0.1
Reconnect all the cable		20 +11.04 to +13.20
connectors.	b. All cables are to be connected.	+ CHART CONTINUES+
(Step 060 continues)	(Step 063 continues)	(Step 063 continues) [,]

ERROR LED STATUS MAP	Y	MAP 0015
MAP 0015	1	
PAGE 10 OF 10		
(Step 063 continued)	(Step 064 continued)	(Step 067 continued) connectors.
+ CHART CONTINUED+	Was the cable continuity	
Pin Voltage Range	correct? (less than 2 ohms)	GO TO MAP 0010, ENTRY POINT A
	Y N	Verify System Operation.
21 +4.6 to +5.5		
22 +4.6 to +5.5	065	
23 +4.6 to +5.5		
24 +4.6 to +5.5 ++	Install a new System Power Cable.	
Were all the voltage measurements	GO TO MAP 0010, ENTRY POINT	
correct?	A, to Verify System	
Y N	Operation.	
064	066	
POWER-OFF.	Install a new Power Supply.	
Disconnect System Power Cable	GO TO MAP 0010, ENTRY POINT A,	
Connectors P1 and A1.	to Verify System Operation.	
Using the lowest ohms range,	067	
check the continuity of each		
wire in the System Power	POWER-OFF.	
Cable.		
	Install a new Electronic Module	
Refer to the Product Support	Distribution Board.	
Manual for pin assignments.		
	Reinstall all the original cards.	
(Step 064 continues)	Caros	
	ourub.	
(Step 004 continues)	Reconnect all the cable	

LED STATUS MAP

MAP 0017

PAGE 1 OF 3

ENTRY POINTS

FROM		ENTER			
MAP NUMBER		ENTRY POINT	PAGE NUME	E BER	STEP NUMBER
0010	+.	A	 I	1	001

001

ABC

(ENTRY POINT A)

POWER-OFF.

Position the Electronic Module so the LED Indicators may be easily observed.

While observing the LED Indicators, POWER-ON.

```
At the start, did all the LED Indicators light?
Y N
```

| 002 | | Did "A","B" or "C" fail to | light? | Y N | | | EXIT POINTS EXIT THIS MAP | TO PAGE STEP | MAP ENTRY NUMBER NUMBER | NUMBER POINT 3 018 | 9010 A

С

003

Using the 20(dc) voltage range, measure from frame ground to Pin 8 of the LED Assembly Cable Connector (S2) for +4.6 volts to +5.5 volts.

Is the voltage reading between +4.6 volts and +5.5 volts? Y N

004

Using the 20(dc) voltage range, measure from frame ground to the Pins in the following Chart.

+SYSTEM				(Al) Range	+
 /9 10 11 12 22 23	-	.6 .6 .6	to	+5.5 +5.5 +5.5	
24	+4	• •	to	+5.5	¦
Is the vo (Step 004				g betw	/een

2 D

MAP 0017-1

LED STATUS MAP	DE	MAP 0017-2
MAP 0017	1	
PAGE 2 OF 3		
(Step 004 continued) +4.6 volts and +5.5 volts? Y N	(Step 007 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System	(Step 009 continued) Indicator lights.
005	Operation.	Pin LED
POWER-OFF. Using the lowest ohms range, measure the continuity of each wire in the System Power	008 POWER-OFF. Install a new System Card.	2 D 3 E 5 F 6 G 7 H
Cable (P1 to A1). Refer to the Product Support Manual for pin assignments.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 009	Did each LED Indicator light? Y N
 Was the cable continuity correct? (less than 2 ohms) Y N	POWER-OFF. Use a CE Meter lead for a	010 POWER-OFF.
006	jumper.	Install a new LED Indicator Assembly.
Install a new System Power Cable. GO TO MAP 0010, ENTRY POINT	Do NOT ground Pin 8. It is +5 volts.	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.
A, to Verify System Operation. 	Connect each Pin of LED Assembly Cable Connector (S2) in the Chart to frame ground.	011 POWER-OFF.
	POWER-ON.	Install a new System Card.
Install a new Power Supply. (Step 007 continues)	Verify that the respective LED (Step 009 continues)	GO TO MAP OOlO, ENTRY POINT A, to (Step Oll continues)

B LED STATUS MAP	A	MAP 0017-3
1 MAP 0017	1	
PAGE 3 OF 3		
<pre>(Step 011 continued) Verify System Operation. 012 Using the 20(dc) voltage range, measure from frame ground to Pin 5 of the LED Assembly Cable Connector (L1) (still connected to the Power Supply) for +15.0 volts to +16.0 volts. Record the measurement. Was the voltage +15 volts to +16 volts? Y N 013</pre>	<pre>(Step 014 continued) Record the voltage measurements. Were all measurements 1.2 volts less than Pin 5? Y N 015 POWER-OFF. Install a new LED Indicator Assembly. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.</pre>	<pre>(Step 017 continued) POWER-ON for all LED Indicators to disappear. Was it less than ten (10) seconds? Y N 018 Vou are now directed to go to the Display Blank Screen MAP. GO TO MAP 9010, ENTRY POINT A. 019 POWER-OFF.</pre>
POWER-OFF.	016	Install a new System Card.
Install a new Power Supply. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	POWER-OFF. Install a new Power Supply. GO TO MAP 0010, ENTRY POINT A,	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
014 Using the 20(dc) voltage range, measure from frame ground to Pins 1, 2 and 3 of the LED Assembly Cable Connector (L1). (Step 014 continues)	to Verify System Operation. 017 It should take ten (10) to twenty (20) seconds after (Step 017 continues)	

ERROR CODE (03,06,08,09) MAP	D	C MAP 0019-1
MAP 0019	!	
PAGE 1 OF 4		
ENTRY POINTS	004	(Step 006 continued) POWER-ON.
FROM ENTER THIS MAP	Was the Error Code 09? Y N	If you get an Error Code 09, reinstall the original
MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER	005	Display Adapter Card. Install a new Electronic
0009 A 1 001 0010 A 1 001 0015 A 1 001	You should not be in this MAP without an Error Code. Return to MAP 0010, Entry Point A, the System Entry MAP.	Module Distribution Board. POWER-ON. If you get an Error Code 09,
001 (ENTRY POINT A)	006	reinstall the original Electronic Module Distribution Board.
This MAP is entered from the Post-CRT Error Code Table in MAP 0010 (System Entry).	This Error Code may occur with multiple failures.	Install a new System Card.
Was the Error Code 03? Y N	POWER-OFF. Install a new Memory Card in slot E.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 007
002	POWER-ON.	POWER-OFF.
Was the Error Code 06? Y N 003	If you get an Error Code 09, reinstall the original Memory Card.	Install a new System Card. GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.
Was the Error Code 08? Y N 	Install a new Display Adapter Card.	
	(Step 006 continues)	

2 2 A B C D

MAP 0019-1

A B ERROR CODE		MAP 0019-2
MAP 0019		
PAGE 2 OF 4		
 008	(Step Oll continued) Panel 1.	(Step 014 continued)
 Have you installed a new System Card?	POWER-ON.	Remove the Communications Feature Card.
Y N OO9 POWER-OFF. GO TO MAP OO10, ENTRY POINT A, to Verify System Operation. O10 POWER-OFF. Install a new Memory Card in slot "E". GO TO MAP OO10, ENTRY POINT A, to Verify System Operation. O11 POWER-OFF. Disconnect the Diskette Unit	Did you get Error Code 03 again? Y N 012 Do you have a Communications Feature Card in the Media Module? Y N 1 013 1 POWER-OFF. 1 1 1 1 1 1 1 1 1 1 1 1 1	Reconnect the Diskette Unit Signal Cable Connector (5) at Panel 1. POWER-ON. Did you get Error Code 03 again? Y N 015 POWER-OFF. Install a new Communications Feature Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 016 POWER-OFF. Install a new Diskette Adapter Card.
Signal Cable Connector (5) at (Step 011 continues)	POWER-OFF. (Step 014 continues)	GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.
	3 E	MAP 0019-2

E ERROR CODE	F	G MAP 0019-3
2 MAP 0019 PAGE 3 OF 4		.
 017	(Step 020 continued) Card.	(Step 022 continued) to Verify System Operation.
Do you have a Communications Feature Card in the Base Electronics Module? Y N 018 Have you installed a new System Card? Y N	Install a new Memory Card in slot "E". GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 021 POWER-OFF. Remove the Communications	O23 Have you installed a new Syst Card? Y N 024 POWER-OFF. Reinstall the Communicatio
019 POWER-OFF.	Feature Card. POWER-ON.	Feature Card.
Install a new System Card. Reconnect the Diskette Unit Signal Cable Connector (5) at Panel 1. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. POWER-OFF. Reinstall the original System (Step 020 continues)	Did you get Error Code 03 again? Y N 022 POWER-OFF. Install a new Communications Feature Card. Reconnect the Diskette Unit Signal Cable Connector (5) at Panel 1. GO TO MAP 0010, ENTRY POINT A, (Step 022 continues)	Reconnect the Diskette Un Signal Cable Connector (5) Panel 1. GO TO MAP 0010, ENTRY POINT to Verify System Operation. 025 POWER-OFF. Reinstall the Communication Feature Card. Reinstall the original Syst (Step 025 continues)
F	G	MAP 0019-

ERROR CODE

MAP 0019

PAGE 4 OF 4

(Step 025 continued) Card.

Install a new Memory Card in slot "E".

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. KEYBOARD ENTRY MAP

MAP 1010

PAGE 1 OF 4

ENTRY POINTS

ENTER THIS MAP FROM MAP ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 0009 А 1 001 0010 А 1 001 0015 А 1 001

001

(ENTRY POINT A)

This MAP is entered from the Post-CRT Error Code Table in MAP 0010 (System Entry MAP).

Was the Error Code Ol or (Ol and O2)? Y N

002

1 1

- 1

ABC

2

Error Code 02.

Have you installed a new Keyboard Logic Card? Y N 003

POWER-OFF.

Install a new Keyboard Logic Card.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

BC

POWER-OFF.

Disconnect the Keyboard Module Cable Connector (7) at Panel 1. Using the lowest ohms range, measure the continuity of each

measure the continuity of each wire in the Keyboard Module Cable.

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms) Y N

005

D

Repair or install a new (Step 005 continues)

(Step 005 continued) Keyboard Module Cable.

D

2

E

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

Disconnect the Internal Distribution Cable Connectors (P2 and B1).

Using the lowest ohms range, measure the continuity of each wire between Connectors (P2/B1) and the Internal Distribution Cable Connector (7).

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms) Y N | | 007 |

Install a new Internal Distribution Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 1010-1

MAP 1010-1

	F MAP 1010-2
<pre>(Step 011 continued) Internal Distribution Cable Connector (7) at Panel 1. POWER-ON. Observe failure. Did you stop with an Error Code 02 on the Display Screen? Y N 012 POWER-OFF. Remove the jumper from Pins 1 and 12 of the Keyboard Module Cable Connector (7) at Panel 1. Disconnect the Internal Distribution Cable Connectors (P2 and B1). Using the lowest ohms range, measure the continuity of each wire between Connectors (P2/B1) and the Internal Distribution Cable Connector (7). Refer to the Product Support (Step 012 continues)</pre>	<pre>(Step 012 continued) Manual for pin assignments. Was the cable continuity correct? (less than 2 ohms) Y N 013 I Install a new Internal Distribution Cable. Reconnect the Keyboard Module Cable Connector (7) at Panel 1. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 014 Install a new System Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 015 POWER-OFF. Remove the jumper from Pins 1 and 12 of the Keyboard Module (Step 015 continues)</pre>
	Internal Distribution Cable Connector (7) at Panel 1. POWER-ON. Observe failure. Did you stop with an Error Code 02 on the Display Screen? Y N 012 POWER-OFF. Remove the jumper from Pins 1 and 12 of the Keyboard Module Cable Connector (7) at Panel 1. Disconnect the Internal Distribution Cable Connectors (P2 and B1). Using the lowest ohms range, measure the continuity of each wire between Connectors (P2/B1) and the Internal Distribution Cable Connector (7). Refer to the Product Support

KEYBOARD ENTRY MAP	G H	MAP 1010-3
MAP 1010	[]	
PAGE 3 OF 4		
(Step 015 continued) Cable Connector (7) at Panel 1.	(Step 017 continued) Install a new Power Supply.	(Step 019 continued) Cable Connector (7).
<pre>POWER-ON. Using the 20(dc) voltage range, measure from frame ground to Pin 11 of the Internal Distribution Cable Connector (7) at Panel 1 for +4.6 volts to +5.5 volts. Is the voltage reading between +4.6 volts and +5.5 volts? Y N 016 Using the 20(dc) voltage range, measure from frame ground to Pin 3 of the Internal Distribution Cable Connector (P2) for +4.6 volts to +5.5 volts. Is the voltage reading between +4.6 volts and +5.5 volts? Y N 017 POWER-OFF. (Step 017 continues) </pre>	<pre>Reconnect the Keyboard Module Cable Connector (7) at Panel 1. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 018 FOWER-OFF. Install a new Internal Distribution Cable. Reconnect the Keyboard Module Cable Connector (7) at Panel 1. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 019 FOWER-OFF. Using the 200 ohms range, measure the resistance from frame ground to Pins 10 and 12 of the Internal Distribution (Step 019 continues)</pre>	<pre>Was the resistance less than 2.0 ohms? Y N 020 Install a new Internal Distribution Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 021 Using the lowest ohms range, measure the continuity of each wire in the Keyboard Module Cable. Refer to the Product Support Manual for pin assignments. Was the cable continuity correct? (less than 2 ohms) Y N 022 Repair or install a new Keyboard Module Cable. (Step 022 continues)</pre>
GH		4 J MAP 1010-3

```
J
           KEYBOARD ENTRY MAP
3
           MAP 1010
           PAGE
                  4 OF
                         4
 (Step 022 continued)
 GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
023
 Reconnect the Keyboard Module
 Cable Connector (7) at Panel 1.
Have you installed a new Keyboard
Logic Card?
ΥŇ
 024
   Install a new Keyboard Logic
   Card.
 GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
025
  Install a new System Card.
GO TO MAP 0010, ENTRY POINT A, to
```

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. ÷

MAP 1011-1 SPEAKER CHECK MAP А MAP 1011 PAGE 1 OF 1 (Step 005 continued) | (Step 002 continued) Install a new System Card. ENTRY POINTS GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. FROM | ENTER THIS MAP Reconnect all the cable 003 connectors. -----+-----------MAP ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER Disconnect the Internal GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. -----+-----------Distribution Cable Connectors 1070 | A 1 001 (P2 and B1). Using the lowest ohms range, measure the continuity of each 001 (ENTRY POINT A) wire between Connectors (P2/B1) and the Internal Distribution POWER-OFF. Cable Connector (7). Using the lowest ohms range, Refer to the Product Support measure the continuity of each Manual for pin assignments. wire in the Keyboard Module Was the cable continuity correct? Cable. (less than 2 ohms) Refer to the Product Support Y N Manual for pin assignments. 004 Was the cable continuity correct? (less than 2 ohms) Install a new Internal YN Distribution Cable. 002 GO TO MAP 0010, ENTRY POINT A, | to Verify System Operation. Repair or install new а Keyboard Module Cable. 005 (Step 002 continues) (Step 005 continues)

PAGE 1 OF 2

ENTRY POINTS FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 1070 | A 1 001

001 (ENTRY POINT A)

POWER-OFF.

Remove Pins 3 and 10 from the Logic Card Connector at the Keyboard Logic Card.

Reinstall the Logic Card Connector onto the Keyboard Logic Card.

POWER-ON.

Using the 20(dc) voltage range, measure from Keyboard frame ground to Pins 3 and 10 on the Keyboard Logic Card for +4.5 volts to +5.5 volts.

Is the voltage reading between (Step 001 continues)

(Step 001 continued) +4.6 volts and +5.5 volts? Y N

002

POWER-OFF.

Install a new Keyboard Logic Card.

Reinsert Pins 3 and 10 in the Logic Card Connector at the Keyboard Logic Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

POWER-OFF.

Disconnect Bl from the Electronics Module Distribution Board.

Using the lowest ohms range, measure from wires 3 and 10 to ground.

(Step 003 continues)

(Step 003 continued)
Is either wire 3 or 10 shorted to
ground? (less than 2 ohms)
Y N
|
|
004

Install a new System Card.

Reinsert Pins 3 and 10 in the Logic Card Connector at the Keyboard Logic Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

<u>005</u>

1 1

Disconnect Keyboard Module Cable Connector (7) from Panel 1.

Using the lowest ohms range, measure from wires 3 and 10 to ground.

Is either wire 3 or 10 shorted to ground? (less than 2 ohms) Y N

2 A	2 B	MA

MAP 1012-1

ΑВ DIST CABLE MAP 1 1 MAP 1012 PAGE 2 OF 2 -i 1 006 Internal Install a new Distribution Cable. Reinsert Pins 3 and 10 in the Logic Card Connector at the Keyboard Logic Card. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 007 Repair or install а new Keyboard Module Cable. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

KEYLOCK ON FAILURE	AB	C D MAP 1013-1
MAP 1013	<u> </u>	
PAGE 1 OF 1		
ENTRY POINTS	004	006
FROM ENTER THIS MAP	Turn the Communications Keylock ON.	Install a new System Card.
MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER	Load the Displaywriter System Diagnostic diskette.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
7070 A 1 001	Select MDIs on the Function Selection menu.	007 Disconnect either wire from the
001 (ENTRY POINT A)	Run Communications MDIs.	Communications Keylock.
Is there a Communications Keylock on the Displaywriter System? Y N	l 005 POWER-OFF.	(less than 2 ohms) Y N
002 POWER-OFF.	Disconnect the Internal Distribution Cable Connector (B1) from the Electronics	008 Install a new Communications Keylock.
Install a new System Card. GO TO MAP 0010, ENTRY POINT A,	Module Distribution Board. Using the lowest ohms range, measure from the Internal	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 009
to Verify System Operation. 003	Distribution Cable Connector Pin 13A to frame ground. Was the continuity correct? (less	Repair or install a new Internal Distribution Cable.
Is the Communications Keylock ON? Y N 	than 2 ohms) Y N 	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.
A B	СD	MAP 1013-1

KEYLOCK OFF FAILURE		A B MAP 1014-1
MAP 1014		11
PAGE 1 OF 2		
	<pre>(Step 002 continued) Communications Keylock? Y N 003 Reconnect the wires to the terminals of the Communications Keylock. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 004 Using the lowest ohms range, measure the continuity across the Communications Keylock terminals. Was the continuity correct? (less than 2 ohms) Y N 005 Install a new Communications Keylock. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.</pre>	<pre>006 Using the lowest ohms range, measure the continuity from the Communications Keylock terminal to frame ground. Was the continuity correct? (less than 2 ohms) Y N 007 Repair or install a new ground wire assembly. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 008 Repair or install a new Internal Distribution Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 009 Install a new System Card.</pre>
Are both wires connected to the (Step 002 continues)		(Step 009 continues)
		(,, ,
A	В	MAP 1014-1

MAP 1014-1

KEYLOCK OFF FAILURE

MAP 1014

PAGE 2 OF 2

(Step 009 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

PAGE 1 OF 1

ENTRY POINTS

FROM	•	ENTER		MAP	· · · · · · · · · ·
MAP NUMBER		ENTRY POINT	PAGE NUME	BER	STEP NUMBER
4070	 	A	1		001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Pin B1-7B in the Internal Distribution Cable to Frame Ground.

Does the meter indicate a short? (two ohms or less) Y N

002

(Step 002 continues)

(Step 002 continued) The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the (Step 002 continues) (Step 002 continued) Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

Α

Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

А

RECEIVE REPAIR-CONN. 6A

MAP 4012

PAGE 1 OF 2

ENTRY POINTS

FROM		ENTER			
MAP NUMBER	1	ENTRY POINT	PAGE NUMB	ER	STEP NUMBER
4070	1	A	1		001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector O (Zero) and Pin B1-8B in the Internal Distribution Cable and then, measure between Pin 4 on Rear Panel Connector O (Zero) and Pin B1-9B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N | | 002 | Repair the Internal | Distribution Cable or install a | new Internal Distribution

Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector O (Zero).

POWER-ON the work station.

Cable.

А

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) (Step 002 continued) instructions will be given.

<u>0</u>03

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector O (Zero). (Step 003 continues)

PAGE 2 OF 2

(Step 003 continued)

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

MAP 4012-2

TRANSMIT REPAIR-CONN. 6A

MAP 4013

PAGE 1 OF 2

ENTRY POINTS

FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | FOINT NUMBER NUMBER 4070 | A 1 001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 0 (Zero) and Pin B1-10B in the Internal Distribution Cable and then, measure between Pin 2 on Rear Panel Connector 0 (Zero) and Pin B1-12B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) ΥN 002 Repair the Internal Distribution Cable or install a Distribution new Internal Cable. Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board. Reconnect the Printer Sharing Cable to Rear Panel Connector 0 (Zero). POWER-ON the work station. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then. select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears. А series of tests will automatically begin to run to verify the fix and further (Step 002 continues)

А

(Step 002 continued) instructions will be given.

MAP 4013-1

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector O (Zero). (Step 003 continues)

PAGE 2 OF 2

(Step 003 continued)

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

SHARING INTERRUPT REPAIR

MAP 4211

PAGE 1 OF 1

ENTRY POINTS

FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 4270 | A 1 001

001 (ENTRY POINT A)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Install a new Printer Sharing Card.

3. Install a new Electronic Module Distribution Board.

(Step 001 continues)

(Step 001 continued) POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

MAP 4211-1

PAGE 1 OF 1

ENTRY POINTS

FROM	•	ENTER			
MAP NUMBER		ENTRY POINT	PAGE NUME	: BER	STEP NUMBER
4270		A			001

001 (ENTRY POINT A)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Install a new System Card.

3. Install a new Electronic Module Distribution Board.

(Step 001 continues)

(Step 001 continued) POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

CABLE SENSE REPAIR-CONN. 6A

MAP 4213

PAGE 1 OF 2

ENTRY POINTS FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER

4270 | A 1

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

001

Using the lowest ohms range, measure from Pin C1-7 in the Internal Printer Sharing Cable to frame ground.

Does the meter indicate a short? (two ohms or less) Y N

002

Α

(Step 002 continues)

(Step 002 continued)

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

(Step 002 continues)

(Step 002 continued) Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the

Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

Α

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function (Step 003 continues)

MAP 4213-1

PAGE 2 OF 2

(Step 003 continued) Selection Menu, and then press ENTER when the Device Selection Menu appears.

RECEIVE REPAIR-CONN. 6A

MAP 4214

PAGE 1 OF 2

ENTRY POINTS

 FROM
 | ENTER THIS MAP

 MAP
 | ENTRY
 PAGE
 STEP

 NUMBER
 | POINT
 NUMBER
 NUMBER

 4270
 | A
 1
 001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector 6A and Pin Cl-8 in the Internal Printer Sharing Cable and then, measure between Pin 4 on Rear Panel Connector 6A and Pin Cl-9 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N

```
002
```

А

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) | (Step 002 continued)
| instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Step 003 continues)

PAGE 2 OF 2

(Step 003 continued) (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

TRANSMIT REPAIR-CONN. 6A

MAP 4215

PAGE 1 OF 2

ENTRY POINTS

FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | FOINT NUMBER NUMBER 4270 | A 1 001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 6A and Pin Cl-10 in the Internal Printer Sharing Cable and then, measure between Pin 2 on Rear Panel Connector 6A and Pin Cl-12 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N

002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) (Step 002 continued)
(instructions will be given.

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6A (Step 003 continues)

PAGE 2 OF 2

(Step 003 continued) (Six A).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

CABLE SENSE REPAIR-CONN. 6B

MAP 4216

PAGE 1 OF 2

ENTRY POINTS

FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 4270 | A 1 001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure from Fin C1-19 in the Internal Printer Sharing Cable to frame ground.

Does the meter indicate a short? (two ohms or less) Y N

```
002
```

А

(Step 002 continues)

(Step 002 continued) The following is a list of all

repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

(Step 002 continues)

(Step 002 continued) Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given.

003

А

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function (Step 003 continues)

PAGE 2 OF 2

(Step 003 continued) Selection Menu, and then press ENTER when the Device Selection Menu appears.

RECEIVE REPAIR-CONN. 6B

MAP 4217

PAGE 1 OF 2

ENTRY POINTS

FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 4270 | A 1 001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector 6B and Pin C1-21 in the Internal Printer Sharing Cable and then, measure between Pin 4 on Rear Panel Connector 6B and Pin C1-22 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N I

002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) | (Step 002 continued) | instructions will be given.

<u>0</u>03

А

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Step 003 continues)

Α

PAGE 2 OF 2

(Step 003 continued) (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

TRANSMIT REPAIR-CONN. 6B

MAP 4218

PAGE 1 OF 2

ENTRY POINTS

FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 4270 | A 1 001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Printer Sharing Cable from Position Cl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 6B and Pin Cl-23 in the Internal Printer Sharing Cableand then, measure between Pin 2 on Rear Panel Connector 6B and Pin Cl-24 in the Internal Printer Sharing Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N

002

Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector' 6B (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further (Step 002 continues) (Step 002 continued) instructions will be given.

003

А

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new Printer Sharing Card.

2. Repair the Internal Printer Sharing Cable or install a new Internal Printer Sharing Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Printer Sharing Cable to Position Cl of the Electronic Module Distribution Board.

Reconnect the Printer Sharing Cable to Rear Panel Connector 6B (Step 003 continues)

MAP 4218-1

PAGE 2 OF 2

(Step 003 continued) (Six B).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

MAPENTRY PAGESTEPnecessary to correct the failure. failure first to the least probable failure first to the least probable last.verify the fix and further instructions will be given.5070A1001001Each repair action should be performed one at a time until the failure is corrected.The following is a list of al repair actions which might b probable failure first to the least probable last.001 (ENTRY POINT A)Each repair action should be performed one at a time until the failure is corrected.The following is a list of al repair actions which might b probable failure first to the least probable last.001 (ENTRY POINT A)Repair the ground connection on Rear Panel Connector 0 (Zero).The following is a list of al repair actions which might b be probable failure first to the least probable last.Disconnect Distribution Cable from Position Bl of the Electronic Module Distribution Board.Power-off the Internal Distribution Cable to Power-off the meter indicate continuity?Reconnect the Distribution Board.Each repair action should be performed one at a time until the failure is corrected.Does the meter indicate continuity? (two ohms or less)Power-on the work station.Install a new Electroni MOROSTICS then, select MDIs on the Function Selection Menu.State function selection Menu.NISelection Menu.Reconnect the Internal Distribution Cable to Position B of the Electronic to other set indicate continuity?State form the most probable failure formed one at a time until the failure is corrected.Dess <th>CABLE SENSE REPAIR-CONN. O</th> <th>В</th> <th>A MAP 5011-1</th>	CABLE SENSE REPAIR-CONN. O	В	A MAP 5011-1
ENTRY POINTSOO2FROMENTER THIS MAPThe following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most 			
FROM ENTER THIS MAPThe following is a list of all repair actions which might be necessary to correct the failure. to measure from Panel ConnectA series of tests will automatically begin to run to verify the fix and further instructions which might be instructions which might be		002	
NUMBER INDER INDER INDERInternal Distribution Cable for necessary to correct the failure.automatically begin to run to necessary to correct the failure.MUMBER POINT NUMBER NUMBERThe list is ordered from the most probable failure first to the least probable failure is corrected.instructions will be given.001 (ENTRY POINT A)Each repair action should be performed one at a time until the failure is corrected.The following is a list of all uverify the fix and further instructions will be given.001 (ENTRY POINT A)Each repair action should be performed one at a time until the failure is corrected.The following is a list of all uverify the fix and further instructions will be given.001 (ENTRY POINT A)Each repair action should be performed one at a time until the failure is corrected.The following is a list of all uverify the fix and further instructions will be given.001 (ENTRY POINT A)Each repair action should be performed one at a time until the failure is corrected.The following is a list of all uverify the fix and further instructions will be given.001 (ENTRY POINT A)Internal Distribution Cable for Distribution Cable for Position Bi of the Electronic Module Distribution Cable to Frame Ground.Internal Distribution Cable to Frame Ground.The following is a list of all repair action should be performed one at a time until the failure is corrected.0ces the meter indicate continuity? (two ohms or less) Y NIPowER-ON the work station. Distribution Cable to PowER-ON the work station.Select mDIs on the Function Select mDIs on the Function Select on Menu, and		•	 A corries of tests will
NUMBERFOINT NUMBERInstructions will be given.5070 A10015070 A10010011 east probable failure first to the least probable last.0011 east probable failure is corrected.0011 Repair the ground connection on Rear Fanel Connector 0 (Zero).011 Repair the ground connection on Rear Fanel Connector 0 (Zero).011 Repair the ground connection 			automatically begin to run to
5070 A1001least probable last.003001 (ENTRY FOINT A)Each repair action should be performed one at a time until the failure is corrected.The following is a list of al. repair actions which might be necessary to correct the failure first to the least probable last.001 (ENTRY FOINT A)Each repair action should be performed one at a time until the failure is corrected.The following is a list of al. repair actions which might be necessary to correct the failure for Rear Panel Connector 0 (Zero).Disconnect Distribution Cable form Position B1 of the Electronic Module Distribution Baard.2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable to Frame Ground.Each repair action should be performed one at a time until the failure is corrected.Does the measor from Pin B1-7B in the Internal Distribution Cable to Frame Ground.POWER-ON the work station.Each repair action should be performed one at a time until the failure is corrected.Does the measor less) Y NPOWER-ON the work station.Install a new Electronic Module Distribution Cable to DIACNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when theNeconnect for the Electronic Module	NUMBER POINT NUMBER NUMBER	necessary to correct the failure. The list is ordered from the most	
OO1 (ENTRY POINT A)Data formed one at a time until the failure is corrected.repair actions which might be necessary to correct the failure 	5070 A 1 001		003
POWER-OFF the work station.I. Repair the ground connection (Zero).least probable last.Disconnect the Internal Distribution Cable from Position Bl of the Electronic Module Distribution Board.2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.Each repair action should b performed one at a time until th failure is corrected.Using the lowest ohms range, measure from Pin Bl-7B in the Internal Distribution Cable to Frame Ground.Reconnect the Internal Distribution Cable to Distribution Board.I. Install a new System Card.Does the meter indicate continuity? (two ohms or less) Y N POWER-ON the work station.3. Install a new Electroni Module Distribution Board.Y N Select MDIs on the Function select MDIs on then press ENTER when the and then press ENTER when theReconnect Module of the Electronic Module		performed one at a time until the	The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most
Distribution Cable from Position Bl of the Electronic Module Distribution Board.Distribution Cable or install a new Internal Distribution Cable.performed one at a time until th failure is corrected.Using the lowest ohms range, measure from Pin B1-7B in the Internal Distribution Cable to Frame Ground.Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module1. Install a new System Card.Does the meter indicate 	POWER-OFF the work station.		probable failure first to the least probable last.
Using the lowest ohms range, measure from Pin B1-7B in the Internal Distribution Cable to Prame Ground.Reconnect Distribution Cable to Distribution Board.1. Install a new System Card.Does continuity? (two ohms or less)Distribution Cable Distribution CableDistribution Board.2. Repair Distribution Cable or install new Internal Distribution Cable of the ElectronicDistribution Cable or install new Internal Distribution Cable.Does continuity? (two ohms or less)Load DIAGNOSTICS then, select MDIS on the Function and then press ENTER when the3. Install a new Electronic Module Distribution Board.IISelection Menu, and then press ENTER when theDistribution Cable to Position B continuity Menthe	Distribution Cable from Position Bl of the Electronic Module	Distribution Cable or install a	Each repair action should be performed one at a time until the failure is corrected.
measure from Pin B1-7B in the Internal Distribution Cable to Frame Ground.of the Distribution Board.2.Repair Distribution Cable or install new Internal Distribution Cable or install new Internal Distribution Cable or install new Internal Distribution Cable.Does continuity?POWER-ON the work station.3.Install a new Electronic 			 Install a new System Card.
POWER-ON the work station. 3. Install a new Electroni Does the meter indicate Load the DISPLAYWRITER SYSTEM Module Distribution Board. (two ohms or less) DIAGNOSTICS then, Module Distribution Board. Y N select MDIs on the Function Reconnect the Interna Selection Menu, Distribution Cable to Position B and then press ENTER when the of the Electronic Module	measure from Pin B1-7B in the	of the Electronic Module	Distribution Cable or install a
Does the meter indicate 3. Install a new Electroni continuity? Load the DISPLAYWRITER SYSTEM Module Distribution Board. (two ohms or less) DIAGNOSTICS then, Module Distribution Board. Y N select MDIs on the Function Reconnect the Interna Selection Menu, Distribution Cable to Position B and then press ENTER when the of the Electronic Module	Frame Ground.	DOWED-ON the work station	new Internal Distribution Cable.
Y N select MDIs on the Function Reconnect the Interna Selection Menu, Distribution Cable to Position B and then press ENTER when the of the Electronic Module	continuity?	Load the DISPLAYWRITER SYSTEM	
		select MDIs on the Function Selection Menu,	Distribution Cable to Position Bl
MAD 5011-1			

MAP 5011-1

ΑB

PAGE 2 OF 2

(Step 003 continued) Distribution Board.

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

RECEIVE REPAIR-CONN. 0

MAP 5012

PAGE 1 OF 2

ENTRY POINTS

	-				
FROM	۰.	ENTER			
MAP NUMBER	ļ	ENTRY POINT	PAGE NUME	E BER	STEP NUMBER
5070	1	A	1		001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position B1 of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 3 on Rear Panel Connector O (Zero) and Pin B1-8B in the Internal Distribution Cable and then, measure between Pin 4 on Rear Panel Connector O (Zero) and Pin B1-9B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N

1 002

Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position B1 of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector O (Zero).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given. А

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector O (Zero).

POWER-ON the work station.

(Step 003 continues)

PAGE 2 OF 2

(Step 003 continued)

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

TRANSMIT REPAIR-CONN. 0

MAP 5013

PAGE 1 OF 2

ENTRY POINTS

FROM | ENTER THIS MAP MAP | ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER 5070 | A 1 001

001 (ENTRY POINT A)

POWER-OFF the work station.

Disconnect the Internal Distribution Cable from Position Bl of the Electronic Module Distribution Board.

Using the lowest ohms range, measure between Pin 1 on Rear Panel Connector 0 (Zero) and Pin B1-10B in the Internal Distribution Cable and then, measure between Pin 2 on Rear Panel Connector 0 (Zero) and Pin B1-12B in the Internal Distribution Cable.

Does the meter indicate (Step 001 continues)

(Step 001 continued) continuity for both of these measurements? (two ohms or less) Y N | | 002

Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector 0 (Zero).

POWER-ON the work station.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given. А

003

The following is a list of all repair actions which might be necessary to correct the failure. The list is ordered from the most probable failure first to the least probable last.

Each repair action should be performed one at a time until the failure is corrected.

1. Install a new System Card.

2. Repair the Internal Distribution Cable or install a new Internal Distribution Cable.

3. Install a new Electronic Module Distribution Board.

Reconnect the Internal Distribution Cable to Position Bl of the Electronic Module Distribution Board.

Reconnect the Printer Cable to Rear Panel Connector O (Zero).

POWER-ON the work station.

(Step 003 continues)

PAGE 2 OF 2

(Step 003 continued) Load the DISPLAYWRITER SYSTEM

DIAGNOSTICS then, select MDIs on the Function Selection Menu, and then press ENTER when the Device Selection Menu appears.

A series of tests will automatically begin to run to verify the fix and further instructions will be given. FREQUENCY DRIFT ON PRINTER COMMO.

MAP 5030

PAGE 1 OF 1

ENTRY POINTS

			THIS MAP	
MAP NUMBER		ENTRY POINT		STEP NUMBER
0070	1	A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO'	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
1	001	0010	A

001

(ENTRY POINT A)

POWER-OFF the work station.

Install a new System Card. GO TO MAP 0010, ENTRY POINT A.

MAP 5030-1

PAGE 1 OF 7

ENTRY POINTS

FROM	 +-		THIS MAP	
MAP	1	ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0009		A	1	001
0010		A	1	001

001

(ENTRY POINT A)

This MAP isolates the part causing an LED Indicator to light.

LED Indicators:

A = Over/under voltage

B = Overcurrent

C = Overheat

Is the "C" LED Indicator ON? Y N |

002

6

A

(Step 002 continues)

EXIT POINTS

EXIT TH	IS MAP		то	
PAGE NUMBER	STEP NUMBER	 	MAP NUMBER	ENTRY POINT
2	007	+. 	8065	A

(Step 002 continued) ********************************* * NOTE * * If this is your second time * * through this map and you are * * instructed to replace a FRU * * that you just replaced, replace the POWER * SUPPLY instead. ************************** POWER-OFF (Wait 8 seconds). Disconnect all cables from the rear panels of the Electronic Module except the (ac) Power Cord. POWER-ON. "A" and/or "B" LED Are the Indicators ON? ΥN 003

POWER-OFF (Wait 8 seconds).

Reconnect the Keyboard Module Cable Connector (7).

POWER-ON.

3

в

(Step 003 continues)

MAP 6010-1

POWER SUPPLY MAP	D	CE	MAP 6010-2
MAP 6010	ļ		
PAGE 2 OF 7			
<pre>(Step 003 continued) Are the "A" and/or "B" LED Indicators ON? Y N 004 POWER-OFF (Wait 8 seconds). Reconnect the Display Module Cable Connector (2). POWER-ON. Are the "A" and/or "B" LED Indicators ON? Y N 005 POWER-OFF (Wait 8 seconds). Reconnect the Diskette AC Connector (8), Diskette DC Connector (10), Diskette Signal Connector (5) and Communications Power Connector (11) if present. POWER-ON. (Step 005 continues)</pre>	<pre>(Step 005 continued) Are the "A" and/or "B" LED Indicators ON? Y N 006 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 007 You are now directed to go to the DC Short Failure MAP. GO TO MAP 8065, ENTRY POINT A. 008 Has a new Display Module been installed? Y N 009 POWER-OFF (Wait 8 seconds). Install a new Display Module. Reconnect all the cable connectors. (Step 009 continues)</pre>	GO TO MA A, to Operation. Olo POWER-OFF Install a Reconnect connectors GO TO MAP 00 to Verify Sy Oll POWER-OFF (W Disconnect Cable (Logic	(Wait 8 seconds). new Power Supply. all the cable 3. D10, ENTRY POINT A, ystem Operation. Nait 8 seconds). the Keyboard Module : Card Connector) at A Logic Card. A" and/or "B" LED
		i i 3 3	т. Т
C D	E	FG	MAP 6010-2

BFG POWER SUPPLY MAP		MAP 6010-3
MAP 6010		
PAGE 3 OF 7		
<pre>012 FOWER-OFF (Wait 8 seconds). Install a new Keyboard Logic Card. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 013 FOWER-OFF (Wait 8 seconds). Repair or install a new Keyboard Module Cable. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 014 POWER-OFF (Wait 8 seconds). Disconnect the System Power</pre>	<pre>(Step 014 continued) Cable Connector (P1) at the Power Supply. POWER-ON. Are the "A" and/or "B" LED Indicators ON? Y N 015 POWER-OFF (Wait 8 seconds). Reconnect the System Power Cable (P1) at the Power Supply. Remove all the Cards from the Electronic Module Distribution Board Assembly. POWER-ON. Are the "A" and/or "B" LED Indicators ON? Y N 016 POWER-OFF (Wait 8 seconds). Reinstall the original Cother 016 continues)</pre>	<pre>(Step 016 continued) System Card. POWER-ON. Are the "A" and/or "B" LED Indicators ON? Y N 017 POWER-OFF (Wait 8 seconds). Reinstall the original Display Adapter Card. POWER-ON. Are the "A" and/or "B" LED Indicators ON? Y N 018 018 018 018 018 019 019 019 019 019 019 019 019 019 019</pre>
(Step 014 continues)	(Step 016 continues) 	
	6 5	5 4 4
	H J	K L M MAP 6010-3

M 3	POWER SUPPLY MAP	P	L N MAP 6010-4
5	MAP 6010	I	
	PAGE 4 OF 7		
Install Reconne		(Step 022 continued) Reconnect all the cable connectors.	024 024 POWER-OFF (Wait 8 seconds).
connect	tors. P 0010, ENTRY POINT A,	 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Install a new Memory Card.
to Verify	y System Operation.	 023	Reinstall all the original cards.
020 POWER-OFF	F (Wait 8 seconds).	One of the remaining Cards is shorted.	Reconnect all the cable connectors.
Reinstall Card in s	l the original Memory slot "E".	POWER-OFF.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-ON.		Reinstall the original Cards one at a time.	 025
Are the Indicators	"A" and/or "B" LED ON?	POWER-ON.	POWER-OFF (Wait 8 seconds).
Y N 021		When the "A" and/or "B" LED Indicators come on.	Install a new Display Adapter Card.
	ave more than one Card	The last Card installed is the one with a short.	Reinstall all the original cards.
		Exchange the failing Card.	Reconnect all the cable connectors.
022 POWER	R-OFF (Wait 8 seconds).	GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.	GO TO MAP OOLO, ENTRY POINT A, to Verify System Operation.
 REPLA	ACE REMAINING CARD D22 continues)		

J K POWER SUPPLY MAP	Q	R MAP 6010-5
MAP 6010		!
PAGE 5 OF 7		
026	(Step 028 continued) POWER-OFF (Wait 8 seconds).	(Step 030 continued)
POWER-OFF (Wait 8 seconds).	Install a new Internal Distribution Cable.	Distribution Cable.
Install a new System Card. Reinstall all the original	 Reinstall all the original cards.	Reinstall all the original cards.
cards.	Reconnect all the cable	Reconnect all the cable connectors.
Reconnect all the cable connectors. 	connectors. GO TO MAP 0010, ENTRY POINT A,	 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.	to Verify System Operation.	031
027	029	POWER-OFF (Wait 8 seconds).
POWER-OFF (Wait 8 seconds). Disconnect the Internal Distribution Cable Connector	POWER-OFF (Wait 8 seconds). Disconnect the Internal Distribution Cable Connector (B1) from the Electronic Module	Disconnect the System Power Cable Connector (Al) at the Electronic Module Distribution Board.
(D1) from the Electronic Module Distribution Board.	Distribution Board. POWER-ON.	POWER-ON.
POWER-ON. Are the "A" and/or "B" LED	Are the "A" and/or "B" LED Indicators ON?	Are the "A" and/or "B" LED Indicators ON? Y N
Indicators ON? Y N	Y N 030	032
028	 POWER-OFF (Wait 8 seconds).	POWER-OFF (Wait 8 seconds).
(Step 028 continues) 	(Step 030 continues) 	(Step 032 continues)
Q	R	6 S MAP 6010-5

.

H S POWER SUPPLY MAP		A 1	MAP 6010-6
MAP 6010		-	
PAGE 6 OF 7			
<pre>(Step 032 continued) Install a new Electronic Module Distribution Board. Reinstall all the original cards. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 033 FOWER-OFF (Wait 8 seconds). Install a new System Power Cable. Reinstall all the original cards. Reconnect all the cable</pre>	<pre>(Step 034 continued) Disconnect the Internal Distribution Cable Connector (P2) at the Power Supply. POWER-ON. Are the "A" and/or "B" LED Indicators ON? Y N 035 POWER-OFF (Wait 8 seconds). Install a new Internal Distribution Cable. Reconnect all the cable connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.</pre>	to Verify S 037 Is the Fan Module runnin Y N 038 POWER-OFH Install a GO TO MAP to Verify S	0010, ENTRY POINT A, System Operation. in the Electronic ng? F. a new Power Supply. 0010, ENTRY POINT A, System Operation. making any unusual
<pre>connectors. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. GO34 POWER-OFF (Wait 8 seconds). (Step 034 continues)</pre>	036 POWER-OFF (Wait 8 seconds). Install a new Power Supply. Reconnect all the cable connectors. (Step 036 continues)	040 Is the Ma direct sun hot area? Y N 	achine located in nlight or in a very
		7 7 7 T U V	MAP 6010-6

```
τυν
          POWER SUPPLY MAP
666
          MAP 6010
          PAGE 7 OF 7
  1 1
 041
     POWER-OFF.
 Install a new Power Supply.
  GO TO MAP 0010, ENTRY POINT
 A, to Verify
                        System
  Operation.
  1
 Ó42
  Advise the Customer of the
  environmental impact on the
   machine.
043
 POWER-OFF.
 Install a new Power Supply.
```

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

PAGE 1 OF 2

ENTRY POINTS

FROM		THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
7070	A	1	001

001 (ENTRY POINT A)

POWER-OFF.

Reinstall the original Communications Adapter Card.

Is the Communications Adapter Card in the Diskette Unit? Y N $\,$

002

Install a new Electronic Module Distribution Board.

Reconnect all the cable connectors.

POWER-ON.

(Step 002 continues)

(Step 002 continued) Load the Displaywriter System Diagnostic diskette.

Select MDIs on the Function Selection menu.

Does the Device Selection menu indicate that Communications is present (green dot next to ID letter)? Y N

003

в

POWER-OFF.

Reinstall the original Electronics Module Distribution Board.

Install a new System Card.

POWER-ON.

Load the Displaywriter System Diagnostic diskette.

Select MDIs on the Function Selection menu.

Run the Communications MDIs.

(Step 003 continues)

| | (Step 003 continued) | GO TO MAP 0010, ENTRY POINT | A, to Verify System | Operation. | | 004

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

Disconnect the Diskette Unit Signal Cable Connectors (5) and (A1).

Using the lowest ohms range, check the continuity of each wire in the Diskette Unit Signal Cable.

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms). Y N | 006

> Install a new Diskette Unit Signal Cable.

(Step 006 continues)

2 C

MAP 7010-1

С COMMUNICATIONS D 1 MAP 7010 PAGE 2 OF 2 (Step 008 continued) (Step 006 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. to Verify System Operation. 009 007 Install a new System Card. Disconnect the Internal Diskette Signal Cable Connector Reconnect all the (S1) in the Electronic Module. connectors. Using the lowest ohms range, GO TO MAP 0010, ENTRY POINT A, to check the continuity of each Verify System Operation. wire between connectors (5) and (S1) in the Internal Diskette Signal Cable. Refer to the Product Support Manual for pin assignments. Was the cable continuity correct? (less than 2 ohms). ΥN 008 Install a new Internal Diskette Signal Cable in the Electronic Module. the cable Reconnect all connectors. GO TO MAP 0010, ENTRY POINT A, (Step 008 continues)

MAP 7010-2

MAP 7010-2

cable

INTERNAL EIA CABLE

А

MAP 7020

PAGE 1 OF 2

ENTRY POINTS

 FROM
 | ENTER THIS MAP

 MAP
 | ENTRY
 PAGE
 STEP

 NUMBER
 | POINT
 NUMBER
 NUMBER

 7060
 | A
 1
 001

 7061
 | A
 1
 001

001 (ENTRY POINT A)

POWER-OFF.

Is the Communications Adapter Card located in the Electronic Module? Y N

002

А

Disconnect the Internal Communications Cable Connector (C2).

Using the lowest ohms range, check the contunity of each wire between connectors (4A) and (C2) of the Internal Communications Cable. (Step 002 continues) (Step 002 continued)

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms). Y N

003

Install a new Internal Communications Cable in the Diskette Unit.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

004

Install a new Communications Adapter Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

Disconnect the Internal Communications Cable Connector (A2).

Using the lowest ohms range, check the contunity of each wire between connectors (4) and (A2) of the Internal Communications Cable.

Refer to the Product Support Manual for pin assignments.

Was the cable continuity correct? (less than 2 ohms). Y N

I I

006

Install a new Internal Communications Cable in the Electronic Module.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

2 B

MAP 7020-1

B INTERNAL EIA CABLE MAP 7020 PAGE 2 OF 2 007

Install a new Communications Adapter Card.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

PAGE 1 OF 1

ENTRY POINTS

FROM	L	ENTER	THIS	MAP	
	÷.				
MAP	Ì	ENTRY	PAGE	2	STEP
NUMBER	Ĺ	POINT	NUME	BER	NUMBER
	+ -				
7075	I	А	1		001

001

(ENTRY POINT A)

POWER-OFF.

Disconnect the Internal Communications Cable Connector (D2 or D3) from the Diskette Unit Distribution Board.

Using the lowest ohms range, check the contunity of each wire between connectors (4B) and (D2 or D3) of the Internal Communications Cable.

Refer to the Product Support Manual for pin assignments. (Step 001 continues)

EXIT PO	INTS		
		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
1		7062	A

MAP 7030-1

(Step 001 continued)

Was the cable continuity correct? (less than 2 ohms). Y N

002

Reinstall the original Feature Card in Slot "D".

Install a new Internal Communications Cable in the Diskette Unit.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

GO TO MAP 7062, ENTRY POINT A.

PORT 4 NO VOLTAGE

MAP 7060

PAGE 1 OF 2

ENTRY POINTS

		THIS MAP	
MAP NUMBER	ENTRY POINT		STEP NUMBER
7074	A	1	001

001

(ENTRY POINT A)

POWER-OFF.

Test Conditions:

- a. Position the Electronics Module Distribution Board to permit access for making voltage measurements on Connector (A1).
- b. All cables are to be connected.
- c. All cards are to be in place.

POWER-ON.

Using the 20(dc) voltage range, (Step 001 continues)

EXIT POI	NTS		
EXIT THI		то	
		MAP NUMBER	
2	005		A

MAP 7060-1

(Step 001 continued) measure from each pin in the following Chart to frame ground at the Power Supply Case.

++
System Power Cable Connector (Al)
Voltage Range Pin (dc) Volts
8 -11.04 to -13.20 20 +11.04 to +13.20
Were all the voltage measurements correct? Y N
002
POWER-OFF.
Disconnect System Power Cable Connectors P1 and A1.
Using the lowest ohms range, check the continuity of the System Power Cable.
Connector (A1) pin 8 to Connector (P1) pin 1. (Step 002 continues)
2

А

```
PORT 4 NO VOLTAGE
А
1
           MAP 7060
           PAGE 2 OF
                      2
 (Step 002 continued)
   Connector (A1) pin 20 to
   Connector (P1) pin 15.
 Was the cable continuity
 correct? (less than 2 ohms)
 ΥN
   003
    Install a new System Power
    Cable.
   GO TO MAP 0010, ENTRY POINT
   A, to Verify
                         System
   Operation.
 Ò04
  Install a new Power Supply.
 GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
005
GO TO MAP 7020, ENTRY POINT A.
```

P4A/P4B NO VOLTAGE

MAP 7061

PAGE 1 OF 2

ENTRY POINTS

FROM		ENTER			
MAP NUMBER	1	ENTRY POINT	PAGE NUME	E BER	STEP NUMBER
7074	1	A]		001

EXIT POINTS EXIT THIS MAP | TO PAGE STEP | MAP ENTRY NUMBER NUMBER | NUMBER POINT 2 005 | 7020 A

001

(ENTRY POINT A)

POWER-OFF.

Test Conditions:

- a. Position the Diskette Unit Distribution Board to permit access for making voltage measurements on Connector (C1).
- b. All cables are to be connected.
- c. All cards are to be in place.

POWER-ON.

Using the 20(dc) voltage range, (Step 001 continues)

(Step 001 continued) measure from each pin in the following Chart to frame ground at the Power Supply Case.

	cation Power Cable nnector (C1)
Pin	Voltage Range (dc) Volts
5 10 12 17	+11.04 to +13.20 +8.25 to +8.93 -4.6 to -5.5 -11.04 to -13.20
Were all th correct? Y N 002	e voltage measurements
POWER-0	FF.
	ect Communication able Connectors 11 and
check Communi	he lowest ohms range, the continuity of the cations Power Cable. continues)

1

MAP 7061-1

```
P4A/P4B NO VOLTAGE
А
1
            MAP 7061
            PAGE 2 OF 2
 (Step 002 continued)
    Refer to the Product Support
    Manual for pin assignments.
 Was the cable continuity correct? (less than 2 ohms)
  ΥN
    003
      Install
                      а
                               new
      Communications Power Cable.
    GO TO MAP 0010, ENTRY POINT
               Verify
    A,
           to
                            System
    Operation.
  <u>004</u>
    Install a new Power Supply.
 GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
.
005
GO TO MAP 7020, ENTRY POINT A.
```

PAGE 1 OF 2

ENTRY POINTS

ENTRI P	JIN13		
FROM	ENTER	THIS MAP	
	ENTRY POINT		STEP NUMBER
7030 7076 7077 7078	A A A A	1 1 1 1	001 001 001 001
001 (ENTRY H	POINT A)		
POWER-	OFF.		
Commur slot '	nication: 'D".	s Featur	original e Card in ready done
POWER-	·ON.		
measur follow ground Chart.	re from o ving Cha 1 to th	each pi art fr he Pins	age range, n in the om frame in the

(Step 001 continued)

+ CONN D1	Pin	Volta (dc)			+
D1 D1 D1 D1 D1	10 14 5	+8.245	to to to	+8.92 +5.5 -5.5	
D2 D2 D2 D2	10 14 5	+8.245 +4.6 -4.6	to	+8.92 +5.5 -5.5	5
D3 D3	17 14	+8.245 +4.6			5
D4	14	+4.6	to	+5.5	
Were a correct Y N 002		voltago	e me	easure	ments
ran	nge, the f	he 20 measure ollowing continue	fro g C	om eac	
2					

А

(Step 002 continued) frame ground to the Pins in the Chart.

CONN C1	Pin	Volta (dc)			ge	
C1 C1 C1 C1 C1 C1 C1 C1 C1 C1	17		to to to to to to to to to to to to	+8. +5. +5. +5. +5. +5. -13	.5 .5 .5 .5 .5 .5 .5 .20	
		vortug	c me	ast		ence
orrect		, voreag	e me	-		=1103
orrect N 003 Dis Pow	conne sconne ver Ca	ect the able Con er Suppl	Comr	nuni	icat:	ions
orrect N 003 Dis Pow the Usi rar	conne ver Ca Powe .ng t	ect the able Con	Comr nect Y. (da e t	nuni tor	icat: (11) volt	ion:) at

B 1	FEATURE CARD POWER	A
1	MAP 7062	1
	PAGE 2 OF 2	
voltag	3 continued) e at the Power Supply tor (11).	(Step 006 continued) POWER-OFF. Install a new Diskette Unit
	to the Product Support for Pin assignments.	Distribution Board.
Were measurem Y N	all the voltage ents correct?	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 007
Inst GO TO A, Operat 005 POWER- Instal Power GO TO MA	OFF. l a new Communications	Install a new Communications Adapter Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
(Step U06	continues)	

RNA START MAP

MAP 8020

PAGE 1 OF 6

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0009		A	1	001
0010		A	1	001
8021		A	1	001
8028		A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
3	009	8022	A
5	021	8022	A
5	027	8026	A
5	029	8060	A
6	033	8061	A
6	031	8062	A

001 (ENTRY POINT A)

This MAP is used to isolate the failure to a specific Diskette function.

Select the RNA Diagnostics by pressing the Memory Record Button while turning the POWER Switch ON.

The functions are selected by pressing the MOVE key.

The function is executed by pressing the ENTER key. (Step 001 continues)

+-TEST L or M ERROR CODE	ERROR CODE CHART-+ ACTION
01	GO TO MAP 8021,A
02	GO TO MAP 8022,A
04	GO TO MAP 8025,A
08 or 17	GO TO MAP 8028,A
19 or 20	GO TO MAP 8026,A

(Step 001 continued)

The D function is used for drive selection.

Pressing the ENTER key will select the desired drive.

Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.

Select the Drive Set Ready Test L.

Execute test procedure L by pressing ENTER.

If an Error Code is not displayed on the screen, then execute test M.

If this is a two-drive | |station, execute the test on | both drives. It is necessary |to use the D function to | |select the desired drive.

Was an Error Code displayed on the screen?

YN

22 AB

MAP 8020-1

A B	RNA START MAP		E	MAP 8020-2
	MAP 8020			
	PAGE 2 OF 6			
002		(Step 005 continued) Power Switch On.	(Step 006 continu Motor Phase tes	
<pre>to Verify 003 Was the Erro or 16? Y N 004 Is this a Y N I 004 Is this a Y N I 005 I 0</pre>	0010, ENTRY POINT A, System Operation. r Code 03, 07, 09, 15 two Drive station?	Select the Right Drive. (You are selecting the B4 Drive Station) Execute test procedure L, if an Error Code is not displayed on the screen then execute test procedure M. Was an Error Code displayed on the screen? (Record the Error Code) Y N 006 POWER-OFF. Return the Diskette Drive Cable to the original position on the Diskette Adapter Card. Install a new Diskette Adapter Card. Verify by running the Drive Set Ready test L. Verify by running the Stepper (Step 006 continues)	correctly se	0, Entry A. ENTRY POINT A, Operation. te Drive Cable osition on the Card. which was a test M in the (Start of MAP e 10? : Check for a ated Diskette t the Diskette
6 3 C D		і І Е	3 3 F G	MAP 8020-2

G RNA 2	START MAP	н	D F J 2 2	MAP 8020-3
-	8020			
PAG	E 3 OF 6			
test L an times. I occurs more another Di the Diskett MAP.	is down. Execute d test M a few f Error Code 14 than once, load skette and go to e Drive Not Ready	<pre>(Step Oll continued) Set Ready test L. Verify by running the Stepper Motor Phase test M. If an Error Code occurs, go back to MAP 8020, Entry A. GO TO MAP 0010, ENTRY POINT A,</pre>		POWER-OFF. Install a new File Control Card. Press the Memory Record Button, while turning the
GO TO MAP 802	2, ENTRY POINT A.	to Verify System Operation.		Power Switch On.
010		012		Verify by running the Drive Set Ready test L.
<pre>measure fro Control Card 6 (Connector reading of le Do you measure Y N 011 011 Install a Cable. Press the Button, w Power Switc</pre>	ss than 2 ohms. less than 2 ohms? new Diskette Drive Memory Record hile turning the h On. unning the Drive	Install a new Diskette Adapter Card. Press the Memory Record Button while turning the Power Switch On. Execute test L and if an Error Code is not displayed, then execute test M. Was an Error Code displayed on the screen? Y N 013 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	GO A, Op 015 Fo th 016	Verify by running the Stepper Motor Phase test M. TO MAP 0010, ENTRY POINT
H		J	54 KL	MAP 8020-3

MAP 8020PAGE 4 OF 6017017POWER-OFF.Record failing drive left or right.Swap Drive Cable Connectors B3 and B4 at the Diskette Adapter.The purpose of swapping Connector B3 and B4 is to determine if the failure is on the Diskette Adapter Card or on a drive.The purpose of swapping Connector B3 and B4 is to determine if the failure is on the Diskette Adapter Card or on a drive.Fress the Memory Record Button while turning the Power Switch On.On.Select the left drive.Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive.If this drive failed, then execute test L and if an Error Code is not displayed, then execute test L and if an Error Code is not displayed, then execute test L and if an Error Code is not displayed, then execute test L and if an Error Code is not displayed, then execute test M.If this drive failed, then record that the right drive.If this drive failed, then record that the right driveIf this drive failed, then record that the right drive.If this drive failed, then 	L RNA START MAP		Μ	MAP 8020-4
017(Step 017 continued)(Step 018 continued)017Select the right drive.(Step 018 continued)POWER-OFF.Select the right drive.Verify by running Set Ready test L.Record failing drive left or right.Load the DISPLAYWRITER SYSTEM DIAGNOSTIS in the left drive.Verify by running Set Ready test L.The purpose of swapping Connector B3 and B4 is to determine if the failure is on the Diskette Adapter Card or on a drive.If this drive failed, then record that the Left Drive failed.O19Press the Memory Record Button while turning the Fower Switch On.POWER-OFF.O19Select the left drive.POWER-OFF.O20Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive.PowER-OFF.020Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive.Is the same Drive failing? Y NVerify by running is Motor Phase test M.If this drive failed, their original positions.Is the same Drive failing? Y NVanIf this drive failed, then record that the right drive.Install a new Diskette Adapter Card.Is the Second Few Times. If 14 occurs more I oda another D go to the Disk.If this drive failed, failed.Press the Memory Record Button, while turning the Power Switch On.Istep 018 continues)If this drive failed, then record that the right drive, failed.Press the Memory Record Button, while turning the Power Switch On.Istep 021 continuesIf this drive failed, failed.Step 017 continues)Istep 021 continues	-		1	
017Select the right drive.Verify by running set Ready test L.POWER-OFF.Load the DISPLAYWRITER SYSTEM DIAGNOSTIS in the left drive.Verify by running set Ready test L.Swap Drive Cable Connectors B3 and B4 at the Diskette Adapter.Execute test L and if an Error Code is not displayed, then the Diskette Adapter Card or on a drive.If this drive failed, then record that the Left Drive failed.OI 0000The purpose of swapping Connector B3 and B4 is to determine if the failure is on the Diskette Adapter Card or on a drive.If this drive failed, then record that the Left Drive failed.OI 0000Press the Memory Record Button while turning the Power Switch On.POWER-OFF.O20Select the left drive.POWER-OFF.020Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive.Is the same Drive failing? Y N021Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive.Is the same Drive failing? Y N021Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive.Install a new Diskette Adapter Card.Is the card.If this drive failed, then record that the right drive failed.Press the Memory Record Button, while turning the Power Switch On. (Step O17 continues)Is the Continues)	PAGE 4 OF 6			
record that the right drive Button, while turning the load another D failed. Power Switch On. go to the Disk (Step 017 continues) (Step 018 continues) (Step 021 continues)	 O17 POWER-OFF. Record failing drive left or right. Swap Drive Cable Connectors B3 and B4 at the Diskette Adapter. The purpose of swapping Connector B3 and B4 is to determine if the failure is on the Diskette Adapter Card or on a drive. Press the Memory Record Button while turning the Power Switch On. Select the left drive. Load the DISPLAYWRITER SYSTEM DIAGNOSTS in the right drive. Execute test L and if an Error Code is not displayed, then execute test M. 	Select the right drive. Load the DISPLAYWRITER SYSTEM DIAGNOSTIS in the left drive. Execute test L and if an Error Code is not displayed, then then execute test M. If this drive failed, then record that the Left Drive failed. Record the Error Code. POWER-OFF. Return Connector E3 and B4 to their original positions. Is the same Drive failing? Y N 018 Install a new Diskette Adapter Card.	Verify Set Read Verify b Motor Ph GO TO MAP to Verify 019 Is the Err Code Chart? Y N 020 Was the Er Y N 021 Was the Err Y N 021 U 021 U 02	by running the Drive y test L. y running the Stepper ase test M. OO10, ENTRY POINT A, System Operation. or Code in the Error (Start of MAP 8020) ror Code 10? Code 14: Check for a ttly seated Diskette week that the Diskette
5 5	record that the right drive failed.	Button, while turning the Power Switch On.	load go to	another Diskette and the Diskette Drive
M N P M		t M		MAP 8020-4

P 4	RNA START MAP	K N 3 4	Q MAP 8020-5
4	MAP 8020	3 4	1
	PAGE 5 OF 6		
(Step 021 Not Rea	continued) dy MAP.	(Step 024 continued) Install a new File Control	(Step 027 continued)
		Card.	GO 10 MAP 8026, ENTRY POINT A.
GO TO MAP	8022, ENTRY POINT A.	Press the Memory Record Button, while turning the	o28
022		Power Switch On.	Using the 20(dc) voltage range, measure from Pin 7(-) to Pin
measure Control C 6 (Conne	e lowest ohm range, from Pin A18 (File ard Connector) to Pin ctor B3). For a f less than 2 ohms.	Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M.	14(+) at Connector B3 and Connector B4. Check for a reading of +4.6 volts to +5.5 volts.
-	ure less than 2 ohms?	GO TO MAP OO10, ENTRY POINT A, to Verify System	Is the voltage between +4.6 volts to +5.5 volts? Y N
023		Operation. 025	029
Install Cable.	a new Diskette Drive		You are now directed to go to the Diskette Unit +5 Vdc Power MAP.
	by running the Drive dy test L.	 026	
 Verify	by running the Stepper	Are both AC Drive Motors turning?	GO TO MAP 8060, ENTRY POINT A.
Motor P	hase test M.	Y N	030
	P 0010, ENTRY POINT A, System Operation.	027	Using the 20(dc) voltage range, measure from Pin 7(-) to Pin
024		You are now directed to go to the No Index Pulses MAP.	5(+) at Connector B3 and Connector B4. Check for a
(Step 024 c	ontinues)	(Step 027 continues)	reading of -4.6 volts to -5.5 (Step 030 continues)
		Q	MAP 8020-5

RNA START MAP	C R 2	MAP 8020-6
MAP 8020	2	
PAGE 6 OF 6		
(Step 030 continued) volts.	(Step 033 continued) MAP.	(Step 035 continued)
Is the voltage between -4.6 volts to -5.5 volts? Y N 031	GO TO MAP 8061, ENTRY POINT A. 034	Install a new Diskette Adapter Card. Press the Memory Record Button, while turning the Power Switch On.
You are now directed to go to the Diskette Unit -5 Vdc Power MAP. GO TO MAP 8062, ENTRY POINT A.	POWER-OFF. Install a new Diskette Adapter Card. Press the Memory Record	Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M.
 032	Button, while turning the Power Switch On.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Using the 200(dc) voltage range, measure from Pin 7(-) to Pin 12(+) at Connector B3 and Connector B4. Check for a reading of +22.08 volts to +26.4 volts.	Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M.	, ,
Is the voltage between +22.08 volts to +26.4 volts?	If an Error Code occurs, go back to MAP 8020, Entry A. 	
Y N 033 	GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation. 035	
You are now directed to go to the Diskette Unit +24 Vdc Power (Step 033 continues)	POWER-OFF. (Step 035 continues)	

READ ID ERROR MAP

MAP 8021

PAGE 1 OF 9

ENTRY POINTS

FROM	 +-	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
8020		A	1	001
8028		A	1	001
8071		A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE	STEP	MAP	ENTRY
NUMBER	NUMBER	NUMBER	POINT
2	004	8020	A
2	003	8028	A
3	016	8060	A
5	023	8060	A
3	014	8061	A
5	025	8061	A
7	037	8061	A
9	049	8061	А

001 (ENTRY POINT A)

This MAP isolates Read failure problems.

Remove the Diskette from failing drive.

Press the Memory Record Button while turning the Power Switch On.

Select the failing drive.

(Step 001 continues)

MAP 8021-1

(Step 001 continued) Select test procedure N by pressing the MOVE key.

Execute test procedure N by pressing the ENTER key.

This moves the Head Carriage to Track 40.

Remove the Cable Guide (Warning: Do not let the Head Cable touch the Drive Belt).

The Stepping Motor Pulley is at Track 40 if the timing holes in pulley and casting are aligned.

Use the alignment pin to verify.

Press the END key to terminate test N.

Is the Stepping Motor Pulley located at Track 40? Y N

22 AB

B READ ID ERROR MAP	A	MAP 8021-2
1 MAP 8021	1	
PAGE 2 OF 9		
i 002	 005	(Step 006 continued)
Is the head located at Track 40? (.020 gap, see the Product Support Manual) Y N 003 You are now directed to go to the Seek Error MAP. GO TO MAP 8028, ENTRY FOINT A. GO to the Product Support Manual and perform the Head Carriage adjustment. You are now directed to go to the RNA Start MAP. GO TO MAP 8020, ENTRY FOINT A.	Is the Drive Pulley turning in a counterclockwise direction? Y N 006 POWER-OFF. Disconnect the AC Cable Connector 8 at Panel 2. Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two wires and the other end of the meter lead to the Capacitor Terminal with the single wire. Install a new AC Capacitor. Reconnect the AC Power Cord to the drive. POWER-ON. (Step 006 continues)	Is the Drive Pulley turning in a counterclockwise direction? Y N 007 POWER-OFF. Disconnect the AC Cable Connector 8 at Panel 2. Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two wires and the other end of the meter lead to the Capacitor Terminal with the single wire. Reinstall the original AC Capacitor. Install a new AC Motor. Reconnect the AC Power Cord to the drive. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
	3 C	3 D MAP 8021-2

MAP 8021-3 СD READ ID ERROR MAP 2 2 MAP 8021 PAGE 3 OF 9 (Step 013 continued) (Step 011 continued) and +26.4 volts? Execute test procedure L by 008 ΥN pressing the ENTER key. GO TO MAP 0010, ENTRY POINT A, 014 to Verify System Operation. Does the solenoid pick and drop? ΥN You are now directed to go to 009 the Diskette Unit +24 Vdc Power 012 MAP. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS in the failing For a Diskette 1 Drive connect a meter lead between drive. GO TO MAP 8061, ENTRY POINT A. Pins TPCO4 and TPHLD for a Select test procedure L by 2D Drive between Diskette 015 pressing the MOVE key. Pins TPA07 and TPA08, located on the File Control Card. Using the 20(dc) voltage range, Execute test procedure L by measure from Pin BO1(+) to Pin pressing the ENTER key. This should activate the Head A18(-) at the File Control Card Load Solenoid. Connector. Check for a reading If an Error Code is not of +4.6 volts to +5.5 volts. displayed on the screen, then Does the solenoid pick? execute test procedure M. Y N Is the voltage between +4.6 volts to +5.5 volts? Was an Error Code displayed on 013 ΥN the screen? ΥN Using the 200(dc) voltage 016 range, measure from Pin BO3(+) to Pin A18(-) on the 010 You are now directed to go to Control File Card the Diskette Unit +5 Vdc Power GO TO MAP 0010, ENTRY POINT A, Connector. Check for a MAP. to Verify System Operation. reading +22.08 volts to +26.4 volts. 011 GO TO MAP 8060, ENTRY POINT A. Is the voltage between +22.08 (Step Oll continues) (Step 013 continues) 4 5 4 MAP 8021-3 G EF

MAP 8021 PAGE 4 OF 9 (Step 018 continued) 017 FOWER-OFF. Disconnect the Head Load Solenoid Connector from the File Control Card. MAP 8021 (Step 018 continued) Duston, while turning the Power Switch On. Power Switch O	G 3	READ ID ERROR MAP	н	F 3	MAP 8021-4
017(Step 018 continued) Button, while turning the Power Switch On.020POWER-OFF.Disconnect the Head Load Solenoid Connector from the File Control Card.Select Test Procedure L by pressing the MOVE key.POWER-OFF.Using the 2K ohm range, check the Head Load Solenoid resistance. For a Diskette 1 Diskette 2D Drive the resistance should be 113 to 248 ohms.Execute Test Procedure L by pressing the ENTER key.Using the lowest ohm range, measure from Pin B15 (File Control Card. Connector) to Pit 17 (Connector B3/B4).Is the Solenoid resistance inside these limits? Y NFress the Memory Record Button, while turning the Power Switch On.Do you measure less than 2 ohms? Y N018Verify by running the Drive Set replaced. Solenoid.Fress the Memory Record Button, while turning the Power Switch On.Using the 20(dc) voltage range, measure from Pin B01(+) to Pit AReady test L.1Install a new Head Load Solenoid.Go TO MAP 0010, ENTRY POINT A, to Verify System Operation.Using the 20(dc) voltage range, measure from Pin B01(+) to Pit AR(-) at the File Control Card.1Fress the Memory RecordVerify System Operation.O21018Verify System Operation. Solenoid.SolenoidUsing the 20(dc) voltage range, measure from Pin B01(+) to Pit AR(-) at the File Control Card. (Step 022 continues)1Fress the Memory RecordVerify System Operation. Solenoid.Solenoid1Fress the Memory RecordVerify System Operation. (Step 022 continues)	3	MAP 8021		1	
017 Button, while turning the Power Switch On. 020 POWER-OFF. Disconnect the Head Load Solenoid Connector from the File Control Card C. Select Test Procedure L by pressing the MOVE key. POWER-OFF. Using the 2K ohm range, check the Head Load Solenoid resistance. For a Diskettel Drive the resistance should be 113 to 248 ohms. Co TO MAP 0010, ENTRY POINT A, to Verify System Operation. Using the lowest ohm range, measure from Pin B15 (File Control Card Connector) to Pin Pressing the ENTER key. Is the Solenoid resistance inside these limits? Press the Memory Record Press the Memory Record Do you measure less than 2 ohms? 018 Verify by running the Drive Set replaced. Verify by running the Stepper Motor Phase test M. Solenoid Do 22 Install a new Head Load Solenoid Go TO MAP 0010, ENTRY POINT A, to Verify System Operation. Do21 018 Verify by running the Stepper Motor Phase test M. Solenoid. Cort O MAP 0010, ENTRY POINT A, to Verify System Operation. Do22 Using the 20(dc) voltage range, measure from Pin B01(+) to Pin Sole. Control Card should also be replaced. Do22 Install a new Head Load Solenoid Fress the Memory Record Cort O MAP 0010, ENTRY POINT A, to Verify System Operation. Do22 Using the 20(dc) voltage range, measure from Pin B01(+) to Pin A, to Verify System Operation. Do22 Using the 20(dc) voltage range, measure		PAGE 4 OF 9			
	FOWER-OF Disconne Solenoid File Con Using t the H resistan Drive th 140 to Diskette resistan ohms. Is the Sol these limi Y N 018 018 018 018 018 018 018 018 018 018	F. ct the Head Load Connector from the trol Card. he 2K ohm range, check ead Load Solenoid ce. For a Diskette 1 e resistance should be 400 ohms. For a 2D Drive the ce should be 113 to 248 enoid resistance inside ts? solenoid resistance is the limit, the File 1 Card should also be ed. 1 a new Head Load id.	Button, while turning the Power Switch On. Select Test Procedure L by pressing the MOVE key. Execute Test Procedure L by pressing the ENTER key. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 019 Install a new File Control Card. Press the Memory Record Button, while turning the Power Switch On. Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, to	POWER-OFF. Using the measure fro Control Car 17 (Connect for a read ohms. Do you measure Y N 021 Install a Cable. GO TO MAP (to Verify Sy 022 Using the 20 measure from A18(-) at th Connector. of +4.6 volt	om Pin B15 (File rd Connector) to Pin tor B3/B4). Check ding of less than 2 e less than 2 ohms? new Diskette Drive D010, ENTRY POINT A, ystem Operation. D(dc) voltage range, m Pin B01(+) to Pin ne File Control Card Check for a reading ts to +5.5 volts.

READ ID ERROR MAP	J	E K MAP 8021-5
MAP 8021	1	
PAGE 5 OF 9		
(Step 022 continued)	(Step 025 continued)	(Step 027 continued) Adapter Card.
Is the voltage between +4.6 volts to +5.5 volts? Y N	 GO TO MAP 8061, ENTRY POINT A. 026	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
023	POWER-OFF.	028
You are now directed to go to the Diskette Unit +5 Vdc Power MAP.	Install a new File Control Card.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
GO TO MAP 8060, ENTRY POINT A.	Press the Memory Record Button while turning the Power Switch On.	
024		POWER-OFF.
Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.	Select test procedure L by pressing the MOVE key. Execute test procedure L by pressing the ENTER key. Does the solenoid pick and drop?	Perform the Solenoid and Bail service adjustment as described in the Product Support Manual. Press the Memory Record Button, while turning the Power Switch On.
Is the voltage between +22.08 and +26.4 volts?	Y N 027	Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.
Y N 025	POWER-OFF.	Select test procedure M by pressing the MOVE key.
 You are now directed to go to the Diskette Unit +24 Vdc Power	Reinstall the original File Control Card. 	Execute test procedure M by pressing the ENTER key.
MAP. (Step 025 continues)	Install a new Diskette (Step 027 continues)	(Step 029 continues)
J	r K	MAP 8021-5

READ ID ERROR MAP	Ν	MAP 8021-6
MAP 8021	ļ	
PAGE 6 OF 9		
(Step 029 continued) Was test procedure M completed without a failure? Y N I	 033 POWER-OFF.	(Step 034 continued) Button, while turning the Power Switch On. Load the DISPLAYWRITER SYSTEM
030 Is the failing Drive a type l	Install a new Head Carriage Assembly.	DIAGNOSTICS. Select test procedure M by
Drive? Y N	Press the Memory Record Button, while turning the Power Switch On.	pressing the MOVE key. Execute test procedure M by
031	Load the DISPLAYWRITER SYSTEM	pressing the ENTER key.
Remove the Diskette. Select test procedure N by	[•] DIAGNOSTICS. Select test procedure M by	Was test procedure M completed without a failure? Y N
pressing the MOVE key.	pressing the MOVE key.	N 035
<pre> Execute test procedure N by pressing the ENTER key.</pre>	Execute test procedure M by pressing the ENTER key.	POWER-OFF.
Check the Head Carriage for .020 gap, see the Product Support Manual.	Was test procedure M completed without a failure? Y N	Install a new Diskette Adapter Card.
Is the adjustment correct? Y N	034	Press the Memory Record Button, while turning the Power Switch On.
032 032 Go to the Product Support	POWER-OFF. Install a new File Control Card.	Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.
Manual and make the correct adjustments.	Press the Memory Record (Step 034 continues)	Select test procedure M by pressing the MOVE key. (Step 035 continues)
9 7 L M N	7 P	7 Q MAP 8021-6

READ ID ERROR MAP	QRS	M P MAP 8021-7
MAP 8021	6	6 6
PAGE 7 OF 9		
(Step 035 continued)	038	 041
Execute test procedure M by pressing the ENTER key. Was test procedure M completed without a failure?	 POWER-OFF. Install a new Head Load Solenoid.	GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.
Y N 036	Press the Memory Record Button, while turning the Power Switch On.	Check the Pressure Pad on the Head Load Arm for wear.
Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.	Select Test Procedure L by pressing the MOVE key. Execute Test Procedure L by pressing the ENTER key.	Is the Pressure Pad worn? Y N 043 Remove the Diskette.
Is the voltage between +22.08 and +26.4 volts? Y N	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Select test procedure N by pressing the MOVE key. Execute test procedure N by
037	039	pressing the ENTER key.
You are now directed to go to the Diskette Unit +24 Vdc Power MAP.	 GO TO MAP OO10, ENTRY POINT A, to Verify System Operation. 040	Check the Head Carriage for .020 gap, see the Product Support Manual.
GO TO MAP 8061, ENTRY POINT A.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Is the adjustment correct? Y N 044
		(Step 044 continues)
R S		9 8 T U MAP 8021-7

U READ ID ERROR MAP		MAP 8021-8
/ MAP 8021		
PAGE 8 OF 9		
<pre>(Step 044 continued) Go to the Product Support Manual and make the correct adjustments. 045 POWER-OFF. Install a new Head Carriage Assembly. Press the Memory Record Button, while turning the Power Switch On. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS. Select test procedure M by pressing the MOVE key. Execute test procedure M by pressing the ENTER key. Was test procedure M completed without a failure? Y N 046 POWER-OFF. (Step 046 continues)</pre>	<pre>(Step 046 continued) Install a new File Control Card. Press the Memory Record Button, while turning the Power Switch On. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS. Select test procedure M by pressing the MOVE key. Execute test procedure M by pressing the ENTER key. Was test procedure M completed without a failure? Y N 047 POWER-OFF. Install a new Diskette Adapter Card. Press the Memory Record Button, while turning the Power Switch On. Load the DISPLAYWRITER SYSTEM (Step 047 continues)</pre>	<pre>(Step 047 continued) DIAGNOSTICS. Select test procedure M by pressing the MOVE key. Execute test procedure M by pressing the ENTER key. Was test procedure M completed without a failure? Y N 048 Using the 200(dc) voltage range, measure from Pin B03(+) to Pin A18(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts. Is the voltage between +22.08 and +26.4 volts? Y N 049 Vou are now directed to go to the Diskette Unit +24 Vdc Power MAP. (Step 049 continues) (Step 049 continues)</pre>
9 V	9 W	9 9 X Y MAP 8021-8

W X Y 8 8 8	READ ID ERROR MAP	L T V 6 7 8
	MAP 8021	
GO TC ENTRY 050	PAGE 9 OF 9 0 049 continued) 0 MAP 8061, 7 POINT A.	 053 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Insta Soler POWEF Selec press	all a new Head Load noid.	054 Go to the Product Support Manual for the correct Pressure Pad replacement procedure. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
	MAP 0010, ENTRY POINT to Verify System .on.	GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.
051		
	AP 0010, ENTRY POINT A, y System Operation.	
	0010, ENTRY POINT A, to tem Operation.	

PAGE 1 OF 3

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
8020		A	1	001
8026		A	1	001
8071		A	1	001

001 (ENTRY POINT A)

This MAP isolates problems causing slow Diskette speed.

NOTE: A failing Diskette can cause slow Diskette speed.

POWER-OFF.

Remove the Drive Belt.

Go to the Product Support Manual and check the operator handle and the Collet Flat Spring adjustments. (Step 001 continues) EXIT POINTS EXIT THIS MAP | TO PAGE STEP | MAP ENTRY NUMBER NUMBER | NUMBER POINT 3 016 | 8026 A (Step 001 continued)

Are the adjustments correct? Y $\ensuremath{\text{N}}$

002

Install/Repair the necessary parts.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

Go to the Product Support Manual and perform the Solenoid and Bail ajustment.

Verify by running the Drive Set Ready test L.

Verify by executing the Diskette MDI.

Was test procedure L and the (Step 003 continues)

.

MAP 8022-1

MAP 8022-1

DRIVE NOT READY		MAP 8022-2
MAP 8022		
PAGE 2 OF 3		
<pre>(Step 003 continued) Diskette MDI completed without a failure? Y N 004 Check the Drive Belt. Is the Belt in good condition? Y N 005 II 005 II Install a new Drive Belt. I Press the Memory Record Button while turning the Power Switch On. I Verify by running the Drive Set Ready test L. I GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. I O06 Remove the Diskette from the drive if one is present. Disengage the Collet Spindle, (Step 006 continues)</pre>	<pre>(Step 006 continued) by turning the Diskette Handle to the Unload position. By hand turn the Drive Hub Assembly and check for binds. Is the Hub free of binds and noise? Y N 007 Install a new Drive Assembly. Press the Memory Record Button while turning the Power Switch On. Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 008 Engage the Collet Spindle, by turning the Diskette Handle to the Load position. (Step 008 continues)</pre>	<pre>(Step 008 continued) By hand turn the Drive Hub assembly and check for binds. Is the Collet Spindle free of binds? Y N 009 Install a new Diskette Guide Assembly. Press the Memory Record Button while turning the Power Switch On. Verify by running the Drive Set Ready test L. GO TO MAP OO10, ENTRY POINT A, to Verify System Operation. O10 Is the AC Motor Drive Pulley Set Screw tight? Y N O11 Check the AC Drive Motor (Step Oll continues) </pre>
3 A		B MAP 8022-2

B DR 2	IVE NOT READY		A C 2	MAP 8022-3
	P 8022		2	
PA	GE 3 OF 3			
(Step Oll co Shaft for Check to e		(Step 013 continued) measure from Pin B07 (File Control Card Connector) to Pin 4 (Connector B3/B4). For a		(Step 015 continued) Was test procedure L completed without a failure?
is over	the flat surface on or Shaft when	reading of less than 2 ohms.	i i	Y N
	the Set Screw.	Do you measure less than 2 ohms? Y N		016
	010, ENTRY POINT A, stem Operation.	014		You are now directed to go to the No Index Pulses MAP.
012		Install a new Diskette Drive Cable.		
Install a ne	w AC Drive Motor.			GO TO MAP 8026, ENTRY POINT A.
	mory Record Button ng the Power Switch	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 		017
On. Verify by ru	nning the Drive Set	015		GO TO MAP 0010, ENTRY POINT A, to Verify System
Ready test L		POWER-OFF.		Operation.
Was test proc without a fail	edure L completed	Install a new File Control Card.	0	18
Y N				TO MAP 0010, ENTRY POINT A,
013		Press the Memory Record Button while turning the Power Switch On.	to 019	o Verify System Operation.
POWER-OFF.		Verify by running the Drive Set Ready test L.		TO MAP 0010, ENTRY POINT A, to
Install th Motor.	e original AC Drive	(Step 015 continues)		ify System Operation.
Using the (Step 013 co	lowest ohm range, ntinues)			

С

UNSAFE WRITE CONDITION		A MAP 8025-1
MAP 8025		1
PAGE 1 OF 2		
ENTRY POINTS	(Step 001 continued) measure from the File Control Card Connector to Connector	003
FROM ENTER THIS MAP MAP ENTRY PAGE STEP	B3/B4, using the information in the chart.	Install a new File Control Card. POWER-ON.
NUMBER POINT NUMBER NUMBER 8020 A 1 001 8071 A 1 001	File Control Card Connector Connector B3/B4	Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.
	PIN PIN	Execute the Diskette MDI Procedure.
OO1 (ENTRY POINT A)	A01 5 B03 12 B06 3	Was the Diskette MDI test procedure completed without a
This MAP will isolate Read/Write problems. This problem occurs if a read and a write function occurs at the same time.	B14 11 B09 9 B17 21	failure? Y N
CAUTION	Do all the wires measure less than 2 ohms? Y N	POWER-OFF.
A section of the Diskette may lose data if a Read/Write	Y N 002	Reinstall the original File Control Card.
failure is present. This can cause a Diskette Load	Install a new Diskette Drive Cable.	Install a new Diskette Adapter Card.
Failure. POWER-OFF.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	POWER-ON. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS.
Using the lowest ohm range, (Step 001 continues)		(Step 004 continues)
	A	2 B MAP 8025-1

```
В
           UNSAFE WRITE COND.
1
           MAP 8025
           PAGE 2 OF 2
 (Step 004 continued)
   Execute the Diskette MDI
   Procedure.
 Was the Diskette MDI test
 procedure completed without a
 failure?
  ΥN
   005
     Follow
             your
                          normal
     escalation procedure.
 <u>006</u>
 GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
<u>007</u>
```

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 8025-2

NO INDEX PULSES MAP

MAP 8026

PAGE 1 OF 14

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
8020		A	1	001
8022		A	1	001
8070		A	1	001

001

(ENTRY POINT A)

This MAP isolates Missing Index Pulse problems.

POWER-ON.

Is the AC Drive Motor turning in
the failing drive?
Y N
|
|
002

POWER-OFF.

Disconnect the Motor Power Cable Connector at the Motor.

POWER-ON.

3

А

(Step 002	continues)	
-----------	------------	--

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3 4	010 020	8022 8060	A A
3	018	8062	А

(Step 002 continued)

DANGER

CAUTION: AC voltage is present on the AC Motor Connector.

Using the 200(ac) voltage range, measure from Pin 6 to Pin 5 on the Diskette Drive AC Distribution Cable.

Is the voltage correct? ΥN 003 Disconnect the Diskette AC Cable from the Electronic unit. Using the 200(ac) voltage range, measure from Pin 2 to Pin 3 at the AC out connector on panel 2. Is the voltage correct? ΥN 1 004 POWER-OFF. | | (Step 004 continues) 1 1

22

вС

MAP 8026-1

B C NO INDEX PULSES MAP		D E MAP 8026-2
MAP 8026		
PAGE 2 OF 14		
(Step 004 continued) Install a new Power Supply.	(Step 006 continued) Is the AC Drive Motor turning in	009
GO TO MAP CO10, ENTRY FOINT A, to Verify System Operation.	the failing drive? Y N 	POWER-OFF. Disconnect the AC Cable
005	007	Connector 8 at Panel 2.
POWER-OFF.	Give the AC Drive Motor Pulley a few quick turns with the Power ON.	<pre> Discharge the AC Capacitor by taking a meter lead and connecting the clip to the</pre>
Install a new Diskette AC Distribution Cable. 	 Does the AC Drive Motor turn now?	Capacitor Terminal with two wires and the other end of the meter lead to the
GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.	Y N 008	Capacitor Terminal with the single wire.
006	POWER-OFF.	Install a new AC Drive Motor Capacitor.
POWER-OFF.	Install a new AC Drive	Press the Memory Record
Leave the Motor Power Cable Connector disconnected.	Motor.	Button, while turning the Power Switch On.
Remove the Drive Belt.	Press the Memory Record Button, while turning the Power Switch On.	 Verify by running the Drive Set Ready test L.
Let the Motor cool for five minutes.	 Verify by running the Drive Set Ready test L.	 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Reinstall the Motor Power Cable Connector.	 GO TO MAP 0010, ENTRY POINT A, to Verify System	 010
POWER-ON. (Step 006 continues)	Operation.	You are now directed to go to the (Step 010 continues)
	D E	MAP 8026-2

A NO INDEX PULSES MAP	F	MAP 8026-3
1 MAP 8026	!	
PAGE 3 OF 14		
 (Step OlO continued) Diskette Drive Not Ready MAP.	(Step 014 continued)	(Step 017 continued)
GO TO MAP 8022, ENTRY POINT A. Oll Is the Drive Belt on both pulleys? Y N 012 POWER-OFF. Check the condition of the Belt and install a new Belt if it is damaged. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Is the Diskette Handle completely in the Load position? Y N 015 Push the Diskette Handle down completely and check for binds. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 016 Go to the Product Support Manual and install a new Guide Assembly.	<pre>Is the voltage between -4.6 volts to -5.5 volts? Y N</pre>
 013	 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Is the voltage between +4.6 volts to +5.5 volts?
Is the Diskette turning? Y N	 017	Y N
014 Check if the Diskette Handle is completely in the load position. (Step 014 continues)	Using the 20(dc) voltage range, measure from Pin A18(-) to Pin A01(+) at the File Control Card Connector. Check for a reading of -4.6 volts to -5.5 volts. (Step 017 continues)	020 You are now directed to go to the Diskette Unit +5 Vdc Power MAP. (Step 020 continues)
F		4 G MAP 8026-3

G 3	NO INDEX PULSES MAP		
3	MAP 8026		
	PAGE 4 OF 14		
(Step 020	continued)	(Step 022 continued) Reverse the leads on the	(Step 024 continued) POWER-ON.
l	8060, ENTRY POINT A.	Connector Pins and observe the CE meter .	Using the 2(dc) vo
021 Is the fail 2D Drive?	ing Drive a Diskette	Only one of the measurements should have generated a reading of approximately 1.845K ohms.	measure from Pin Pin TPFO1(-) of Control Card.
Y N 022		Did you observe only one reading of approximately 1.845K ohms? Y N	Is the voltage read 1.0 and 2.0 volts? Y N
1	wice Check. Measurement is checking	023	025 POWER-OFF.
the LED	D Diode, to determine Diode is shorted or	Install a new LED Assembly. Press the Memory Record Button, while turning the	Install a new Card.
POWER-C	DFF.	Power Switch On.	Verify by running Set Ready test L
Set the ohm ran	e CE meter on the 2K age.	Verify by running the Drive Set Ready test L.	 GO TO MAP 0010, EI to Verify System O
Remove Connect Control		GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 	 026
 Place a	lead on each of the	024	Remove the Diskett
	nnector Sockets.	Reconnect the LED Cable Connector to the File Control	Using the 20(dc) ve measure from Pin
	e the CE meter.	Card.	Pin TPCO2(+) on Control Card.
(Step 022 	2 continues)	(Step 024 continues)	(Step 026 continues)
1			

7

н

MAP 8026-4

tep 024 continued) POWER-ON. Using the 2(dc) voltage range, measure from Pin TPLED(+) to Pin TPFO1(-) on the File Control Card. the voltage reading between 0 and 2.0 volts? N 025 POWER-OFF. Install a new File Control Card. Verify by running the Drive Set Ready test L. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 6 Remove the Diskette. Using the 20(dc) voltage range, measure from Pin TPFO1(-) to Pin TPCO2(+) on the File

MAP 8026-5 NO INDEX PULSES MAP JК L MAP 8026 PAGE 5 OF 14 (Step 026 continued) 032 029 The voltage reading should be larger than 2.5 volts. POWER-OFF. PTX Service Check. Is the voltage reading 2.5 volts Install a new PTX Assembly. POWER-OFF. or larger? Disconnect the AC Drive Motor ΥN GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Power Cable. 027 Disconnect the PTX Cable 030 Connector at the File Control Using the 20(dc) voltage Card range, measure from Pin Observe the meter and insert a TPFO1(-) to Pin TPAO1(+) on Diskette 1 Diskette. the File Control Card. Check POWER-ON. for a reading of +4.6 volts Repeat this a few times. to +5.5 volts. Using the 20(dc) voltage range, measure from Pin TPEO3(+) to The reading should be less than Pin TPFO1(-) on the File Is the voltage between +4.6 +.5 volts if the Diskette is volts to +5.5 volts? loaded. Control Card. ΥN Is the voltage reading less than Is the voltage reading lower than 1.0 volts? 028 .5 volts? ΥN ΥN POWER-OFF. 033 031 Install a new File Control Card. POWER-OFF. POWER-OFF. Install a new File Control GO TO MAP 0010, ENTRY POINT Install a new PTX Assembly. Card. Α, to Verify System Operation. GO TO MAP 0010, ENTRY POINT A. to Verify System Operation. POWER-ON. (Step 033 continues) 6 JК Μ MAP 8026-5 τ.

M 5	NO INDEX PULSES MAP	
5	MAP 8026	
	PAGE 6 OF 14	
	<pre>(Step 033 continued) Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.</pre>	<pre>(Step 034 continued) Is the voltage reading 2.5 volts or larger? Y N 035 POWER-OFF. Remove the jumper. Reinstall the AC Drive Motor Power Cable. Install a new File Control Card. POWER-ON. Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. If Error Code 02 occurs, install a new PTX Assembly. Verify by running the Drive Set Ready test L. Go TO MAP 0010, ENTRY POINT A, to Verify System Operation.</pre>
		N

Ν

036 POWER-OFF. Using the lowest ohm range, measure from Pin BO4 (File

Control Card Connector) to Pin 1 (Connector B3/B4). Check for a reading of less than 2 ohms.

Do you measure less than 2 ohms? Y N

037

Install a new Diskette Drive Cable.

Press the Memory Record Button, while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

7 Ρ

MAP 8026-7 NO INDEX PULSES MAP Ρ н 6 4 MAP 8026 7 OF 14 PAGE (Step 042 continued) (Step 040 continued) Observe the CE meter. 038 GO TO MAP 0010, ENTRY POINT A, the leads on the Reverse Install a new Diskette Adapter to Verify System Operation. Connector Sockets and observe Card. the CE meter . 041 Press the Memory Record Button, Only one of the measurements while turning the Power Switch Is the failing Diskette a 2D should have generated a reading On. Diskette? of approximately 1.845K ohms. Y N Execute test procedure L. Did you observe only one reading 042 of approximately 1.845K ohms? Is an Error Code displayed on the Y N LED Service Check. screen? Y N 043 This measurement is checking 039 the LED Diode, to determine Install a new LED Assembly. if the Diode is shorted or GO TO MAP 0010, ENTRY POINT A, open. Press the Memory Record to Verify System Operation. Button, while turning the POWER-OFF. Power Switch On. 040 Set the CE meter on the 2K Verify by running the Drive POWER-OFF. ohm range. Set Ready test L. Install a new LED Assembly. the LED Cable Remove GO TO MAP 0010, ENTRY POINT A, Connector from the File to Verify System Operation. Press the Memory Record Button Control Card. while turning the Power Switch 044 Place a lead on each of the On. LED Connector Sockets, LEDCP Reconnect the LED Cable Verify by running the Drive Set 5 and 6. Connector to the File Control Ready test L. (Step 044 continues) (Step 040 continues) (Step 042 continues) 1 0 MAP 8026-7 Q

NO INDEX PULSES MAP		RS	MAP 8026-8
MAP 8026		1	
PAGE 8 OF 14			
(Step 044 continued) Card.	(Step 046 continued) Remove the Diskette.	(Step 04 Card.	8 continued)
<pre>POWER-ON. Using the 2(dc) voltage range, measure from Pin TPA07(-) to Pin TPLD1(+) on the File Control Card. Is the voltage reading between 1.0 and 2.0 volts? Y N 045 POWER-OFF. Install a new File Control Card. Press the Memory Record Button, while turning the Power Switch On. Verify by running the Drive Set Ready test L. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 046 (Step 046 continues)</pre>	<pre>Nemove the Diskette. Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPB07(+) on the File Control Card. The voltage reading should be larger than 2.5 volts. Is the voltage reading 2.5 volts or larger? Y N 047 Using the 20(dc) voltage range, measure from Pin TPA07(-) to Pin TPA09(+) on the File Control Card. Check for a reading of +4.6 volts to +5.5 volts. Is the voltage between +4.6 volts to +5.5 volts? Y N 048 POWER-OFF. Install a new File Control (Step 048 continues)</pre>	GO TO MAN A, to Operation Operation Operation Operation Install GO TO MAP to Verify To Verify O50 Observe th Diskette 1 Repeat thi The readin +.5 volts loaded. Is the volta .5 volts? Y N O51 O51	n.
	R S	T	MAP 8026-8

	O INDEX PULSES MAP	υv	MAP 8026-9
8 M	AP 8026	11	
P	AGE 9 OF 14		
(Step 051 c POWER-OFF		053	(Step 054 continued) jumper to Pin 1 of the PTXCP socket on the File Control Card
Install a	new PTX Assembly.	POWER-OFF.	several times.
	010, ENTRY POINT A, ystem Operation.	Install a new File Control Card.	NOTE: A wrong measurement can occur the first time the test Pin is touched.
052		POWER-ON.	Is the voltage reading 2.5 volts
PTX Service	Check.	Verify by running the Drive Set Ready test L.	or larger? Y N
POWER-OFF.		 Verify by running the Stepper	055
Disconnect Power Cable	the AC Drive Motor	Motor Phase test M.	POWER-OFF.
Disconnect	the PTX Cable at the File Control	GO TO MAP OOlO, ENTRY POINT A, to Verify System Operation.	Remove the jumper.
Card.		054	Reinstall the AC Drive Motor Power Cable.
POWER-ON.	O(dc) voltage range,	Leave the PTX Cable and the Motor Power Cable disconnected.	 Install a new File Control Card.
measure from Pin TPEOl(m Pin TPAO7(-) to +) on the File	Leave the meter leads on TPAO7(-) and TPEO1(+).	POWER-ON.
	d. ge reading less than	Install one end of a jumper to Pin 3 of the PTXCP socket on	Verify by running the Drive Set Ready test L.
1.0 volts? Y N 		the File Control Card. Observe the CE meter while	Verify by running the Stepper Motor Phase test M.
		touching the other end of the (Step 054 continues)	(Step 055 continues)
			Ι
i i			1 0
υv			W MAP 8026-9

W NO INDEX PULSES MAP	X .	Q MAP 8026-10
MAP 8026		1
PAGE 10 OF 14		
(Step 055 continued) If Error Code 02 occurs, install a new PTX Assembly.	(Step 057 continued) Set Ready test L.	(Step 060 continued) Install a new LED Assembly.
Verify by running the Drive Set Ready test L.	<pre>Verify by running the Stepper Motor Phase test M.</pre>	Button while turning the Power Switch On.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Verify by running the Drive Set Ready test L.
 056	058 Install a new Diskette Adapter	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
POWER-OFF.	Card.	 061
Using the lowest ohm range, measure from Pin BO4 (File Control Card Connector) to Pin	Press the Memory Record Button, while turning the Power Switch On.	LED Service Check.
1 (Connector B3/B4). Check for a reading of less than 2 ohms.	Execute test procedure L.	This measurement is checking the LED Diode, to determine if the Diode is shorted or open.
Do you measure less than 2 ohms? Y N	Is an Error Code displayed on the screen?	POWER-OFF.
057	Y N 059	Set the CE meter on the 2K ohm range.
Install a new Diskette Drive Cable. 	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Remove the LED Cable Connector from the File Control Card.
Press the Memory Record Button, while turning the Power Switch On.	 060 POWER-OFF.	Place a lead on each of the LED Connector Sockets, LEDCP 1 and 3.
Verify by running the Drive (Step 057 continues)	(Step 060 continues)	(Step 061 continues)
X		MAP 8026-10

NO INDEX PULSES MAP		Y	MAP 8026-11
MAP 8026		1	
PAGE 11 OF 14			
(Step 061 continued) Observe the CE meter. Reverse the leads on the	(Step 063 continued) Reconnect the LED Cable Connector to the File Control Card.	 065) Diskette.
Connector Pins and observe the CE meter .	POWER-ON.	Using the	20(dc) voltage range, com Pin TPA07(-) to
Only one of the measurements should have generated a reading of approximately 1.845K ohms.	Using the 2(dc) voltage range, measure from Pin TPAO7(-) to Pin TPLD2(+) on the File Control Card.	Control Ca)(+) on the File ard. age reading should be
Did you observe only one reading of approximately 1.845K ohms? Y N	Is the voltage reading between 1.0 and 2.0 volts? Y N	larger tha	age reading 2.5 volts.
062	064	or larger? Y N	
POWER-OFF. Install a new LED Assembly. Press the Memory Record Button, while turning the Power Switch On. Verify by running the Drive Set Ready test L. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 063 (Step 063 continues)	<pre>POWER-OFF. Install a new File Control Card. Press the Memory Record Button, while turning the Power Switch On. Verify by running the Drive Set Ready test L. GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.</pre>	TPA07(-) the File for a re to +5.5 Is the v volts to + Y N 067 POWER-	measure from Pin) to Pin TPA09(+) on e Control Card. Check sading of +4.6 volts volts. voltage between +4.6 5.5 volts?
	i Y	1 2 2 A Z A	MAP 8026-11

Z A NO INDEX PULSES MAP	ΑΑ	MAP 8026-12
1 A 1 1 MAP 8026	BC	
1 PAGE 12 OF 14		
(Step 067 continued)		(Step 071 continued)
Install a new File Control Card.	070 POWER-OFF.	Is the voltage reading less than 1.0 volts? Y N
GO TO MAP 0010, ENTRY POINT A, to Verify System	Install a new PTX Assembly.	072
Operation.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	POWER-OFF.
POWER-OFF.	071	Install a new File Control Card.
Install a new PTX Assembly.	PTX Service Check. POWER-OFF.	 Press the Memory Record Button, while turning the
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Disconnect the AC Drive Motor Power Cable.	Power Switch On. Verify by running the Drive
069	rower cable.	Set Ready test L.
Observe the meter and insert a Diskette 2D Diskette.	Disconnect the PTX Cable Connector at the File Control Card.	Verify by running the Stepper Motor Phase test M.
Repeat this a few times.	POWER-ON.	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.
The reading should be less than +.5 volts if the Diskette is loaded.	Using the 20(dc) voltage range, measure from Pin TFAO7(-) to Discussion of the Discussion of the Discu	l 073
Is the voltage reading lower than	Fin TPEO1(+) on the File Control Card. (Step 071 continues)	Leave the PTX Cable and the Motor Power Cable disconnected.
.5 volts? Y N 		Leave the meter leads on TPAO7(-) and TPEO1(+). (Step 073 continues)
A A B C		MAP 8026-12

NO INDEX PULSES MAP А MAP 8026-13 А D E MAP 8026 PAGE 13 OF 14 (Step 074 continued) (Step 073 continued) (Step 076 continued) Power Switch On. Install a new Diskette Drive Install one end of a jumper to Cable. Pin 4 of the PTXCP socket on Verify by running the Drive Verify by running the Drive the File Control Card. Set Ready test L. Set Ready test L. Observe the CE meter while Verify by running the Stepper Verify by running the Stepper touching the other end of the Motor Phase test M. Motor Phase test M. jumper to Pin 5 of the PTXCP socket on the File Control Card If Error Code 02 occurs, GO TO MAP 0010, ENTRY POINT A. install a new PTX Assembly. several times. to Verify System Operation. NOTE: A wrong measurement can Verify by running the Drive 077 occur the first time. Set Ready test L. Install a new Diskette Adapter Is the voltage reading 2.5 volts GO TO MAP 0010, ENTRY POINT A, Card or larger? to Verify System Operation. ΥN Press the Memory Record Button, 075 while turning the Power Switch 074 On. POWER-OFF. POWER-OFF. Execute test procedure L. Using the lowest ohm range, Remove the jumper. measure from Pin B04 (File Is an Error Code displayed on the Control Card Connector) to Pin screen? Reinstall the AC Drive Motor 1 (Connector B3/B4). Check for ΥN Power Cable. a reading of less than 2 ohms. 078 Install a new File Control Do you measure less than 2 ohms? Card. YN GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Press the Memorv Record 076 Button, while turning the (Step 074 continues) (Step 076 continues) 1 4 А А Α D Ε F MAP 8026-13

A NO INDEX PULSES MAP F 1 MAP 8026 3 PAGE 14 OF 14 | 079

POWER-OFF.

Install a new LED Assembly.

Press the Memory Record Button while turning the Power Switch On.

Verify by running the Drive Set Ready test L.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

•

PAGE 1 OF 8

ENTRY POINTS

FROM			THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
8020		A	1	001
8021		A	1	001
8071		A	1	001

EXIT PO	INTS		
EXIT TH	IS MAP	TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
6	029	8020	 A
8	045	8021	А
2	007	8060	А
2	009	8061	А

001

(ENTRY POINT A)

This MAP isolates Seek Error problems.

Remove Diskette.

Press the Memory Record Button while turning the Power Switch On.

Select functions by pressing the MOVE key and select test procedure N.

Execute test procedure N by pressing the ENTER key.

(Step 001 continues)

MAP 8028-1

(Step 001 continued) This moves the Head Carriage to Track 40.

Remove the Cable Guide (Warning: Do not let the Head Cable touch the Drive Belt).

The Stepping Motor Pulley is at Track 40 if the timing holes in pulley and casting are aligned.

Use the alignment pin to verify.

Press the END key to terminate test N.

Is the Stepping Motor Pulley
located at Track 40?
Y N
|
002
|
Are the four Stepping Motor
mounting screws tight?
Y N
|
|
003
|
|
I Tighten the mounting
I screws.

| (Step 003 continues)

8 2 A B MAP 8028-1

B SEEK ERROR MAP	с	MAP 8028-2
MAP 8028		
PAGE 2 OF 8		
(Step 003 continued) The position of the Stepping Motor may affect Head Alignment.	(Step 005 continued) Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A,	(Step 008 continued) to Pin Al8(-) on the File Control Card Connector. Check for a reading +22.08 volts to +26.4 volts.
DIAGNOSTICS.	to Verify System Operation.	Is the voltage between +22.08 and +26.4 volts?
Execute the 6360 Head Alignment Compatibility	006	Y N
Check, by selecting the Diskette Utility function.	Using the 20(dc) voltage range, measure from Pin BO1(+) to Pin A18(-) at the File Control Card	009 You are now directed to go to
Follow the instructions on the screen.	Connector. Check for a reading of +4.6 volts to +5.5 volts.	the Diskette Unit +24 Vdc Power
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Is the voltage between +4.6 volts to +5.5 volts? Y N	GO TO MAP 8061, ENTRY POINT A.
004		ບ່າບ
Check that the Stepping Motor Tape is parallel to the pulley.	 You are now directed to go to	POWER-OFF.
Is the tape parallel to the	the Diskette Unit +5 Vdc Power	Remove the Diskette.
pulley? Y N 005	GO TO MAP 8060, ENTRY POINT A.	By hand, move the Head Carriage to Track 00. (toward the rear of the drive)
Go to the Product Support Manual for Pulley and Tape	008 Using the 200(dc) voltage	Press the Memory Record Button while turning the Power Switch On.
adjustments. (Step 005 continues)	range, measure from Pin BO3(+) (Step OO8 continues)	(Step 010 continues)

С

PAGE 3 OF 8

(Step 010 continued)

Select functions by pressing the MOVE key.

Select the failing drive.

Select test procedure T by pressing the MOVE key.

Execute test procedure T by pressing the ENTER key.

Using the 200(dc) voltage range, measure the (dc) voltage between each File Control Card test point in the Chart (See Chart #1 or Chart #4).

NOTE: Negative lead on TPF01 for a Diskette 1 Drive or TPA07 for a Diskette 2D Drive. These points are on the File Control Card.

The Head may or may not move during this test and audible (Step 010 continues) (Step 010 continued) trackstep sounds may or may not be heard.

Single cycle step to Track Ol by pressing the space bar and repeat the measurements.

Repeat for Tracks 02 and 03 by pressing the space bar.

+-----_____ DISKETTE 1 DRIVE CHART #1 -------STEPPING MOTOR TEST PINS |TPHO1|TPHO2|TPHO3|TPHO4 Trk O|UP UP UP | DOWN |----|----|-----|-----|------| Trk 1|UP UP DOWN UP ----- ----- ----- ------Trk 2|UP IDOWN JUP IUP Trk 3 DOWN UP IUP Down lev is 0 to 2.0dc volts Up lev is 21.6 to 26.4dc volts +---------------------+

(Step 010 continues)

(Step 010 co	ntinue	d)	+
DISKETTE	2D DRI	VE CHA	ART #4
STEPPING	MOTOR	TEST 1	PINS
 TPA01			 TPA04
	UP 	UP 	DOWN
Trk 1 UP	DOWN	UP	UP
Trk 2 UP	UP	DOWN	UP
 Trk 3 DOWN			 UP
Down lev is	0 to	2.0dc	volts
Up lev is 2	1.6 to	26.4d	c volts
+			+
Are the re the chart? Y N 011			
POWER-OF	Έ.		
Remove S from Control	the		or Cable te File
(Step 011	contin	ues)	
6			
D			8028-3
	1997 - 1997 -		

PAGE 4 OF 8

(Step 011 continued) Using the 2k ohm range, measure from Pin 1 to Pins 3,4,5,6 at the Stepping Motor Cable Connector.

Is the resistance of each of the four coils between 115 and 141 ohms? Y N

012

Install a new 24 Volt DC Synchronous Stepper Motor.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

013

Reconnect the Stepping Motor Cable on the Diskette Control Card.

By hand move the Head Carriage to Track 00. (toward the rear of the drive.

Press the Memory Record Button (Step 013 continues)

(Step 013 continued) while turning the Power Switch On. Select test procedure T, by pressing the MOVE kev. Execute test procedure T, by pressing the ENTER key. Using the 20(dc) voltage range, measure from Pin TPEO1 to TPF01 for a Diskette 1 Drive or from Pin TPCO1 to TPA07 for а Diskette 2D Drive. These points are on the File Control Card. Slowly press the Space Bar four times while observing the CE Meter. Was one or more results less than 0.4 volts and one or more results larger than 2.5 volts? ΥN 014 POWER-OFF. Using the lowest ohm range, measure from Pin B10 (File (Step 014 continues)

5 E (Step 014 continued) Control Card Connector) to Pin 13 (Connector B3/B4). For a reading of less than 2 ohms. Did the wire (Access 0) have continuity? ΥN 015 Install a new Diskette Drive Cable. Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A. to Verify System Operation. 016 Install a new File Control Card Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. (Step 016 continues)

E SEEK ERROR	MAP		G H	MAP 8028-5
MAP 8028			<u> </u>	
PAGE 5 OF	. 8			
(Step 016 continued)		(Step 019 continued) Using the 20(dc) voltage range,	021	
Was test procedures completed without a fixed γ N		measure from Pin TPCOl to TPFOl for a Diskette 1 Drive or from Pin TPDOl to TPA07 for a	Install Cable.	a new Diskette Drive
017		Diskette 2D Drive. These points are on the File Control Card.		by running the Drive dy test L.
POWER-OFF. Install the ori	dinal File	Slowly press the Space Bar four times while observing the CE		by running the Stepper hase test M.
Control Card.	-	Meter.	GO TO MAI	P 0010, ENTRY POINT A,
Install a new Adapter Card.	Diskette	Was one or more results less than 0.4 volts and one or more results larger than 2.5 volts?	to verify 022	System Operation.
Verify by running Set Ready test L		Y N I	Install Card.	a new File Control
 Verify by run Stepper Motor Pha		020 POWER-OFF.		running the Drive Set
 GO TO MAP 0010, EN A, to Verify Operation.	TRY POINT System	Using the lowest ohm range, measure from Pin B13 (File Control Connector) to Pin 10	Verify by	running the Stepper se test M.
 018		<pre>(Connector B3/B4). Check for a reading of less than 2 ohms.</pre>		procedures L and M ithout a failure?
GO TO MAP 0010, ENTR to Verify System Open		Did the wire have continuity?	Y N 023	
9			POWER-OF	FF.
tep 019 continues)				continues)
		6 F G H	6 J	MAP 8028-5

F J SEEK ERROR MAP		DKLM MAP 8028-6
MAP 8028		
PAGE 6 OF 8		
(Step 023 continued)	(Step 025 continued) Execute Test Procedure M by	
Install the original File Control Card.	pressing the ENTER key. Was test procedure M completed	 You are now directed to go to the RNA Start MAP.
Install a new Diskette Adapter Card.	without a failure? Y N	
 Verify by running the Drive Set Ready test L.	026	
	POWER-OFF.	030
Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT	Install a new Diskette Adapter Card.	Install the original Diskette Adapter Card.
A, to Verify System Operation.	Verify by running the Stepper Motor Phase test M.	Install a new 24 Volt DC Synchronous Stepper Motor.
024	 Was an Error Code displayed on the screen?	Verify by running the Stepper Motor Phase test M.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	Y N 027	 GO TO MAP OO10, ENTRY POINT A, to Verify System
o25		Operation.
POWER-OFF.	A, to Verify System Operation.	031
Install a new File Control Card.	028	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
Select test procedure M by pressing the MOVE key.	Is the Error Code 08 or 17? Y N	032
(Step 025 continues)		POWER-OFF. (Step 032 continues)
	K L M	MAP 8028-6

SEEK ERROR MAP	ΡQ	N	MAP 8028-7
MAP 8028		!	
PAGE 7 OF 8			
(Step 032 continued)	(Step 035 continued) Stepper Motor Phase test M.	 038	
Remove the Diskette. Remove the Upper Guide Rod screws and slide the rod from left to right a few times. Is there free movement? Y N 033 Clean the Guide Rods. Check the Guide Rods for free movement. Is there free movement? Y N 034 Are both Guide Rods in good condition?	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 036 Install a new Head Carriage Assembly. Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 037 Reinstall the Guide Rod.	Reinstall Go to Manual and Carriage Ad Press the while turns On. Load the DIAGNOSTIC Select Tr pressing th Execute Tr pressing th	Memory Record Button ing the Power Switch DISPLAYWRITER SYSTEM S. est Procedure M by he MOVE key. est Procedure M by he ENTER key. rocedure M completed
<pre> Y N 035 Install a new Guide Rod(s). Verify by running the (Step 035 continues) </pre>	Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	039 POWER-OF Install Adapter (Step 039	a new Diskette Card. continues)
NPQ		R	MAP 8028-7

A R 1 7	SEEK ERROR MAP	S
1 /	MAP 8028	ļ
	PAGE 8 OF 8	
(Step 039 continued) Verify by running the Drive Set Ready test L.	(Step 042 continued) without a failure? Y N
	Verify by running the Stepper Motor Phase test M.	043
I A	O TO MAP OOlO, ENTRY POINT , to Verify System peration.	Go to the Product SupportManual and perform theStepperAdjustment.
	TO MAP OO10, ENTRY POINT A, Verify System Operation.	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
 041		044
(.020	he head located at Track 40? gap, see the Froduct rt Manual)	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 045
042		At this point it has been determined that there is a read failure .
j M	o to the Product Support anual and perform the Head arriage Adjustment.	You are now directed to go to the Read ID Error MAP.
	erify by running the Stepper otor Phase Test M.	GO TO MAP 8021, ENTRY POINT A.
	test procedure M completed ep 042 continues)	

MAP 8028-8

s

MAP 8030-1 NOT WRITING/WRITE ERRORS MAP В MAP 8030 PAGE 1 OF 2 (Step 002 continued) 002 ENTRY POINTS Is there continuity in the wire? Y N FROM | ENTER THIS MAP POWER-OFF. I ENTRY PAGE 003 STEP Install the original File MAP NUMBER | POINT NUMBER NUMBER Control Card. Install a new Diskette Drive -------8071 | A 1 001 Cable. Using the lowest ohm range, and using the information in chart GO TO MAP 0010, ENTRY POINT A, #13 or chart #14, Check for a to Verify System Operation. 001 reading of less than 2 ohms. (ENTRY POINT A) 004 +------+ This MAP will isolate Write DISKETTE 1 DRIVE CHART#13 Install a new Diskette Adapter problems in the Diskette Unit. +------+ Card. |File Control Card Connector| POWER-OFF. Connector B3/B4 POWER-ON. ------Install a new File Control PIN B17 PIN 21 Execute the Diskette MDI. Card. PIN BO8 PIN 18 +----+ Was the Diskette MDI test POWER-ON. procedure completed without a failure? Execute the Diskette MDL. +-----+ Y N Return to this MAP and continue |DISKETTE 2D DRIVE CHART#14 | with this step. +-----+ |File Control Card Connector| 005 Diskette MDI test Was the Connector B3/B4 POWER-OFF. completed without a procedure -----failure? PIN B17 PIN 21 Install the original Diskette Y N | PIN B16 PIN 8 Adapter Card. 1 1 +------+ (Step 005 continues) (Step 002 continues) 1 1 2 2 AB C MAP 8030-1

```
A C
           WRITE PROBLEMS
1 1
           MAP 8030
           PAGE 2 OF 2
    (Step 005 continued)
     Install a new Head Carriage
     Assembly.
     Press the Memory Record
      Button, while turning the
     Power Switch On.
     Verify by running the Drive
     Set Ready test L.
     Verify by running the
     Stepper Motor Phase test M.
   GO TO MAP 0010, ENTRY POINT
  A, to Verify
                        System
   Operation.
  <u>006</u>
 GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
<u>007</u>
GO TO MAP 0010, ENTRY POINT A, to
Verify System Operation.
```

PAGE 1 OF 7

ENTRY POINTS

FROM	 +-	ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0009		A	1	001
0010		A	1	001
0015		A	1	001

EXIT POINTS				
EXIT THI	S MAP	TO		
	STEP NUMBER	MAP NUMBER	ENTRY POINT	
4	019	8060	 A	
6	034	8060	А	
2	008	8061	А	
3	014	8061	А	
4	017	8061	А	
2	006	8062	А	
3	012	8062	А	
4	021	8062	А	

001

(ENTRY POINT A)

This MAP will isolate data flow problems in the Diskette Unit.

Error code 04

The failing part is most likely the System Card. You may install it now if there is a replacement System Card at your present location.

To verify system operation, go (Step 001 continues)

(Step 001 continued) to MAP 0010, entry point A.

The MAP should be followed to a repair statement before obtaining any parts from the Distribution Center.

Error code 05

The failing part is most likely the Diskette Adapter Card. You may install it now if there is a replacement Diskette Adapter Card at your present location.

To verify system operation, go to MAP 0010, entry point A.

The MAP should be followed to a repair statement before obtaining any parts from the Distribution Center.

POWER-OFF.

Remove the Communications Adapter Card from the Media Module, if one is present.

POWER-ON.

(Step 001 continues)

MAP 8032-1

H/S	WRAP	ERRORS	
11/0	111/111	LICICOTO	

PAGE 2 OF 7

(Step 001 continued) (Step 004 continued) Is the Error Code 04 or 05? Is the Error Code 05? Y N ΥN 002 005 007 Install a new Communications POWER-OFF. Adapter Card. Reconnect Cable B3 at the GO TO MAP 0010, ENTRY POINT A, Diskette Adapter Card. to Verify System Operation. POWER-ON. 003 Using the 20(dc) voltage POWER-OFF. range, measure from Pin A18(-) to Pin A01(+) at the File Control Card Connector. Reinstall the Communications Check for a reading of -4.6Adapter Card. volts to -5.5 volts. ΥN POWER-ON. Make this measurement on the 008 Is the Error Code 04? Left Drive. ΥN Is the voltage between -4.6 004 volts to -5.5 volts? MAP. ΥN POWER-OFF. 006 Disconnect Cable B3 at the Diskette Adapter Card. You are now directed to go to 009 | the Diskette Unit -5 Vdc POWER-ON. | Power MAP. (Step 004 continues) | | (Step 006 continues) 6 3 А BC

| (Step 006 continued) GO TO MAP 8062, ENTRY POINT A. Using the 200(dc) voltage range, measure from Pin A18(-) to Pin BO3(+) of the File Control Card Connector. Check for a reading of 22.08 volts to 26.4 volts. Make this measurement on the Left Drive. Is the voltage between +22.08 volts to +26.4 volts? You are now directed to go to the Diskette Unit +24 Vdc Power GO TO MAP 8061, ENTRY POINT A. POWER-OFF. (Step 009 continues)

С

MAP 8032-2

B 2	H/S WRAP ERRORS		D	MAP 8032-3
2	MAP 8032		1	
	PAGE 3 OF 7			
Instal Card. GO TO M	9 continued) l a new File Control AP 0010, ENTRY POINT A, y System Operation.	(Step Oll continued) Using the 20(dc) voltage range, measure from Pin Al8(-) to Pin AO1(+) at the File Control Card Connector. Check for a reading of -4.6 volts to -5.5 volts.	Is	tep 013 continued) Right Drive. the voltage between +22.08 lts to +26.4 volts? N
010		Make this measurement on the Right Drive.		014
disconne Diskette If Cabl a single answer t POWER-ON	t Cable B3 and ct Cable B4 at the Adapter Card. e B4 is not present (on drive station), then he next question yes.	Is the voltage between -4.6 volts to -5.5 volts? Y N 012 You are now directed to go to the Diskette Unit -5 Vdc Power MAP. GO TO MAP 8062, ENTRY POINT A.		You are now directed to go to the Diskette Unit +24 Vdc Power MAP. GO TO MAP 8061, ENTRY POINT A. 5 POWER-OFF. Install a new File Control Card. TO MAP 0010, ENTRY POINT A,
POWER- Reconn Disket POWER-	ect Cable B4 at the te Adapter Card.	Using the 200(dc) voltage range, measure from Pin A18(-) to Pin B03(+) of the File Control Card Connector. Check for a reading of 22.08 volts to 26.4 volts. Make this measurement on the (Step 013 continues)	i to 016 PO Le th	WER-OFF. ave Cable B4 disconnected at p Ol6 continues)

H/S WRAP ERRORS		Е	MAP 8032-4
MAP 8032			
PAGE 4 OF 7			
(Step 016 continued)	(Step 018 continued)	 (Step 021 continu MAP.	led)
<pre>(Step Ole Continued) Disconnect Cable B3 at the Diskette Adapter Card. POWER-ON. Is the Error Code 05? Y N 017 You are now directed to go to the Diskette Unit +24 Vdc Power MAP. GO TO MAP 8061, ENTRY FOINT A. 018 Using the 20(dc) voltage range, measure from Pin 15(-) to Pins 1,2,3,13,14 (+ all) of Connector B2 at the Diskette Adapter Card. Check for a reading of +4.6 volts to +5.5 volts. (Step 018 continues)</pre>	<pre>(Step 018 continued) Is the voltage between +4.6 volts to 5.5 volts on each Connector Pin indicated? Y N 019 You are now directed to go to the Diskette Unit +5 Vdc Power MAP. GO TO MAP 8060, ENTRY POINT A. 020 Using the 20(dc) voltage range, measure from Pin 15(-) to Pin 5(+) of Connector E2 at the Diskette Adapter Card. Check for a reading of -4.6 volts to -5.5 volts. Is the voltage between -4.6 volts to -5.5 volts? Y N 021 You are now directed to go to the Diskette Unit -5 Vdc Power (Step 021 continues)</pre>	MAP. GO TO MAP 8062, 1 022 POWER-OFF. Reconnect the Dr: If you have in: Diskette Adapte:	ENTRY POINT A. ive Cable. stalled a new r Card at the MAP, do not her Diskette Reinstall the e Adapter Card. e next step. iskette Adapter isplayed on the
		1	
	E	5 F	MAP 8032-4

F 4	H/S WRAP ERRORS		MAP 8032-5
4	MAP 8032		
	PAGE 5 OF 7		
i 024		(Step 026 continued) the chart.	(Step 028 continued)
POWER-OFF		++	Is an Error Code displayed on the screen? Y N
Reinstall Adapter C	the original Diskette ard.	File Control Card Connector Connector B3/B4	029
Install a Signal Ca	new External Diskette ble.	PIN PIN	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.
POWER-ON.		B06 3 B14 11 B09 9	 030
screen?	Code displayed on the	B17 21	POWER-OFF.
Y N 025		Do all the wires measure less than 2 ohms?	Install a new Internal Diskette Signal Cable in the Electronic Module.
	P 0010, ENTRY POINT A, System Operation.	Y N 027	POWER-ON.
 026		 Install a new Diskette Drive Cable.	Is an Error Code displayed on the screen? Y N
POWER-OFF	-	GO TO MAP 0010, ENTRY POINT A,	031
	he original External Signal Cable.	to Verify System Operation. 028	 GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.
measure f	e lowest ohm range, rom the File Control nector to Connector	Install a new System Card.	 032
B3/B4, us (Step 026 c	ing the information in ontinues)	POWER-ON. (Step 028 continues)	Follow your normal escalation (Step 032 continues)

```
MAP 8032-6
А
           H/S WRAP ERRORS
2
           MAP 8032
           PAGE 6 OF 7
                                                                             (Step 037 continued)
 (Step 032 continued)
                                      (Step 035 continued)
   procedure.
                                        the original System Card.
                                                                              Is an Error Code displayed on the
                                        Continue with the next step.
                                                                              screen?
Ó33
                                                                              ΥN
                                        POWER-OFF.
 Using the 20(dc) voltage range,
                                                                               038
 measure from Pin 15(-) to Pins
                                        Install a new System Card.
 1,2,3,13,14 (+ all)
                              of
                                                                               GO TO MAP 0010, ENTRY POINT A,
 Connector B2 at the Diskette
                                        POWER-ON.
                                                                               to Verify System Operation.
 Adapter Card. Check for a
 reading of +4.6 volts to +5.5
                                      Is an Error Code displayed on the
                                                                              039
 volts.
                                       screen?
                                      ΥN
                                                                                POWER-OFF.
Is the voltage between +4.6 volts
to 5.5 volts on each Connector
                                       036
                                                                                Install the original Diskette
Pin indicated?
                                                                                Adapter Card.
                                        GO TO MAP 0010, ENTRY POINT A,
ΥN
                                        to Verify System Operation.
                                                                                Install a new External Diskette
 034
                                                                                Signal Cable.
                                       037
 You are now directed to go to
                                                                                POWER-ON.
  the Diskette Unit +5 Vdc Power
                                        POWER-OFF.
 MAP
                                                                              Is an Error Code displayed on the
                                                  the original System
                                        Install
                                                                              screen?
                                        Card.
                                                                              ΥN
 GO TO MAP 8060, ENTRY POINT A.
                                        Install a new Diskette Adapter
                                                                                040
035
                                        Card.
                                                                                GO TO MAP 0010, ENTRY POINT A,
  If you have installed a new
                                        POWER-ON.
                                                                                to Verify System Operation.
  System Card at the start of
                                      (Step 037 continues)
  this MAP, do not install
  another System Card. Reinstall
(Step 035 continues)
                                                                              7
```

G

MAP 8032-6

H/S WRAP ERRORS G 6 MAP 8032 PAGE 7 OF 7 041 POWER-OFF. Install the original External Diskette Signal Cable. Install a new Internal Diskette Signal Cable in the Electronic Module. POWER-ON. Is an Error Code displayed on the screen? ΥN 042 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Ó43 Follow your normal escalation

procedure.

MAP 8032-7

DISKETTE UNIT +5 VDC POWER MAP

MAP 8060

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8020 8021 8026 8028 8032	A A A A A	1 1 1 1	001 001 001 001 001

001 (ENTRY POINT A)

This MAP will isolate +5 (dc) voltage problems in the Diskette Unit and external DC Power Cable.

Remove the Diskette(s) if one is present.

POWER-OFF.

Disconnect the Diskette DC Power Cable from Connector 10, Panel 2.

POWER-ON. (Step 001 continues) (Step 001 continued)

Using the 20(dc) voltage range, measure from Pin 7(-) to Pins 1,2,3,4,14 (all +) of Connector 10 at Panel 2. Check for a reading of +4.6 volts to +5.5 volts. (measure at the Panel).

Is the voltage between +4.6 volts to 5.5 volts on each Connector Pin indicated? Y N

```
002
```

POWER-OFF.

Install a new Power Supply.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

POWER-OFF.

Reinstall the Diskette DC Power Cable to Connector 10, at Panel 2.

POWER-ON. (Step 003 continues) (Step 003 continued)

Using the 20(dc) voltage range, measure from Pin 15(-) to Pins 1,2,3,13,14 (all +) of Connector B2, at the Diskette Adapter Card. Check for a reading of +4.6 volts to +5.5 volts.

Is the voltage between +4.6 volts to 5.5 volts on each Connector Pin indicated? Y N

```
004
```

POWER-OFF.

Install a new Diskette Unit DC Power Cable.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

005

Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 14(+) at Connector B3 and Connector B4. Check for a reading of +4.6 volts to +5.5 volts. (Step 005 continues)

DISKETTE UNIT +5 VDC MAP 8060-2 MAP 8060 PAGE 2 OF 2 (Step 005 continued) (Step 007 continued) (Step 009 continued) Verify by running the Drive Set Is the voltage between +4.6 volts Is the voltage between +4.6 volts Readv test L. to +5.5 volts? to +5.5 volts? ΥN ΥN Verify by running the Stepper Motor Phase test M. 006 008 GO TO MAP 0010, ENTRY POINT A, to POWER-OFF. POWER-OFF. Verify System Operation. Install a new Diskette Install a new Diskette Drive Adapter Card. Cable Press the Memory Record Press the Memory Record Button, while turning the Button, while turning the Power Switch On. Power Switch On. Verify by running the Drive Verify by running the Drive Set Ready test L. Set Ready test L. Verify by running the Stepper Verify by running the Stepper Motor Phase test M. Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, | GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. | to Verify System Operation. 007 009 Using the 20(dc) voltage range, POWER-OFF. measure from Pin BO1(+) to Pin A18(-) at the File Control Card Install a new File Control Connector. Check for a reading Card. of +4.6 volts to +5.5 volts. (Step 007 continues) (Step 009 continues)

DISKETTE UNIT +24 VDC POWER MAP

MAP 8061

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER	THIS MAP	
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
8020 8021 8026 8028 8032	A A A A	1 1 1 1	001 001 001 001 001

001 (ENTRY POINT A)

> This MAP will isolate +24 (dc) voltage problems in the Diskette Unit and external DC Power Cable.

> Remove the Diskette if one is present.

POWER-OFF.

Disconnect the Diskette Unit DC Power Cable from Connector 10, Panel 2.

POWER-ON. (Step 001 continues) (Step 001 continued)

```
Using the 200(dc) voltage
range, measure from Pin 7(-) to
Pin 13(+) at Connector 10 at
Panel 2. (Measure at the
Panel) Check for a reading of
+22.08 volts to +26.4 volts.
Is the voltage between +22.08
volts to +26.4 volts?
Y N
I
```

002

POWER-OFF.

Install a new Power Supply.

```
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
```

```
003
```

POWER-OFF.

Reinstall the Diskette Unit DC Power Cable to Connector 10, at Panel 2.

```
POWER-ON.
```

Using the 200(dc) voltage (Step 003 continues)

(Step 003 continued) range, measure from Pin 15(-) to Pin 12 (+) of Connector B2, at the Diskette Adapter Card. Check for a reading of +22.08 volts to +26.4 volts. Is the voltage between +22.08 volts to +26.4 volts? ΥN 004 POWER-OFF. Install a new Diskette Unit DC Power Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 005 Using the 200(dc) voltage range, measure from Pin 7(-) to Pin 12(+) at Connector B3 and

Pin 12(+) at Connector B3 and Connector B4. Check for a reading of +22.08 volts to +26.4 volts. (Step 005 continues)

DISKETTE UNIT +24 VDC MAP 8061 PAGE 2 OF 2 (Step 005 continued) Is the voltage between +22.08 volts to +26.4 volts? ΥN 006 POWER-OFF. Install a new Diskette Adapter Card. Press the Memory Record Button, while turning the Power Switch On. Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 007 Using the 200(dc) voltage range, measure from Pin BO3(+) to Pin Al8(-) on the File Control Card Connector. Check for a reading +22.08 volts to

(Step 007 continues)

(Step 007 continued) +26.4 volts. Is the voltage between +22.08 and +26.4 volts? ΥN 008 POWER-OFF. Install a new Diskette Drive Cable. Press the Memory Record Button, while turning the Power Switch On. Verify by running the Drive Set Ready test L. Verify by running the Stepper Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 009 POWER-OFF. Install a new File Control Card.

(Step 009 continues)

(Step 009 continued)

Verify by running the Drive Set Ready test L.

Verify by running the Stepper Motor Phase test M.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 8061-2

DISKETTE UNIT -5 VDC POWER MAP

MAP 8062

PAGE 1 OF 2

ENTRY POINTS | ENTER THIS MAP FROM ____+ MAP I ENTRY PAGE STEP NUMBER | POINT NUMBER NUMBER _____ А 1 8020 | 001 1 001 8026 | А 8032 I A 1 001

001 (ENTRY POINT A)

> This MAP will isolate -5 (dc) voltage problems in the Diskette Unit and external DC Power Cable.

Remove the Diskette if one is present.

POWER-OFF.

Disconnect the Diskette Unit DC Power Cable from Connector 10, at Panel 2.

POWER-ON.

Using the 20(dc) voltage range, (Step 001 continues)

```
(Step 001 continued)
measure from Pin 7(-) to Pin
12(+) on Connector 10 at Panel
2. (Measure at the Panel)
Check for a reading of -4.6
volts to -5.5 volts.
Is the voltage between -4.6 volts
```

to -5.5 volts? Y N

```
002
```

POWER-OFF.

Install a new Power Supply.

Reconnect all the cable connectors.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

003

POWER-OFF.

Reinstall the Diskette Unit DC Power Cable to Connector 10, at Panel 2.

```
POWER-ON.
```

(Step 003 continues)

(Step 003 continued) Using the 20(dc) voltage range, measure from Pin 15(-) to Pin 5(+) of Connector B2, at the Diskette Adapter Card. Check for a reading of -4.6 volts to -5.5 volts. Is the voltage between -4.6 volts to -5.5 volts? ΥN 004 POWER-OFF. Install a new Diskette Unit DC Power Cable. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 005 Using the 20(dc) voltage range,

Using the 20(dc) voltage range, measure from Pin 7(-) to Pin 5(+) at Connector B3 and Connector B4. Check for a reading of -4.6 volts to -5.5 volts. (Step 005 continues)

MAP 8062-1

MAP 8062-1

MAP 8062-2 DISKETTE UNIT -5 VDC MAP 8062 PAGE 2 OF 2 (Step 009 continued) (Step 005 continued) (Step 007 continued) Verify by running the Drive Set Ready test L. Is the voltage between -4.6 volts Is the voltage between -4.6 volts to -5.5 volts? to -5.5 volts? Verify by running the Stepper ΥN YN Motor Phase test M. 006 008 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. POWER-OFF. POWER-OFF. Install a new Diskette Install a new Diskette Drive Adapter Card. Cable. Press the Memory Record Press the Memory Record Button, while turning the Button, while turning the Power Switch On. Power Switch On. Verify by running the Drive Verify by running the Drive Set Ready test L. Set Ready test L. Verify by running the Stepper Verify by running the Stepper Motor Phase test M. Motor Phase test M. GO TO MAP 0010, ENTRY POINT A, | GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. | to Verify System Operation. 007 009 Using the 20(dc) voltage range, POWER-OFF. measure from Pin A18(-) to Pin AO1(+) at the File Control Card Install a new File Control Connector. Check for a reading Card. of -4.6 volts to -5.5 volts. (Step 007 continues) (Step 009 continues)

DISKETTE UNIT A/C POWER MAP

MAP 8064

PAGE 1 OF 3

ENTRY POINTS				
FROM		ENTER	THIS MAP	
MAP NUMBER	1	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0010	+.	A	1	001

001 (ENTRY POINT A)

This MAP isolates AC short problems in the Diskette Unit.

Reconnect the Diskette Unit AC Cable Connector 8 at Panel 2.

POWER-OFF.

Disconnect the Diskette Unit AC Cable from the Diskette Unit. This is done by disconnecting the AC Motor Connector or Connectors (two drives) and the AC Fan Connector in the Diskette Unit.

POWER-ON.

Is the Fan in the Electronic (Step 001 continues)

(Step 001 continued) Module running? ΥN 002 POWER-OFF. Install a new Diskette Unit AC Cable. Install a new Fuse. Reconnect the AC Power Cable. GO TO MAP 0010, ENTRY POINT A, | to Verify System Operation. 003 Is this a two Drive station? Y N 004 POWER-OFF. Disconnect the AC Cable Connector 8 at Panel 2. Discharge the AC Capacitor by taking a meter lead and connecting the clip to the Capacitor Terminal with two (Step 004 continues)

2

А

(Step 004 continued) wires and the other end of the meter lead to the Capacitor Terminal with the single wire. Using the lowest ohm range, place a meter lead on each of the black AC wires on the AC Motor Connector. Record the reading. Leave the meter leads connected. Disconnect the blue wire (single wire) from the AC Capacitor. Did the meter reading increase? ΥN 005 Install a new AC Drive Motor.

Reconnect the AC Cable to Connector (8) at Panel 2.

| GO TO MAP OOlO, ENTRY POINT A, | to Verify System Operation. | 006

(Step 006 continues)

MAP 8064-1

MAP 8064-2 А DISKETTE UNIT A/C В 1 MAP 8064 PAGE 2 OF 3 (Step 010 continued) (Step 006 continued) (Step 008 continued) the meter lead to the Capacitor Install a new AC Drive Motor Terminal with the single wire. GO TO MAP 0010, ENTRY POINT A, Capacitor. to Verify System Operation. Using the lowest ohm range, Reconnect the AC Cable to place a meter lead on each of Connector (8) at Panel 2. 009 the black AC wires on the AC Motor Connector. GO TO MAP 0010, ENTRY POINT A, POWER-OFF. to Verify System Operation. Record the reading. Connect the Right Drive AC 007 Cable. Leave the meter leads connected. POWER-OFF. POWER-ON. Disconnect the blue wire Is the AC Motor turning on the Reconnect the Fan in the (single wire) from the AC Diskette Unit. Right Drive? Capacitor. Y N POWER-ON. Did the meter reading increase? 010 ΥN Is the Fan in the Diskette Unit running? The Right Drive is the 011 ΥN failing Drive. Install a new AC Drive Motor 008 POWER-OFF. Capacitor. Disconnect the AC Cable POWER-OFF. Connector 8 at Panel 2. Reconnect the AC Cable to Connector (8) at Panel 2. Install a new Fan in the Diskette Module. Install a Discharge the AC Capacitor by GO TO MAP 0010, ENTRY POINT A, new Fuse. taking a meter lead and to Verify System Operation. connecting the clip to the Reconnect the AC Motor Capacitor Terminal with two Connector on both drives. wires and the other end of (Step 010 continues) (Step 008 continues) 3 3 MAP 8064-2 D в С

CD	DISKETTE UNIT A/C	
2 2	MAP 8064	
	PAGE 3 OF 3	
012		(Step 013 continued)
 Instal	l a new AC Drive Motor.	Record the reading.
	ect the AC Cable to tor (8) at Panel 2.	Leave the meter leads connected.
ј ј GO TO M	AP OOlO, ENTRY POINT A, y System Operation.	Disconnect the blue wire (single wire) from the AC Capacitor.
013		Did the meter reading increase? Y N
The Left Drive.	Drive is the failing	014
POWER-OF	F.	Install a new AC Drive Motor.
	ct the AC Cable r 8 at Panel 2.	Reconnect the AC Cable to Connector (8) at Panel 2.
taking connecti Capacito	e the AC Capacitor by a meter lead and ng the clip to the r Terminal with two	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation. 015
meter 1	nd the other end of the ead to the Capacitor with the single wire.	Install a new AC Drive Motor Capacitor.
place a	he lowest ohm range, meter lead on each of ck AC wires on the AC	Reconnect the AC Cable to Connector (8) at Panel 2.
Motor Co (Step 013	nnector.	GO TO MAP OO10, ENTRY POINT A, to (Step O15 continues)

MAP 8064-3

(Step 015 continued) Verify System Operation.

MAP 8064-3

DC SHORT FAILURE MAP

MAP 8065

PAGE 1 OF 6

ENTRY POINTS | ENTER THIS MAP FROM ----+ I ENTRY PAGE STEP MAP NUMBER | POINT NUMBER NUMBER 6010 | A 1 001 001 (ENTRY POINT A) This MAP isolates DC short problems in the Diskette Unit. POWER-OFF (Wait 8 seconds). Disconnect the Communications DC Voltage Cable Connector 11 (if present) from Panel 2. Disconnect all cables from the Connector Strip or from the Diskette Unit Distribution Board. Remove the Diskette Adapter Card. Remove if present remaining cards from the Diskette Unit (Step 001 continues)

(Step 001 continued) Distribution Board. POWER-ON. Are the "A" and/or "B" LED indicators ON? ΥN 002 Reconnect the Communications DC Voltage Cable Connector 11 to Panel 2. If this cable is not present, then answer NO to this guestion. Are the "A" and/or "B" LED indicators ON? ΥN 1 003 POWER-OFF. Reconnect Cable B2. Reconnect if present Cable Cl to the Diskette Unit Distribution Board. | (Step 003 continues) 66 ΑB

(Step 003 continued) POWER-ON. Are the "A" and/or "B" LED indicators ON? Y N 004 POWER-OFF (Wait 8 seconds). Reinstall the original Diskette Adapter Card. POWER-ON. Are the "A" and/or "B" LED indicators ON? ΥN 005 If the Communications feature is not present in the Media Module, then answer NO to this question. Reinstall the remaining original cards one at a time. Power-On after installing each card. (Step 005 continues) 6 6

CD

MAP 8065-1

DC SHORT FAILURE MAP		H MAP 8065-2
MAP 8065		ļ
PAGE 2 OF 6		
(Step 005 continued)	(Step 007 continued)	(Step 009 continued)
Record the part number or card type of the failing card. Did the A and/or B LED Indicators remain on after installing each card? Y N 006 Is this a two Drive station? Y N 007 FOWER-OFF. Reconnect the Drive Cable. Disconnect the Head Load Solenoid Connector from the File Control Card. Disconnect the Stepping Motor Connector from the File Control Card. POWER-ON. (Step 007 continues)	Are the "A" and/or "B" LED indicators ON? Y N 008 POWER-OFF. Reconnect the Head Load Solenoid in the failing Drive. POWER-ON. Are the "A" and/or "B" LED indicators ON? Y N DOUBR-OFF. POWER-OFF. POWER-OFF. POWER-OFF. DOUBR-OFF. DOUBR-OFF. DOUBR-OFF. DOUBR-OFF. DOUBR-OFF. DOUBR-OFF. DOUBR-OFF. DOUBR-ON. DOUBR-ON. DOUBR-ON. DOUBR-ON. DOUBR-ON. DOUBR-ON. DOUBR-ON. DOUBR-ON. DOUBR-ON. DOUBR-ON. DOUBR-ON.	Are the "A" and/or "B" LED indicators ON? Y N 010 GO TO MAP 0010, ENTRY POINT A, to Verify System 011 POWER-OFF (Wait 8 seconds). Install a new Stepping Motor. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 012 POWER-OFF (Wait 8 seconds). Install a new Head Load Solenoid in the failing Drive. POWER-ON. (Step 012 continues)
6 3 E F	 3 G H	MAP 8065-2

```
G
           DC SHORT FAILURE MAP
                                     F
                                                                                               MAP 8065-3
                                                                           Κ
2
                                     2
           MAP 8065
           PAGE 3 OF 6
 (Step 012 continued)
                                     | (Step 015 continued)
                                                                           019
 Are the "A" and/or "B" LED
                                       Are the "A" and/or "B" LED
 indicators ON?
                                       indicators ON?
                                                                             This isolates to a failing
 ΥN
                                       ΥN
                                                                             Right Drive.
 i 013
                                         016
                                       1
                                                                             POWER-OFF.
 | GO TO MAP 0010, ENTRY POINT
                                        GO TO MAP 0010, ENTRY POINT
                                                                             Reconnect the Right Drive Cable
        to Verify
                                       A, to Verify System
                                                                             to Connector B4 on the Diskette
  ΙΑ,
                         Svstem
                                       | Operation.
 | Operation.
                                                                             Adapter Card.
 014
                                       017
                                                                             Disconnect the Head
                                                                             Solenoid Connector from the
  POWER-OFF (Wait 8 seconds).
                                     | POWER-OFF (Wait 8 seconds).
                                                                             File Control Card on the
                                                                             failing drive.
  Install a new Power Supply.
                                      Install a new Power Supply.
                                                                             Disconnect the Stepping Motor
                                                                             Connector from the File Control
 GO TO MAP 0010, ENTRY POINT A,
                                     | GO TO MAP 0010, ENTRY POINT A,
 to Verify System Operation.
                                     | to Verify System Operation.
                                                                             Card on the failing drive.
015
                                     018
                                                                             POWER-ON.
 POWER-OFF (Wait 8 seconds).
                                                                           Are the "A" and/or "B" LED
                                      POWER-OFF.
                                                                           indicators ON?
                                       Reconnect the Left Drive Cable
 Install a new File Control Card
                                                                           ΥN
 in the failing Drive.
                                       to Connector B3 on the Diskette
                                      Adapter Card.
                                                                             020
 POWER-ON.
                                     Are the "A" and/or "B" LED
(Step 015 continues)
                                                                               POWER-OFF.
                                     indicators ON?
                                     ΥN
                                                                               Reconnect the Head Load
                                     1 1
                                                                               Solenoid in the failing
                                                                             (Step 020 continues)
                                     4
                                                                           4
                                     JК
                                                                                               MAP 8065-3
                                                                           Τ.
```

Load

DC SHORT FAILURE MAP	М	J L MAP 8065-4
MAP 8065	!	
PAGE 4 OF 6		
(Step 020 continued) Drive.	(Step 023 continued) POWER-OFF (Wait 8 seconds).	(Step 026 continued) Verify System Operation.
POWER-ON.	Install a new Stepping Motor.	027
Are the "A" and/or "B" LED indicators ON?	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	POWER-OFF (Wait 8 seconds).
Y N	 024	Install a new File Control Card in the failing Drive.
021	POWER-OFF (Wait 8 seconds).	POWER-ON.
POWER-OFF. Reconnect the Stepping Motor Connector in the failing Drive.	Install a new Head Load Solenoid in the failing Drive. POWER-ON.	Are the "A" and/or "B" LED indicators ON? Y N
POWER-ON. Are the "A" and/or "B" LED indicators ON? Y N 022 POWER-OFF.	Are the "A" and/or "B" LED indicators ON? Y N 025 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	028 028 00 TO MAP 0010, ENTRY POINT A, to Verify System 0peration. 029 POWER-OFF (Wait 8 seconds).
	026	Install a new Power Supply.
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	POWER-OFF (Wait 8 seconds).	 GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.
 023	Install a new Power Supply.	 030
(Step 023 continues)	GO TO MAP 0010, ENTRY POINT A, to (Step 026 continues)	(Step 030 continues)

М

DC SHORT FAILURE MAP		Р	MAP 8065-5
MAP 8065		1	
PAGE 5 OF 6			
<pre>(Step 030 continued) This isolates to a failing Left Drive. POWER-OFF (Wait 8 seconds). Disconnect the Head Load Solenoid Connector from the File Control Card on the failing drive. Disconnect the Stepping Motor Connector from the File Control Card on the failing drive. POWER-ON. Are the "A" and/or "B" LED indicators ON? Y N 031 POWER-OFF. Reconnect the Head Load Solenoid in the failing Drive. POWER-ON. (Step 031 continues)</pre>	<pre>(Step 031 continued) Are the "A" and/or "B" LED indicators ON? Y N 032 POWER-OFF. Reconnect the Stepping Motor Connector in the failing Drive. POWER-ON. Are the "A" and/or "B" LED indicators ON? Y N 033 GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 034 POWER-OFF (Wait 8 seconds). Install a new Stepping Motor. GO TO MAP 0010, ENTRY POINT A, (Step 034 continues)</pre>	035 POWER-OFF (1 Install a Solenoid in POWER-ON. Are the "A" indicators ON' Y N 036 GO TO MAP (1 1 to Verify St 037 POWER-OFF (1 Install a new	<pre>ystem Operation. Wait 8 seconds). new Head Load the failing Drive. and/or "B" LED ? 0010, ENTRY POINT A, ystem Operation. Wait 8 seconds). ew Power Supply. 0, ENTRY POINT A, to</pre>
N	P		MAP 8065-5

E N 2 5	DC SHORT FAILURE MAP	C D	A B Q 1 1	MAP 8065-6
25	MAP 8065			
	PAGE 6 OF 6			
038		(Step 041 continued) Install a new Card.	045	
POWER- Instal Card : POWER- indicato Y N I 039 I 039 I 039 I 039 I 039 I 039 I 040 FOWER- Instal GO TO I to Veri: 041	e "A" and/or "B" LED DOTS ON? MAP 0010, ENTRY POINT to Verify System tion. -OFF (Wait 8 seconds). 11 a new Power Supply. MAP 0010, ENTRY POINT A, fy System Operation. FF (Wait 8 seconds).	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. O42 POWER-OFF (Wait 8 seconds). Install a new Diskette Adapter Card. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. O43 Is a Diskette Unit Distribution Board present? Y N 044 POWER-OFF (Wait 8 seconds). Install a new Connector Strip. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.	POWER-OF I Install District I GO TO M I A, to Operation O46 POWER-OFF I Install a DC Voltac GO TO MAP to Verify S O47 POWER-OFF (Install a r DC Power Ca	Y (Wait 8 seconds). A new Communications ge Cable. OOlO, ENTRY FOINT A, System Operation. Wait 8 seconds). New Diskette Adapter able.
(Step 041	continues)			

BLANK DISPLAY MAP		A B	MAP 9010-1
MAP 9010			
PAGE 1 OF 2			
ENTRY POINTS	(Step 001 continued) Screen is glass and will implode if cracked or broken.	(Step 003 (continued) 2010, ENTRY POINT
FROM ENTER THIS MAP	*	A, to Operation.	
MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER	Disconnect the Display Module Connector (2) from Panel 1.	004	
0017 A 1 001 001 (ENTRY POINT A)	Using the 20(dc) voltage range, measure from Pin 2 (ground) to Pin 3 (+12V) of Panel 1 Connector (2), (Pin side). Is the voltage between +11.0	Internal D.	install a new istribution Cable. D10, ENTRY POINT A,
The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAPs to a fix statement before obtaining any parts from the distribution center. DANGER WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display (Step 001 continues)	<pre>volts and +13.2 volts? Y N 002 Using the 20(dc) voltage range, measure from frame ground to Pin 10 of Internal Distribution Cable Connector (P2). Is the voltage between +11.0 volts and +13.2 volts? Y N 003 POWER-OFF. Install a new Power Supply. (Step 003 continues) ())))))))))))))))))</pre>	to Verify Sy 005 POWER-OFF. Remove the St top cover. Reconnect ti Connector (2 POWER-ON with Button press Using the 20 measure from	stem Operation. Electronics Module he Display Module). h the Memory Record ed. (dc) voltage range, frame ground to of the Internal Cable Connector
	AB		MAP 9010-1

.....

BLANK DISPLAY MAP	С
MAP 9010	1
PAGE 2 OF 2	
(Step 005 continued) (2) (wiring side).	(Step 008 continued) Internal Distribution Cable.
Is the voltage between +4.0 volts and +5.5 volts? Y N	GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.
006	ဝဝခ
POWER-OFF.	POWER-OFF.
Install a new Display Module.	Install a new Display Adapter Card.
GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.	GO TO MAP OO10, ENTRY POINT A, to Verify System Operation.
007	
Using the 20(dc) voltage range, measure from frame ground to Pin 4 of the Internal Distribution Cable Connector (D1).	
Is the voltage between +4.0 volts and +5.5 volts? Y N	
008	
POWER-OFF.	
Repair or install a new (Step 008 continues) 	

DISPLAY ADAPTER MAP		A B MAP 9020-1
MAP 9020		
PAGE 1 OF 1		
ENTRY POINTS FROM ENTER THIS MAP MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER 0009 A 1 001 0010 A 1 001 9030 A 1 001	<pre>(Step 001 continued) Select and run the Display MDI. Note: The Keying sequence is: "A" "ENTER" (Wait two to five seconds for a diskette access.) "A" "ENTER" (Wait two to five seconds for</pre>	<pre>((Step 003 continued) POWER-OFF. Install a new Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. Operation.</pre>
9040 A 1 001	a diskette access.) "ENTER"	POWER-OFF.
001 (ENTRY POINT A) DANGER WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display Screen is glass and will implode if cracked or broken. Load the DISPLAYWRITER SYSTEM DIAGNOSTICS. (Step 001 continues)	<pre>(If a wrong key is pressed during the keying sequence, press "END" and restart the sequence.) Did the Display MDI test fail? (Failure is indicated by a Display message and/or LED Indicators "F" and "H" ON.) Y N 002 Has a new Display Module been installed? Y N 003 (Step 003 continues)</pre>	Install a new Display Adapter Card. Reinstall the original Display Module. GO TO MAP OOIO, ENTRY POINT A, to Verify System Operation. 005 POWER-OFF. Install a new Display Adapter Card. GO TO MAP OOIO, ENTRY POINT A, to Verify System Operation.
	 A B	MAP 9020-1

PAGE 1 OF 3

ENTRY POINTS

FROM	1	ENTER	THIS	MAP	
MAP NUMBER		ENTRY POINT	PAGE NUME	E BER	STEP NUMBER
0010	+•	 A		. .	001

001 (ENTRY POINT A)

The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAFs to a fix statement before obtaining any parts from the distribution center.

DANGER

WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display (Step 001 continues)

EXIT POINTS					
EXIT TH	IS MAP	то			
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT		
3	010	9020	A		

(Step 001 continued) Screen is glass and will implode if cracked or broken. Is there a single horizontal or vertical line on the Display? (Refer to Figure 2, Appendix A) Ϋ́Ν 002 Turn the Contrast and Brightness Control Knobs fully clockwise. Turn the Brightness Control Knob slowly counterclockwise until the Display raster is not visible. Is there an Image on the Display Screen? YN 1 003 Using the 2(dc) voltage range, measure from frame ground to Pin 10 of the Internal Distribution Cable Connector (2) (wiring side). (Step 003 continues) 3 3 AB MAP 9030-1

MAP 9030-2 NO VIDEO DATA MAP CDE MAP 9030 PAGE 2 OF 3 (Step 007 continued) (Step 003 continued) Do NOT disconnect Display 005 measure from frame ground to Module Connector (2). Pin 1 of the Internal Distribution Cable Connector POWER-OFF. (D1). Is the voltage between +1.2 volts and +1.8 volts? Reconnect Internal Is the voltage between +1.2 volts ΥN Distribution Cable and +1.8 volts? Connector (D1). ΥN 004 Install a new Display 008 Module. POWER-OFF. POWER-OFF. Disconnect Internal GO TO MAP 0010, ENTRY POINT Distribution Cable Connector A, to Verify Svstem (D1). Operation. Repair or install a new Internal Distribution Cable. POWER-ON with the Memory 006 GO TO MAP 0010, ENTRY POINT A, Record Button pressed. to Verify System Operation. POWER-OFF. Using the 2(dc) voltage range, measure from frame 009 Install a new Display Adapter ground to Pin 10 of the Card. POWER-OFF. Internal Distribution Cable Connector (2) (wiring side). Reconnect Internal Install a new Display Adapter Distribution Cable Connector Card. Do NOT disconnect Display (D1). Module Connector (2). GO TO MAP 0010, ENTRY POINT A, to GO TO MAP 0010, ENTRY POINT A, Verify System Operation. Is the voltage between +1.2 to Verify System Operation. volts and +1.8 volts? ΥN 007 Using the 2(dc) voltage range, 1 1 (Step 007 continues) | | 1 1 MAP 9030-2 CDE

A B NO VIDEO DATA MAP 1 1 MAP 9030 A PAGE 3 OF 3 A PAGE 3

POWER-OFF.

Install a new Display Module.

GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

MAP 9040

PAGE 1 OF 3

ENTRY POINTS

FROM		ENTER	THIS MAP	
MAP		ENTRY	PAGE	STEP
NUMBER		POINT	NUMBER	NUMBER
0009		A	1	001
0010		A	1	001

001

(ENTRY POINT A)

The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAPs to a fix statement before obtaining any parts from the distribution center.

DANGER

WARNING:	DO N	IOT REI	MOVE	THE
DISPLAY	MODU	LE	COV	ERS.
Operating	voltag	es up	to 14	,000
volts are	e pres	ent in	nside	the
Display	(Note:	no	ble	eder
resistor		vided)		Use
CAUTION		handl	ing	the
(Step 001 cc	ontinue	s)		

EXIT PO			
	IS MAP	то	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
1		9020	 A

(Step 001 continued) Display Module. The Display Screen is glass and will implode if cracked or broken. Turn the Display Brightness and Contrast Control Knobs fully clockwise. Compare the Display Image to the Pictures in Figure 5, Appendix A. Does the Image on the Display match any of the pictures? ΥN 002 Is the Display Image rolling? (Refer to Figure 4, Appendix A.) YN 1 i 003 | | You are now directed to go to | | the Display Display Adapter MAP. GO TO MAP 9020, ENTRY POINT A. 1 32

ΑВ

MAP 9040-1

B DISTORTED DISP IMAGE		C D MAP 90	40-2
1 MAP 9040			
PAGE 2 OF 3			
004	(Step 006 continued)	(Step 008 continued)	ternal
Using the 20(dc) voltage range, measure from frame ground to Pin 12 of the Internal Distribution Cable Connector (2) (wiring side). Do NOT disconnect Display Module Connector (2). Record the voltage. Is the voltage between +4.0 volts and +5.5 volts? Y N 005 POWER-OFF. Install a new Display Module. GO TO MAP 0010, ENTRY POINT A, to Verify System Operation. 006 POWER-OFF. Disconnect the System Power Cable Connector (P1). (Step 006 continues)	<pre>POWER-ON. Using the 20(dc) voltage range, measure from frame ground to Pin 12 of the Internal Distribution Cable Connector (2) (wiring side). Do NOT disconnect Display Module Connector (2). Did the voltage measurement increase +0.3 volts to +0.7 volts above the recorded voltage? Y N 007 Using the 20(dc) voltage range, measure from frame ground to Pin 3 of the Internal Distribution Cable Connector (D1) (wiring side). Is the voltage between +4.5 volts and +5.5 volts? Y N 008 POWER-OFF. (Step 008 continues)</pre>	Install a new In Distribution Cable. Reconnect the System Cable Connector (P1). GO TO MAP 0010, ENTRY A, to Verify Operation. O09 POWER-OFF. Install a new Display A Card. Reconnect the System Cable Connector (P1). GO TO MAP 0010, ENTRY PO to Verify System Operatio O10 POWER-OFF. Install a new Display Mod Reconnect the System Cable Connector (P1). (Step 010 continues)	Power POINT System dapter Power INT A, n.
		MAD OO	40.2

A DISTORTED DISP IMAGE MAP 9040 PAGE 3 OF 3 (Step 010 continued) GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

POWER-OFF.

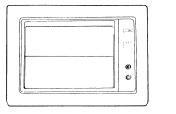
Install a new Display Module.

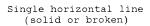
GO TO MAP 0010, ENTRY POINT A, to Verify System Operation.

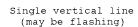
NO CONTRAST ADJUSTMENT MAP		A B	MAP 9050-1
MAP 9050			
PAGE 1 OF 1			
ENTRY POINTS FROM ENTER THIS MAP MAP ENTER THIS MAP MAP ENTRY PAGE STEP NUMBER POINT NUMBER NUMBER 9070 A 1 9070 A 1 001 CO1 (ENTRY POINT A) The most probable failing FRU is the Display Module. You may replace it now if there is a replacement Display Module at your present location. Follow the MAPs to a fix statement before obtaining any parts from the distribution center. DANGER WARNING: DO NOT REMOVE THE DISPLAY MODULE COVERS. Operating voltages up to 14,000 volts are present inside the Display (Note: no bleeder resistor provided). Use CAUTION when handling the Display Module. The Display (Step OOl continues)	<pre>(Step 001 continued) Screen is glass and will implode if cracked or broken. POWER-OFF. Disconnect the Display Module Connector (2) from Panel 1. Using the 20(0hm) Resistance range, measure the resistance between Pin 11 and Pin 15 of Panel 1 Connector (2). Is the resistance less than 2 Ohms? Y N 002 Using the 20(0hm) Resistance range, measure the resistance between Panel 1 Connector (2) Pin 11 and Internal Distribution Cable Connector (D1) Pin 2. Is the resistance less than 2 Ohms? Y N 003 (Step 003 continues) </pre>	Install Go To M I A, to I Operation I O04 I Install a Card. Go To MAP O to Verify S O05 Install a n	new Display Adapter 010, ENTRY POINT A, ystem Operation. New Display Module. 0, ENTRY POINT A, to Operation.
	A B		MAP 9050-1



Normal display image after BAT completion Figure 1



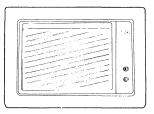




0

¢



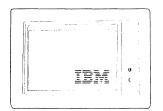


Display raster

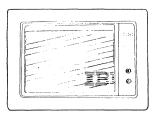




Display image rolling Figure 4



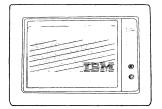




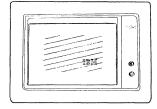
Too wide



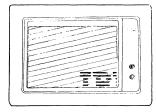
Too narrow



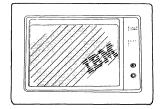




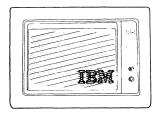
Shrunk



Changes size when Brightness control turned



Tilted



Out of focus Figure 5 - Distorted Display Images

APPENDIX B-1

Glossary

This glossary includes definitions developed by the American National Standards Institute (ANSI) and the International Organization for Standardization (ISO). This material is reproduced from the American National Dictionary for Information Processing, copyright 1977 by the Computer and Business Equipment Manufacturers Association, copies of which may be purchased from the American National Standards Institute, 1430 Broadway, New York, NY, 10018.

ANSI definitions are preceded by an asterisk. The symbol "(SCI)" at the beginning of a definition indicates that it is reprinted from an early working document of ISO Technical Committee 97, Subcommittee 1 and that agreement has not yet been reached among its members.

The glossary does not include terms that are defined in nontechnical dictionaries and that have no special meaning in data processing. Some terms may have different meanings in other contexts, or to people not familiar with data processing industry usage.

In the interest of clarity and consistency of style, the glossary uses the same method of arranging, organizing, and cross-referencing entries as the American National Dictionary for Information Processing.

А

assigning printer. The action taken by the Primary work station to allow a Secondary work station to control the printer.

в

Basic Assurance Test (BAT). A series of tests exectued in sequence that are automatically started at POR.

BAT. Basic Assurance Test.

bleeder resistor. A resistor located in an electrical circuit which will quickly lower that voltage when power is removed.

break condition. Condition of a Data Link in which no current flow is detected.

- С

D

Data Link. The physical connection and the connection protocols between the host and communication controller nodes via the host data channel.

Display Station. A display station consists of a display module, an electronics module and a keyboard module.

Ε

escape. Horizontal movement of the printer carrier.

escapement. See escape.

F

Field Replaceable Unit (FRU). A part which can be installed in a customer's office.

FRU. FRU - Field Replaceable Unit.

- G

н

half index. A 1/2 unit vertical paper movement.

1

I/O. input/output.

ID. Identifier.

*identifier. (ISO A character or group of characters used to identify or name an item of data and possible to indicate certain properties of that data.

implode. To inwardly explode with force.

index. A unit vertical paper movement.

contents of storage to zero or other starting values. (2) To prepare a diskette for use by naming the diskette.

*input/output (I/O). Pertaining to a device or to a channel that may be involved in an input process, and at a different time, in an output process.

J

ĸ

*Link. See Data Link.

locator. Interface board component locator, used to locate test points.

logo The name, symbol or trademark of a company.

М

MAP Diagnostic Integration (MDI). A diagnostic program on the CE Diagnostic Diskette that is a combination of MAPs and CE loadable diagnostics.

MCU Mag Card Unit

MCU Link An electrical circuit which communicates with the Mag Card Unit.

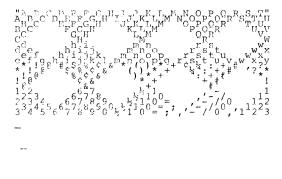
MDI. MAP Diagnostic Integration.

MENU. In computer graphics, options listed in a display image that can be selected by the user of the display device.

multitrack. The function which allows writing on both sides of a diskette with one command.

Ν

0



abcde _____ abcde Zz

Ρ

Printer Link. An electrical circuit which communicates with the printer.

Problem Determination Diskette. The diskette on which the automated and semi-automated problem determination tests are stored.

Problem Determination Guide. The manual used by the customer when executing Problem Determination Procedures.

PSM. Product Support Manual.

PTXCP. Photo transistor checkpoint on the File Control Card.

Q

R

raster. A predetermined pattern of scanning lines that provides uniform coverage of a display space.

reinitialize. A procedure used to format tracks on a Diskette. See initialize.

Repair Verify MDI. An MDI which is performed to verify a specific repair action.

RNA. Resident Non-Automatic Diagnostics.

Resident Non-Automatic Diagnostics. Diagnostics contained in the system electronics that do not run during BAT.

S

sector. That portion of a track that can be accessed by a magnetic head during a read/write operation.

Sharing Link. An electrical circuit which communicates with another work station.

for automatically feeding individual sheets of paper.

soft error. An error that can be recovered from by an automatic repeat of the failing operation.

system. The IBM Displaywriter System.

т

tab. A multiple unit horizontal movement.

TPHLD. Head Load test point.

TPLED. Light Emitting Diode test point.

trace. In diagnostics, the tracking of MDI steps on the display.

Tractor Feed. An attachment for the printer for feeding continuous form paper.

υ

Universal Synchronous Asynchronous Receiver Transmitter (USART). A device used to send and receive data.

USART. Universal Synchronous Asynchronous Receiver Transmitter.

1	Ŀ			
		,		

```
w
```

Work station. A display station and a single or dual diskette unit.

x Y

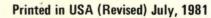
Z

Machine Types

5218 Printer. "Printwheel" Element Printer.



International Business Machines Corporation Customer Service Division



 \bigcirc

