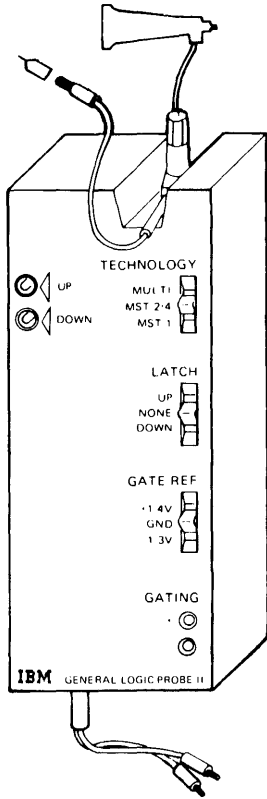
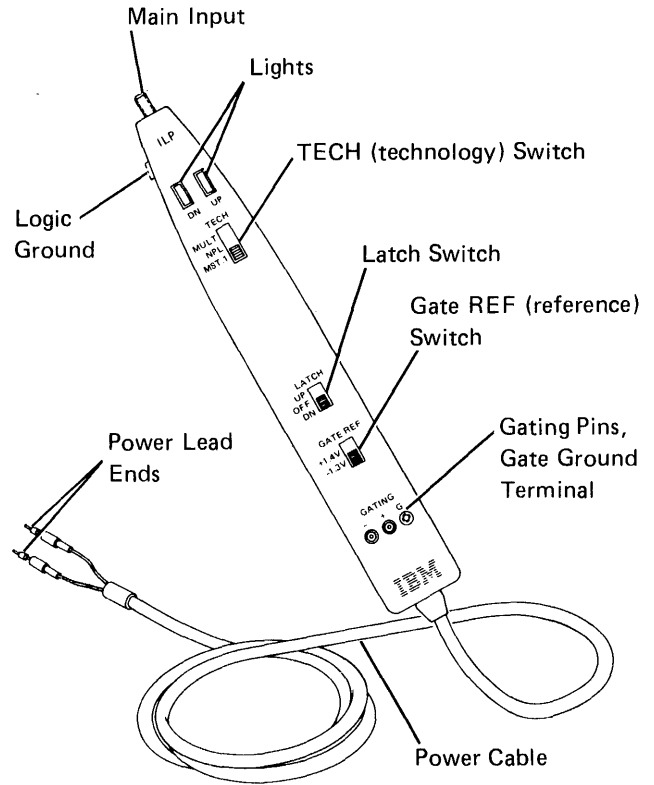


General Logic Probe II

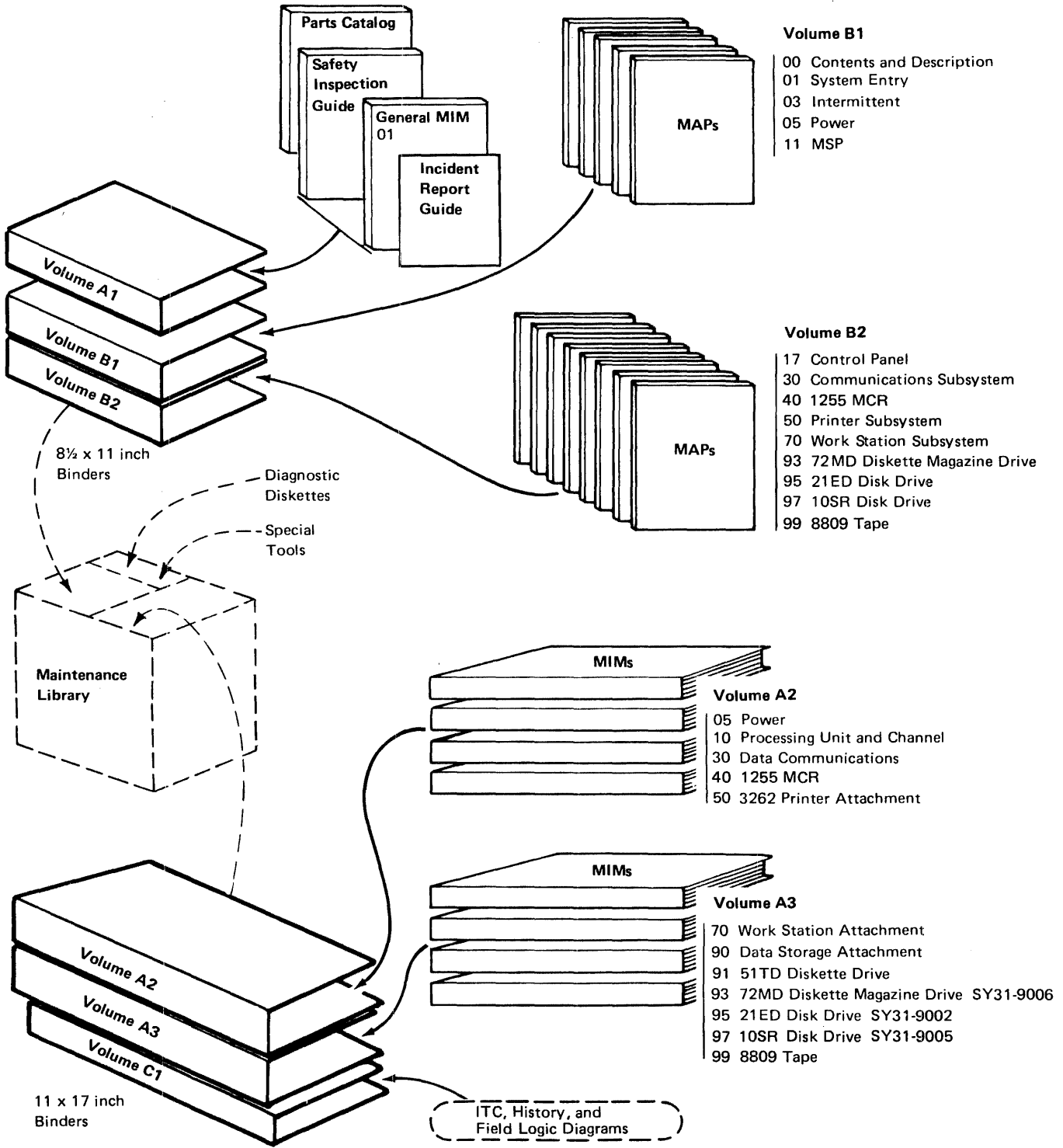


Integrated Logic Probe



Logic Probe Power Sources

	POWER (red lead)	GROUND (black lead)
5360 Logic Gate	any D03 pin (card sockets C through T)	any D08 pin
10SR Disk Logic Gate	any D03 pin	any D08 pin



EC 826380			PN 2597101
27MAY83			

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0101	A	1	001
0101	B	14	092

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
23	148	0101	N
12	085	0599	F
16	109	1701	AB
2	003	1702	A
14	094	1702	B
2	004	1704	A
14	095	1704	B

001
(Entry Point A)

MAP DESCRIPTION:

This MAP checks out display lights on the control panel and determines what causes display problem.

START CONDITIONS:

Power on reset is assumed in this MAP. If you have not just powered on, power off, wait 30 seconds, and then power on the machine.

FRUs TESTED:

A-A1B4, A-A1L2, A-A1M2
B-A1, B-A2

Panel ref:

Control panel FRUs, see MIM 10-215
Control panel removal, see MIM 10-325

Note: In cases that the machine cannot be powered down from the control panel, power off the machine by setting Unit Emergency switch to Power Off position. After power is off, set the switch to Power Enable position.

Are there 4 top card connectors on the A-A1M2 card?

Y N
| |
| |

2 2
A B

A B
1 1

Control Panel MAP 1

MAP 1700-2

5360 Systems Unit

PAGE 2 OF 23

002

Are there any 3-way top card connectors across the A-A1M2, A-A1N2 and A-A1P2 cards?

Y N

003

Go To Map 1702, Entry Point A.

004

Go To Map 1704, Entry Point A.

005

Are any of the LED indicators blinking?

Y N

006

Do all following character displays show blank (all 7 segments off)?

- 1.Line
- 2.Mode
- 3.Display
- 4.Interrupt level

Y N

007

- Press and hold the Lamp Test key.

Do all following character displays show 8's?

- 1.Line
- 2.Mode
- 3.Display
- 4.Interrupt level

Y N

008

- Probe the following for the good condition:

Up Light: On

Down Light: On

A-A1M2P05 (- c1 clock)

P06 (- c2 clock.

Are the lights correct?

Y N

1
2 8 7 3 3
C D E F G

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PEC 826487

MAP 1700-2

F G
2 2

Control Panel MAP 1

MAP 1700-3

5360 Systems Unit

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009

- Select mode 6.
- Press the Power key (power off).
- Leave the probe on the failing pin.
- Remove card A-A1B4
- Press the Power key (power on).

Up Light: 0n
 Down Light: 0n

Are the lights correct?

Y N

010

Bad card:
 A-A1M2 (see note 1).

Note 1: When card A-A1B4 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

011

Bad card:
 A-A1B4 (see note 1).

012

- Press and hold the Lamp Test key.

Does any of the following character displays show blank (all 7 segments off)?

- 1.Line
- 2.Mode
- 3.Any character of the Display
- 4.Interrupt Level

Y N

013

- Press and hold the Lamp Test key.
- Disregard Line, Mode, Display and Interrupt level character displays.

Are all other indicator LED lights on?

Y N

6 4 4
H J K

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 EC 842375 PEC 826487
 MAP 1700-3

J K
3 3

Control Panel MAP 1

MAP 1700-4

5360 Systems Unit

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014

- Press and hold the Lamp Test key.
- Probe the following for the good condition:

Up Light: Off
Down Light: On

A-A1A5D10 (- lamp test).

Are the lights correct?

Y N

015

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

016

Bad card:
A-A1B4.

017

- Enter 0000.

Does the display show 0000?

Y N

018

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1A5B09 (+ panel adr/data bus bit 1)
B10 (+ panel adr/data bus bit 2)
B11 (+ panel adr/data bus bit 3).

Are the lights correct?

Y N

019

Bad card:
A-A1B4.

5 5
L M

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PEC 826487

MAP 1700-4

L M
4 4

Control Panel MAP 1

MAP 1700-5

5360 Systems Unit

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020

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad board:
B-A1.

021

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1A5B08 (+ panel adr/data bus bit 0).

Are the lights correct?

Y N

022

- Select mode 6.
- Press the Power key (power off).
- Leave the probe on the failing pin.
- Remove cable A-A1A5.
- Press the Power key (power on).

Up Light: 0n
Down Light: 0n

Are the lights correct?

Y N

023

Bad card:
A-A1B4 (see note 1).

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

024

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad board:
B-A1 (see note 1).

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MAP 1700-5

6
N

H N
3 5

Control Panel MAP 1

MAP 1700-6

5360 Systems Unit

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025

Bad board:

B-A1

---or---

Bad board:

B-A2

---or---

Bad connector:

J2 (on B-A1 or A2 boards).

026

- Release the Lamp Test key.
- Probe the following for the good condition:

Up Light: 0n

Down Light: 0n

A-A1A5D05 (+ select bus bit 0)
D06 (+ select bus bit 1)
D07 (+ select bus bit 2).

Are the lights correct?

Y N

027

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Press the Power key (power on).

Up Light: 0n

Down Light: 0n

Are the lights correct?

Y N

028

Bad card:

A-A1B4 (see note 1).

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

7 7
P Q

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MAP 1700-6

P Q
6 6

Control Panel MAP 1
5360 Systems Unit

PAGE 7 OF 23

029

(see note 1)

Bad cable:

from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

030

Is Interrupt level blank?

Y N

031

Bad cable:

from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

032

- Press and hold the Lamp Test key.
- Disregard Line, Mode, Display and Interrupt level character displays.

Are all other indicator LED lights on?

Y N

033

Bad board:

from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

034

Bad board:

B-A1

---or---

Bad board:

B-A2

---or---

Bad connector:

J1 or J2 or J3 (on B-A1 or A2 boards).

E
2

MAP 1700-7

035

- Release the Lamp Test key

- Observe the following indicators:

Console Check

Processor Check

Program Check

Load

Are the indicators off?

Y N

036

- Probe the following for the good condition:

Up Light: On

Down Light: On

A-A1A5D09 (- Panel strobe).

Are the lights correct?

Y N

037

Bad card:

A-A1B4.

038

Bad cable:

from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

039

Individual indicator light is incorrect.

Bad board:

B-A1

---or---

Bad board:

B-A2.

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PEC 826487

MAP 1700-7

D
2

Control Panel MAP 1

MAP 1700-8

5360 Systems Unit

PAGE 8 OF 23

040

(Entry Point AC)

- Ensure that A-A1B4 card, A-A1A5 cable connector, B-A1J4A cable connector, B-A1J3 connector are seated properly.

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1B4B09 (- filtered power on reset)
D02 (- degate funnel bus)
J12 (- LSSD test mode).

Are the lights correct?

Y N

041

Is A-A1B4B09 the failing pin?

Y N

042

Bad card:
A-A1B4.

043

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1B4J04 (- power on reset).

Are the lights correct?

Y N

044

Is there a A3 board?

Y N

045

Is there a A2 board?

Y N

1 1
R S T U V

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MAP 1700-8

T U V
8 8 8

Control Panel MAP 1

5360 Systems Unit

PAGE 9 OF 23

046

Go to Step 054, Entry Point AE.

047

Go to Step 053, Entry Point AD.

048

Is there a A2 board?

Y N

049

- Set CB1 to the Off position (05-215).
- Remove cable A1Z1 - A3Y4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1B4J04).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

050

Go to Step 054, Entry Point AE.

051

Bad cable:
A1Z1 - A3Y4.

052

- Set CB1 to the Off position (05-215).
- Remove cable A2Z4 - A3Y4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

1
1
W X

X

MAP 1700-9

053

(Entry Point AD)

- Set CB1 to the Off position (05-215).
- Remove cable A1Z1 - A2Y1.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1B4J04).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

054

(Entry Point AE)

Are 21ED disk drives installed on the system?

Y N

055

(Entry Point AF)

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad card:
A-A1B4

---or---

Bad board:
B-A1

---or---

Bad cable:
B-A1J4D - 1CA1A1

---or---

Bad upper maple block (05-220)

---or---

Bad protect card (05-220).

1
1
Y Z

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PEC 826487

MAP 1700-9

7
9

Control Panel MAP 1
5360 Systems Unit

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MAP 1700-10

056

- Set CB1 to the Off position (05-215).
- Reinstall the following cables where it is possible:
A1Z1 - A2Y1
A2Z4 - A3Y4
A1Z1 - A3Y4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Unplug 21ED disk drive cable(s) at the drive end (F-B1A2, G-B1A2 MIM 95-235) (There can be one or two drives installed on the system).
- Leave the probe on the same pin.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

057

- Unplug 21ED disk drive cable(s) at the board end (MIM 95-205) A-A1A2, A-A1A3.
- Leave the probe on the same pin.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

058

- Set CB1 to the Off position (05-215).
- Remove 21ED disk adapter cards A-A1C2, A-A1D2.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

1
1
A A A A
A B C D

A A A
B C D

059

Go to Page 9, Step 055, Entry Point AF.

060

- Set CB1 to the Off position (05-215).
- Replace A-A1C2 card (no need to replace top car connector).
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

061

Bad 21ED disk adapter card A-A1C2.

062

Bad 21ED disk adapter card A-A1D2.

063

- Replace drive A cable A-A1A2 - F-B1A2 (you may have to power off to reconnect the cable at the board end if you find that the A-A1B4 card makes reconnection difficult).
- Leave the probe on the same pin.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

064

Bad cable:
A-A1A2 - F-B1A2.

065

Bad cable:
A-A1A3 - F-B1A2.

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MAP 1700-10

S
8
W
9
Y
9
A
1
0

Control Panel MAP 1

5360 Systems Unit

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066

- Replace drive A cable at the drive end 1F-B1A2.
- Leave the probe on the same pin.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

067

- Bad drive A digital card F-A1A2 (95-235)
- or---
- Bad drive A drive card F-C1A1 (95-235, 95-340).

068

- Bad drive B digital card G-A1A2 (95-235)
- or---
- Bad drive B drive card G-C1A1 (95-235, 95-340).

069

Bad cable:
A1Z1 - A2Y1.

070

Bad cable:
A2Z4 - A3Y4.

071

Bad card:
A-A1B4
---or---
A-A1L2.

R
8

MAP 1700-11

072

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1M2P05 (- C1 clock)
P06 (- C2 clock).

Are the lights correct?

Y N

073

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1L2X13 (+ S1 system clock B)
X31 (+ S1 system clock A).

Are the lights correct?

Y N

074

Bad card:
A-A1L2
---or---
A-A1M2.

075

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1L2S12 (- inhibit system clocks).

Are the lights correct?

Y N

076

Bad card:
A-A1L2.

1 1
2 2
A A
E F

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EC 842375 PEC 826487

MAP 1700-11

A A
E F
I I

Control Panel MAP 1
5360 Systems Unit

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077

- Probe the following for the condition indicated:

Up Light: Off
Down Light: On

A-A1M2W31 (+ pwr on reset to stg control).

Are the lights correct?

Y N

078

Bad card:
A-A1L2.

079

Bad card:
A-A1M2.

080

This step checks to see if A-A1B4 card receives clocks.

- Probe the following for the good condition:

Up Light: On
Down Light: On or Flashing

A-A1B4G03 (+ key address bit 0).

Are the lights correct?

Y N

081

Bad card:
A-A1B4.

082

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1A5B12 (+ degate display segments).

Are the lights correct?

Y N

A A
G H

C A A
2 G H

MAP 1700-12

083

Bad card:
A-A1B4.

084

- Unplug B-A1J4C while the power is on.
- Set the meter to measure Vdc.
- Connect the meter from D03 to D08 on the cable.

Does the meter read 4.5 Vdc?

Y N

085

Go To Map 0599, Entry Point F.

086

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

087

- Probe the following for the good condition:

Up Light: On
Down Light: On or Flashing

A-A1A5D09 (- panel strobe).

Are the lights correct?

Y N

088

- Select mode 6.
- Press the Power key (power off).
- Leave the probe on the failing pin.
- Remove cable A-A1A5.
- Press the Power key (power on).

Are the lights correct?

Y N

089

Bad card:
A-A1B4.

1 1
3 3
A A
J K

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EC 842375 PEC 826487

MAP 1700-12

A A
J K
1 1
2 2

Control Panel MAP 1

MAP 1700-13

5360 Systems Unit

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090

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad board:
B-A1.

091

Bad card:
A-A1L2

---or---

A-A1M2.

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MAP 1700-13

Control Panel MAP 1

MAP 1700-14

5360 Systems Unit

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092

(Entry Point B)

Are there 4 top card connectors on the A-A1M2 card?

Y N

093

Are there any 3-way top card connectors across the A-A1M2, A-A1N2 and A-A1P2 cards?

Y N

094

Go To Map 1702, Entry Point B.

095

Go To Map 1704, Entry Point B.

096

Is Interrupt Level blank?

Y N

097

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1L2P09 (- chan base cycle steal reg new)
S02 (- chan base cycle steal reg)
S05 (- LSSD test in)

A-A1M2M07 (- LSSD test in).

Are the lights correct?

Y N

098

Is A-A1L2S05 the failing pin?

Y N

099

Bad card:
A-A1M2.

1 1 1
6 5 5
A A A
L M N

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MAP 1700-14

A A
M N
1 1
4 4

Control Panel MAP 1

MAP 1700-15

5360 Systems Unit

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100

Bad card:
A-A1L2.

101

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1B4D10 (- panel interface address strobe)
D11 (- panel interface data strobe)
A-A1M2P05 (- c1 clock)
P06 (- c2 clock).

Are the lights correct?

Y N

102

Bad card:
A-A1B4
---or---
A-A1M2.

103

- Use a multimeter to measure Vdc of the following signals:

The meter should read between 2V and 3V.

A-A1B4B10 (- panel interface bus bit 0)
B11 (- panel interface bus bit 1)
B12 (- panel interface bus bit 2)
B13 (- panel interface bus bit 3).

Does the meter read between 2V and 3V?

Y N

104

Bad card:
A-A1B4
---or---
A-A1M2.

1
6
A
P

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PN 4177406

EC 842375

PEC 826487

MAP 1700-15

A
L
1
4

A
P
1
5

Control Panel MAP 1

MAP 1700-16

5360 Systems Unit

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105

- Probe the following for the good condition:

Up Light: Off
Down Light: On

A-A1L2Y10 (+ intrpt/cs addr bit 1)
Y30 (+ intrpt/cs addr bit 0)
Y31 (+ intrpt/cs addr bit 2).

Are the lights correct?

Y N

106

Bad top card connector

---or---

Bad card:

A-A1L2.

107

Bad card:

A-A1M2.

108

Is Output Displayed light on?

Y N

109

Go To Map 1701, Entry Point AB.

110

- Enter 7777.

Does the display show 7777?

Y N

1
8
A
Q

1
7
A
R

30Jun86

PN 4177406

EC 842375

PEC 826487

MAP 1700-16

111

- Probe the following for the good condition:

Up Light: On
Down Light: On

- A-A1A5B09 (+ panel addr/data bus bit 1)
- A-A1A5B10 (+ panel addr/data bus bit 2)
- A-A1A5B11 (+ panel addr/data bus bit 3).

Are the lights correct?

Y N

112

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Press the Power key (power on).

Up Light: On
Down Light: On

Are the lights correct?

Y N

113

Bad card:
A-A1B4 (see note 2).

Note 2: When card A-A1B4 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

114

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1 (see note 2).

A
Q
1
6
S
1
7

Control Panel MAP 1
5360 Systems Unit

MAP 1700-18

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115

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1B4G08 (+ panel addr/data bit 0).

Are the lights correct?

Y N

116

Bad card:
A-A1B4.

117

Bad cable:
from A-A1A5 to B-A1J4

---or---

Bad board:
B-A1

118

- Check for the following indicator lights:
All lights in the right hand operator portion of the
control panel are off except power light.

All of the following lights off:

CSP Run
MSP Run
Force CSP Run
Stop
Main Stg Sel
Adr Cmp Stop CSP

Are the indicator lights correct?

Y N

2
3
A
T
1
9
A
U

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EC 842375 PEC 826487
MAP 1700-18

119

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

- A-A1A5D09 (- panel strobe)
- A-A1B4D10 (- panel interface address strobe)
- A-A1B4D11 (- panel interface data strobe).

Are the lights correct?

Y N

120

Is A-A1A5D09 the failing pin?

Y N

121

- Select mode 6.
- Press the Power key (power off).
- Leave the probe on the failing pin.
- Remove card A-A1B4.
- Press the Power key (power on).

Up Light: 0n
Down Light: 0ff

Are the lights correct?

Y N

122

Bad card:
A-A1M2 (see note 2).

Note 2: When card A-A1B4 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

123

Bad card:
A-A1B4 (see note 2).

A
V
1
9

Control Panel MAP 1
5360 Systems Unit

MAP 1700-20

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124

- Select mode 6.
- Press the Power key.
- Leave the probe on the failing pin.
- Remove cable A-A1A5.
- Press the Power key (power on).

Up Light: On
Down Light: On

Are the lights correct?

Y N

125

Bad card:
A-A1B4 (see note 1).

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

126

(see note 1)
Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

127

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1L2U09 (- S2 to MSP).

Are the lights correct?

Y N

128

Bad card:
A-A1L2.

2
1
A
X

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EC 842375 PEC 826487

MAP 1700-20

A
X
2
0

Control Panel MAP 1

MAP 1700-21

5360 Systems Unit

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129

- Enter 0000.
- Press the Display Output key.
- Use a multimeter to measure Vdc of the following signals:

The meter should read between 2V and 3V.

- A-A1B4B10 (- panel interface bus bit 0)
- B11 (- panel interface bus bit 1)
- B12 (- panel interface bus bit 2)
- B13 (- panel interface bus bit 3).

Does the meter read between 2V and 3V?

Y N

130

Bad card:

A-A1B4

---or---

A-A1M2.

131

Is the Load light off?

Y N

132

- Probe the following for the good condition:

Up Light: Flashing
 Down Light: Flashing

A-A1L2U07 (+ chan 1 sec clock).

Are the lights correct?

Y N

133

- Select mode 6.
- Press the Power key (power off).
- Leave the probe on the failing pin.
- Remove card A-A1M2.

Are the lights correct?

Y N

2 2 2 2
 2 2 2 2
 A A B B
 Y Z A B

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PEC 826487

MAP 1700-21

A A B B
Y Z A B
2 2 2 2
1 1 1 1

Control Panel MAP 1
5360 Systems Unit

MAP 1700-22

PAGE 22 OF 23

134

Bad card:
A-A1L2 (see note 3).

Note 3: When card A-A1M2 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

135

Bad card:
A-A1M2 (see note 3).

136

Go to Step 137, Entry Point D.

137

(Entry Point D)

Is the Diskette In Use light off?

Y N

138

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1B4B05 (- chan diskette in use light).

Are the lights correct?

Y N

139

Is there a A-A1F2 card installed?

Y N

140

- Select mode 6.
- Press the Power key (power off).
- Remove cable A1Z1-A2Y1.
- Press the Power key (power on).

Is the Diskette In Use light off?

Y N

2 2 2 2 2
3 3 3 3 3
B B B B B
C D E F G

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PEC 826487

MAP 1700-22

A
1
8
B
2
C
2
D
2
E
2
F
2
G
2

Control Panel MAP 1
5360 Systems Unit

MAP 1700-23

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141

Bad card:
A-A1B4.

142

Bad cable:
A1Z1 - A2Y1

---or---

Bad card:
A-A2F2.

143

- Select mode 6.
- Press the Power key (power off).
- Remove card A-A1F2.
- Press the Power key (power on).

Is Diskette In Use light off?

Y N

144

Bad card:
A-A1B4.

145

Bad card:
A-A1F2.

146

Go to Step 147, Entry Point C.

147

(Entry Point C)

Individual indicator is incorrect.

Bad board:

B-A1

---or---

Bad board:

B-A2.

148

- Return to the Entry MAP.

Go To Map 0101, Entry Point N.

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MAP 1700-23

Control Panel MAP 2

MAP 1701-1

5360 Systems Unit

PAGE 1 OF 13

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0101	A	1	001
0101	E	11	065
0101	F	12	072
0101	G	12	077
0105	H	13	080
0121	A	1	001
0500	D	9	040
0501	D	9	040
0502	A	1	001
0572	A	1	001
0577	D	9	040
0577	DA	9	052
1700	AB	2	004

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
1	002	1703	A
9	041	1703	D
11	066	1703	E
12	073	1703	F
12	078	1703	G
13	081	1703	H
2	005	1703	AB
9	053	1703	DA

001

(Entry Point A)

MAP DESCRIPTION:

This MAP checks out key failures.

START CONDITIONS:

None

FRUs PARTIALLY TESTED:

A-A1B4, B-A1, B-A2

Panel ref:

Control panel FRUs, see MIM 10-215

Control panel removal, see MIM 10-325

Are there 4 top card connectors on the A-A1M2 card?

Y N

002

Go To Map 1703, Entry Point A.

A
1

Control Panel MAP 2

MAP 1701-2

5360 Systems Unit

PAGE 2 OF 13

003

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1A5B02 (- addressed key pressed).

Are the lights correct?

Y N

004

(Entry Point AB)

Are there 4 top card connectors on the A-A1M2 card?

Y N

005

Go To Map 1703, Entry Point AB.

006

- Probe the following for the condition indicated:

Up Light: On
Down Light: On or Flashing

A-A1A5B02 (- addressed key pressed).

Are the lights correct?

Y N

007

- Leave the probe on the same pin.
- Set CB1 to the Off position (05-215).
- Remove card A-A1B4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

4 3 3 3
B C D E

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MAP 1701-2

C D E
2 2 2

Control Panel MAP 2

MAP 1701-3

5360 Systems Unit

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008

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1 (see note 2).

Note 2: When card A-A1B4 is removed, power off is accomplished by setting the CB1 switch to the off position.

009

Bad card:
A-A1B4 (see note 2).

010

- Enter F.

Is a character (not necessarily F) shown entered in the display?

Y N

011

Bad board:
B-A1
---or---
Bad board:
B-A2
---or---
Bad key.

012

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1A5B06 (+ key address bit 3)
B07 (+ key address bit 4).

Are the lights correct?

Y N

013

Bad card:
A-A1B4.

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MAP 1701-3

4
F

B F
2 3

Control Panel MAP 2

MAP 1701-4

5360 Systems Unit

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014

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad board
B-A1.

015

- Probe the following for the good condition:

Up Light: On
Down Light: On or Flashing

A-A1A5B03 (+ key address bit 0)
B04 (+ key address bit 1)
B05 (+ key address bit 2)
B06 (+ key address bit 3)
B07 (+ key address bit 4).

Are the lights correct?

Y N

016

- Leave the probe on the failing pin
- Set CB1 to the Off position (05-215).
- Remove cable A-A1A5.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).

Up Light: On
Down Light: On or Flashing

Are the lights correct?

Y N

017

Bad card:
A-A1B4 (see note 1).

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

5 5
G H

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MAP 1701-4

G H
4 4

Control Panel MAP 2
5360 Systems Unit

MAP 1701-5

PAGE 5 OF 13

018

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1 (see note 1).

019

- Probe the following while pressing the failing key (If there is more than one key failing. Choose any one of the failing keys and identify that key as the failing key.)

Up Light: On
Down Light: On or Flashing

A-A1A5B02 (- addressed key pressed).

- Press and hold the failing key.

Are the lights correct?

Y N

7 6
J K

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EC 842375 PEC 842350
MAP 1701-5

K
5

Control Panel MAP 2

MAP 1701-6

5360 Systems Unit

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020

- Leave the probe on the same pin.
- Find the failing key in chart A.
- Press every key that is in the same column in the chart as the failing key, except the failing key.
- Check the probe light while pressing each key.

Up Light: On
 Down Light: On or Flashing

Chart A

Row	Column 1	Column 2	Column 3	Column 4
1	Input key 0	Input key 4	Input key 8	Input key C
2	Input key 1	Input key 5	Input key 9	Input key d
3	Input key 2	Input key 6	Input key A	Input key E
4	Input key 3	Input key 7	Input key b	Input key F
5		Load	Clear Input	Disply Output
6	AdrCmp Stop CSP	MSP Stop	CSP Start	Disply Input
7	Main Stor Sel	Force CSP Run	System Reset	Input + 1
8	Mode Select			Line Select

Are the lights correct for all keys being pressed?

Y N

021

Are the lights correct for any key being pressed?

Y N

7 7 7
L M N

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 MAP 1701-6

M N
6 6

Control Panel MAP 2
5360 Systems Unit

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022

- Leave the probe on the same pin.
- Press any one key in each column in chart A other than the column that the failing key is in.
- Check the probe light while pressing each key.

Up Light: On
Down Light: On or Flashing

Are the lights correct for all keys being pressed?

Y N

023

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

024

Bad board:
B-A1
---or---
Bad board:
B-A2
---or---
Bad connector:
B-A1J1.

025

Bad cable:
from A-A1A5 to A-A1B4
---or---
Bad board:
B-A1.

J L
5 6

MAP 1701-7

026

- Leave the probe on the same pin.
- Press every key that is in same row in chart A as the failing key, except the failing key.
- Check the probe light while pressing each key.

Up Light: On
Down Light: On or Flashing

Are the lights correct for any key being pressed?

Y N

027

Bad board:
B-A1
---or---
Bad board:
B-A2
---or---
Bad connector:
B-A1J1.

028

Bad board:
B-A1
---or---
Bad key.

029

- Leave the probe on the same pin.
- Press and hold Input Key O.
- Check the probe light while pressing the key.

Up Light: On
Down Light: On or Flashing

Are the lights correct?

Y N

8 8
P Q

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EC 842375 PEC 842350
MAP 1701-7

P Q
7 7

Control Panel MAP 2

5360 Systems Unit

PAGE 8 OF 13

030

Bad cable:
from A-A1A5 to A-A1B4

---or---

Bad board:
B-A1.

031

- Enter 0123.

Is any of the 4 characters entered and shown in the display?

Y N

032

Bad card:
A-A1B4.

033

- Set the key lock in the Service position.
- Press the Mode Select key.

Does the Mode display show blank?

Y N

034

Go to Step 037, Entry Point AC.

035

- Enter E.

Does the Mode display show blank?

Y N

036

Bad board:
B-A1

---or---

Bad board:
B-A2.

R

MAP 1701-8

037

(Entry Point AC)

- Probe the following for the good condition:

Up Light: Off

Down Light: On

A-A1A5B13 (- keylock service).

Are the lights correct?

Y N

038

Bad board:
B-A1

---or---

Bad cable:
from A-A1A5 to B-A1J4A.

039

Bad card:
A-A1B4.

R

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MAP 1701-8

040
 (Entry Point D)
 Is there a card in the A-A1L2 slot?
 Y N

041
 Go To Map 1703, Entry Point D.

042
 Is system power on?
 Y N

043
 - Press the Power key (power on).
 - Wait 15 seconds.
 Did the system power up and remain up?
 Y N

044
 - Measure the voltage of the following pin:
 A-A1A5D02 (- power off).
 Does the meter read above 3 V?
 Y N

045
 - Remove card A-A1B4.
 - Measure the voltage of the following pin:
 A-A1A5D02 (- power off).
 Does the meter read above 3 V?
 Y N

046
 - Set CB1 to the Off position (05-215).
 - Remove connector JA1 in the power
 compartment.
 - Set CB1 to the On position (05-215).
 - Measure the voltage of the following pin
 on the upper maple block:
 JA1-B06 (- power off).
 Does the meter read above 3 V?
 Y N

S T U V W X

047
 Bad upper maple block (05-220)
 ---or---
 Bad protect card (05-220).

048
 Bad cable from JA1 to B-A1J4D
 ---or---
 Bad cable from A-A1A5 to B-A1J4A
 ---or---
 Bad board:
 B-A1.

049
 Bad card:
 A-A1B4.

050
 Problem in panel interface bus.
 Bad card:
 A-A1B4
 ---or---
 Bad card:
 A-A1M2.

051
 Go to Step 052, Entry Point DA.

052
 (Entry Point DA)
 Are there 4 top card connectors on the A-A1M2
 card?
 Y N

053
 Go To Map 1703, Entry Point DA.

054
 - Select mode 6.
 Did the system power down?
 Y N

1 1
 0 0
 Y Z

Z
9

Control Panel MAP 2

5360 Systems Unit

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055

- Press and hold the Power key.
- Probe the following for the good condition:

Up Light: Off
Down Light: On

A-A1A5D11 (- power key isolated).

Are the lights correct?

Y N

056

Bad board:
B-A1
---or---
Bad cable from A-A1A5 to B-A1J4A.

057

- Press and hold the Power key.
- Probe the following for the good condition:

Up Light: Off
Down Light: On

A-A1A5D02 (- power off).

Are the lights correct?

Y N

058

Bad card:
A-A1B4.

059

- Set CB1 to the Off position (05-215).
- Remove cable from B-A1J4D.
- Connect the meter from A-A1A5D02 (- power off) to B-A1J4D D06 (- power off) on the control panel.

Does the meter read less than 10 ohms?

Y N

Y
N

A A
A B

Y A A
9 A B

MAP 1701-10

060

Bad board:
B-A1
---or---
Bad cable:
from A-A1A5 to B-A1J4A.

061

Bad cable:
from JA1 to B-A1J4D
---or---
Bad protect card (05-220)
---or---
Bad upper maple block (05-220)
---or---
Bad lower maple block (05-220)
---or---
Bad JC4 jumper.

062

- Place the key in the Locked position, then place the key in the Service position.

Did the system power up?

Y N

063

Bad board:
B-A1
---or---
Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad card:
A-A1B4.

064

Bad board:
B-A1
---or---
Bad board:
B-A2
---or---
Bad power key.

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MAP 1701-10

Control Panel MAP 2

5360 Systems Unit

PAGE 11 OF 13

MAP 1701-11

A
C

065

(Entry Point E)

Are there 4 top card connectors on the A-A1M2 card?

Y N

066

Go To Map 1703, Entry Point E.

067

- If the keylock is not in the locked position, place the keylock in the locked position.
- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1A5B13 (- keylock service).

Are the lights correct?

Y N

068

- Connect the meter from B-A1J4AB13 (- keylock service) to B-A1J4AD08 (ground).

Does the meter read less than 10 ohms?

Y N

069

Bad cable:
A-A1A5 to B-A1J4A
---or---
Bad card:
A-A1B4.

070

Bad board:
B-A1
---or---
Bad keylock assembly:
B-A1J4C.

071

Bad board:
B-A1
---or---
Bad keylock assembly:
B-A1J4C.

A
C

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MAP 1701-11

Control Panel MAP 2
5360 Systems Unit

MAP 1701-12

PAGE 12 OF 13

072

(Entry Point F)

Are there 4 top card connectors on the A-A1M2 card?

Y N

073

Go To Map 1703, Entry Point F.

074

- Probe the following for the condition indicated:

Up Light: Off

Down Light: On

A-A1A5B13 (- keylock service).

Are the lights correct?

Y N

075

Bad card:

A-A1B4.

076

Bad board:

B-A1

---or---

Bad cable:

from A-A1A5 to B-A1J4A.

077

(Entry Point G)

Is there a card in the A-A1L2 slot?

Y N

078

Go To Map 1703, Entry Point G.

079

Bad board:

B-A1

---or---

Bad keylock assembly:

A-A1J4C.

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MAP 1701-12

Control Panel MAP 2
5360 Systems Unit

MAP 1701-13

PAGE 13 OF 13

080

(Entry Point H)

Are there 4 top card connectors on the A-A1M2 card?

Y N

081

Go To Map 1703, Entry Point H.

082

- Select mode 6.
- Press the Power key (power off).
- Disconnect cable B-A1J4A.
- Connect probe to B-A1J4AD12 (+ power on reset).
- Press the power key and observe the down light on the probe as the power appears.

Did the down light flicker before coming on?

Y N

083

(see note 1).

Bad board:

B-A1

---or---

Bad cable:

from JA1 to B-A1J4D

---or---

Bad upper maple block

---or---

Bad protect card (05-220)

---or---

Bad upper maple block (05-220).

084

Bad cable:

from A-A1A5 to B-A1J4A (see note 1).

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

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MAP 1701-13

Control Panel MAP-3

MAP 1702-1

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
1700	A	1	001
1700	B	13	072

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
20	114	0101	N
11	065	0599	F

001

(Entry Point A)

MAP DESCRIPTION:

This MAP checks out display lights on the control panel and determines what causes display problem.

START CONDITIONS:

Power on reset is assumed in this MAP. If you have not just powered on, power off, wait 30 seconds, and then power on the machine.

FRUs TESTED:

A-A1N2, A-A1M2
B-A1, B-A2

Panel ref:

Control panel FRUs, see MIM 10-215
Control panel removal, see MIM 10-325

Note: In cases that the machine cannot be powered down from the control panel, power off the machine by setting Unit Emergency switch to Power Off position. After power is off, set the switch to Power Enable position.

Are any of the LED indicators blinking?

Y	N
1	
1	2
A	B

B
1

Control Panel MAP-3
5360 Systems Unit

MAP 1702-2

PAGE 2 OF 20

002

Do all following character displays show blank (all 7 segments off)?

- 1.Line
- 2.Mode
- 3.Display
- 4.Interrupt level

Y N

003

- Press and hold the Lamp Test key.

Do all following character displays show 8's?

- 1.Line
- 2.Mode
- 3.Display
- 4.Interrupt level

Y N

004

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1M2B04 (9 mhz Xtal).

Are the lights correct?

Y N

005

Bad card:

A-A1M2 (see note 1).

Note 1: When card A-A1M2 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

7 6 3
C D E

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MAP 1702-2

006

- Press and hold the Lamp Test key.

Does any of the following character displays show blank (all 7 segments off)?

1.Line

2.Mode

3.Any character of the Display

4.Interrupt Level

Y N

007

- Press and hold the Lamp Test key.

- Disregard Line, Mode, Display and Interrupt level character displays.

Are all other indicator LED lights on?

Y N

008

- Press and hold the Lamp Test key.

- Probe the following for the good condition:

Up Light: Off

Down Light: On

A-A1A5D10 (- lamp test).

Are the lights correct?

Y N

009

Bad cable:

from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

010

Bad card:

A-A1M2.

H J
4 4

Control Panel MAP-3

MAP 1702-5

5360 Systems Unit

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015

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: 0n

Down Light: 0n

Are the lights correct?

Y N

016

Bad card:
A-A1M2 (see note 1).

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

017

(see note 1)
Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

018

Are more than two of the following characters displays blank?

- 1.Line
- 2.Mode
- 3.Any character of the 4 character display
- 4.Interrupt level

Y N

6 6
K L

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MAP 1702-5

D K L
2 5 5

Control Panel MAP-3

MAP 1702-6

5360 Systems Unit

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019

Bad board:

B-A1

---or---

Bad board:

B-A2.

020

Bad cable:

from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

021

- Release the Lamp Test key.

- Observe the following indicators:

Console Check

Processor Check

Program Check

Load

Are the indicators off?

Y N

022

- Probe the following for the good condition:

Up Light: On

Down Light: On

A-A1A5D09 (- Panel strobe).

Are the lights correct?

Y N

023

Bad card:

A-A1M2.

7 7
M N

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MAP 1702-6

C M N
2 6 6

Control Panel MAP-3

MAP 1702-7

5360 Systems Unit

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024

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad board:
B-A1.

025

Individual indicator light is incorrect.

Bad board:

B-A1

---or---

Bad board:

B-A2.

026

(Entry Point AC)

- Ensure that A-A1M2 card, A-A1A5 cable connector,
B-A1J4A cable connector, B-A1J3 connector are
seated properly.

- Probe the following for the good condition:

Up Light: On

Down Light: Off

A-A1M2B07 (- MFG test)

D02 (- filtered power on reset)

D04 (+ LSSD A clock)

G03 (+ tie up 1)

G07 (- addr key pressed).

Are the lights correct?

Y N

027

Is A-A1M2D02 the failing pin?

Y N

1
P Q R

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MAP 1702-7

Q R
7 7

Control Panel MAP-3
5360 Systems Unit

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028

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

029

Bad card:
A-A1M2.

030

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

031

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1M2J07 (- power on reset).

Are the lights correct?

Y N

032

Is there an A3 board?

Y N

033

Is there an A2 board?

Y N

1
S T U V

T U V

MAP 1702-8

034

Go to Page 9, Step 042, Entry Point AE.

035

Go to Page 9, Step 041, Entry Point AD.

036

Is there an A2 board?

Y N

037

- Set CB1 to the Off position (05-215).
- Remove cable A1Z1 - A3Y4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

038

Go to Page 9, Step 042, Entry Point AE.

039

Bad cable:
A1Z1 - A3Y4.

040

- Set CB1 to the Off position (05-215).
- Remove cable A2Z4 - A3Y4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

1
W X

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MAP 1702-8

X
8

Control Panel MAP-3

5360 Systems Unit

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041

(Entry Point AD)

- Set CB1 to the Off position (05-215).
- Remove cable A1Z1 - A2Y1.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

042

(Entry Point AE)

Are 21ED disk drives installed on the system?

Y N

043

(Entry Point AF)

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad card:
A-A1M2

---or---

Bad board:
B-A1

---or---

Bad cable:
B-A1J4D - 1CA1A1

---or---

Bad upper maple block (05-220)

---or---

Bad protect card (05-220).

Z

MAP 1702-9

044

- Set CB1 to the Off position (05-215).
- Reinstall the following cables where it is possible:
A1Z1 - A2Y1
A2Z4 - A3Y4
A1Z1 - A3Y4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Unplug 21ED disk drive cable(s) at the drive end (F-B1A2, G-B1A2 MIM 95-235) (There can be one or two drives installed on the system).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

045

- Unplug 21ED disk drive cable(s) at the board end (MIM 95-205) A-A1A2, A-A1A3.
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

046

- Set CB1 to the Off position (05-215).
- Remove 21ED disk adapter cards A-A1C2, A-A1D2.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

1 1 1 1
O O O O
A A C A
B B C D

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MAP 1702-9

1
O
Y Z

A A A
B C D
9 9 9

Control Panel MAP-3
5360 Systems Unit

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047

Go to Page 9, Step 043, Entry Point AF.

048

- Set CB1 to the Off position (05-215).
- Replace A-A1C2 card (no need to replace top card connector).
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

049

Bad 21ED disk adapter card A-A1C2.

050

Bad 21ED disk adapter card A-A1D2.

051

- Replace drive A cable A-A1A2 - F-B1A2 (you may have to power off to reconnect the cable at the board end if you find that the A-A1M2 card makes reconnection difficult).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

052

Bad cable:
A-A1A2 - F-B1A2.

053

Bad cable:
A-A1A3 - F-B1A2.

S W Y A
8 8 9 A
9

MAP 1702-10

054

- Replace drive A cable at the drive end 1F-B1A2.
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

055

Bad drive A digital card F-A1A2 (95-235)
---or---
Bad drive A drive card F-C1A1 (95-235
95-340).

056

Bad drive B digital card G-A1A2 (95-235)
---or---
Bad drive B drive card G-C1A1 (95-235
95-340).

057

Bad cable:
A1Z1 - A2Y1.

058

Bad cable:
A2Z4 - A3Y4.

059

Bad card:
A-A1M2
---or---
A-A1N2.

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MAP 1702-10

P
7

Control Panel MAP-3
5360 Systems Unit

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060

- Probe the following for the good condition:

Up Light: On
Down Light: On

- A-A1M2B04 (9 mhz xtal)
- B09 (+ addr latch enable)
- D05 (- write)
- G04 (+ stg addr bit 8)
- G05 (+ stg addr bit 10)
- G06 (+ stg addr bit 12)
- G13 (+ degate display)
- J04 (+ stg addr bit 9)
- J05 (+ stg addr bit 11)
- J06 (+ stg addr bit 13).

Are the lights correct?

Y N

061

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: On
Down Light: On

Are the lights correct?

Y N

062

Bad card:
A-A1M2.

063

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

A
E

A A
1 E

MAP 1702-11

064

- Unplug B-A1J4C while the power is on.
- Set the meter to measure Vdc.
- Connect the meter from D03 to D08 on the cable.

Does the meter read at least 4.5 Vdc?

Y N

065

Go To Map 0599, Entry Point F.

066

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

067

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1A5D09 (- panel strobe).

Are the lights correct?

Y N

068

- Select mode 6.
- Press the Power key (power off).
- Leave the probe on the failing pin.
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Are the lights correct?

Y N

069

Bad card:
A-A1M2.

1 1
2 2
A A
F G

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MAP 1702-11

A A
F G
1 1
1 1

Control Panel MAP-3
5360 Systems Unit

MAP 1702-12

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070

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

071

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

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MAP 1702-12

Control Panel MAP-3

MAP 1702-13

5360 Systems Unit

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072

(Entry Point B)

Is Interrupt Level blank?

Y N

073

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1M2X28 (- operating level bit 2)
X29 (- operating level bit 0)
X30 (- operating level bit 1).

Are the lights correct?

Y N

074

Bad top card connector

---or---

Bad card:

A-A1N2.

075

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1M2G13 (+ degate display).

Are the lights correct?

Y N

1 1 1
5 4 4
A A A
H J K

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MAP 1702-13

A
J
1
3

Control Panel MAP-3
5360 Systems Unit

MAP 1702-14

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076

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: 0n
Down Light: 0n

Are the lights correct?

Y N

077

Bad card:
A-A1M2.

078

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

079

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1M2D10 (- read).

Are the lights correct?

Y N

080

Bad card:
A-A1M2.

1
5
A
L

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MAP 1702-14

A
H
1
3

A
L
1
4

Control Panel MAP-3

MAP 1702-15

5360 Systems Unit

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081

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

082

- Enter 7777.

Does the display show 7777?

Y N

083

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1M2G09 (+ panel addr/data bus bit 1)
G10 (+ panel addr/data bus bit 2)
G11 (+ panel addr/data bus bit 3).

Are the lights correct?

Y N

084

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: 0n
Down Light: 0n

Are the lights correct?

Y N

1
7
A
M

1
6
A
N

1
6
A
P

1
6
A
Q

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PEC 826487

MAP 1702-15

A N
1 5
A P
1 5
A Q
1 5

Control Panel MAP-3

MAP 1702-16

5360 Systems Unit

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085

Bad card:
A-A1M2 (see note 1).

Note 1: When card A-A1M2 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

086

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad board:
B-A1 (see note 2).

Note 2: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

087

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1M2G08 (+ panel addr/data bit 0).

Are the lights correct?

Y N

088

Bad card:
A-A1M2.

089

Bad cable:
from A-A1A5 to B-A1J4

---or---

Bad board:
B-A1.

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MAP 1702-16

A
M
1
5

Control Panel MAP-3

MAP 1702-17

5360 Systems Unit

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090

- Check for the following indicator lights:
All lights in the right hand operator portion of the control panel are off except power light.
All of the following lights off:
CSP Run
MSP Run
Force CSP Run
MSP Stop
Main Stg Sel
Adr Cmp Stop CSP.

Are the indicator lights correct?

Y N

091

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1A5D09 (- panel strobe).

Are the lights correct?

Y N

092

- Select mode 6.
- Press the Power key (power off).
- Leave the probe on the failing pin.
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: 0n
Down Light: 0n

Are the lights correct?

Y N

093

Bad card:
A-A1M2.

2 1 1
O 8 8
A A A
R S T

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MAP 1702-17

A A
S T
1 1
7 7

Control Panel MAP-3
5360 Systems Unit

MAP 1702-18

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094

(see note 1).

Bad cable:

from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

095

- Probe the following for the good condition:

Up Light: 0n

Down Light: 0n

A-A1N2U09 (- S2 to MSP).

Are the lights correct?

Y N

096

Bad card:

A-A1N2.

097

Is the MSP Run light off?

Y N

098

- Probe the following for the good condition:

Up Light: Off

Down Light: 0n

A-A1M2B13 (- MSP clocks stopped).

Are the lights correct?

Y N

1 1 1
9 9 9
A A A
U V W

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EC 842375

PEC 826487

MAP 1702-18

A
U
1
8

A
V
1
8

A
W
1
8

Control Panel MAP-3
5360 Systems Unit

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099

Bad card:
A-A1M2
---or---
A-A1P2
---or---
Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

100

Go to Step 111, Entry Point E.

101

(Entry Point D)

Is the Diskette In Use light off?

Y N

102

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1M2D11 (- chan diskette in use light).

Are the lights correct?

Y N

103

Is there a A-A1F2 card installed?

Y N

104

- Select mode 6.
- Press the Power key (power off).
- Remove cable A1Z1-A2Y1.
- Press the Power key (power on).

Is the Diskette In Use light off?

Y N

A
X

A
Y

A
Z

B
A

B
B

MAP 1702-19

A
X

A
Y

A
Z

B
A

B
B

105

Bad card:
A-A1M2.

106

Bad cable:
A1Z1 - A2Y1

---or---

Bad card:
A-A2F2.

107

- Select mode 6.
- Press the Power key (power off).
- Remove card A-A1F2.
- Press the Power key (power on).

Is Diskette In Use light off?

Y N

108

Bad card:
A-A1M2.

109

Bad card:
A-A1F2.

110

(Entry Point C)

Individual indicator is incorrect.

Bad board:
B-A1

---or---

Bad board:
B-A2.

111

(Entry Point E)

- Jumper A-A1M2B13 to A-A1M2D08 (ground).

Is the MSP Run LED on?

Y N

2
C

2
D

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MAP 1702-19

A B B
R C D
1 1 1
7 9 9

Control Panel MAP-3
5360 Systems Unit

MAP 1702-20

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112

Bad board:

A-A1

---or---

Bad card:

A-A1P2.

113

Bad card:

A-A1M2

---or---

Bad board:

B-A1

---or---

Bad board:

B-A2.

114

- Return to the Entry MAP.

Go To Map 0101, Entry Point N.

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MAP 1702-20

Control Panel MAP-4

MAP 1703-1

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
1701	A	1	001
1701	D	9	040
1701	E	11	063
1701	F	12	068
1701	G	12	070
1701	H	13	071
1701	AB	1	002
1701	DA	10	052

001

(Entry Point A)

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1A5B02 (- addressed key pressed).

MAP DESCRIPTION:

This MAP checks out key failures.

START CONDITIONS:

None

FRUs PARTIALLY TESTED:

B-A1, B-A2, A-A1M2

Panel ref:

Control panel FRUs, see MIM 10-215

Control panel removal, see MIM 10-325

Are the lights correct?

Y N

002

(Entry Point AB)

- Probe the following for the condition indicated:

Up Light: On
Down Light: On or Flashing

A-A1A5B02 (- addressed key pressed).

Are the lights correct?

Y N

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MAP 1703-1

3 2 2
A B C

B C
1 1

Control Panel MAP-4

MAP 1703-2

5360 Systems Unit

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003

- Leave the probe on the same pin.
- Set CB1 to the Off position (05-215).
- Remove card A-A1M2.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

004

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1 (see note 2).

Note 2: When card A-A1M2 is removed, power off accomplished by setting the CB1 switch to the off position.

005

Bad card:
A-A1M2 (see note 2).

006

- Enter F.

Is a character (not necessarily F) shown entered in the display?

Y N

007

Bad board:
B-A1
---or---
Bad board:
B-A2
---or---
Bad key.

3
D

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MAP 1703-2

A D
1 2

Control Panel MAP-4

MAP 1703-3

5360 Systems Unit

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008

- Probe: the following for the good condition:

Up Light: On
Down Light: On

A-A1A5B06 (+ key address bit 3)
B07 (+ key address bit 4).

Are the lights correct?

Y N

009

Bad card:
A-A1M2.

010

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad board:
B-A1.

011

- Probe the following for the good condition:

Up Light: On
Down Light: On or Flashing

A-A1A5B03 (+ key address bit 0)
B04 (+ key address bit 1)
B05 (+ key address bit 2)
B06 (+ key address bit 3)
B07 (+ key address bit 4).

Are the lights correct?

Y N

4 4
E F

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MAP 1703-3

F
3 F
3

Control Panel MAP-4

MAP 1703-4

5360 Systems Unit

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012

- Leave the probe on the failing pin.
- Set CB1 to the Off position (05-215).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: On
 Down Light: On or Flashing

Are the lights correct?

Y N

013

Bad card:
 A-A1M2 (see note 1).

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

014

Bad cable:
 from A-A1A5 to B-A1J4A
 ---or---
 Bad board:
 B-A1 (see note 1).

015

- Probe the following for the good condition:

Up Light: On
 Down Light: Off

A-A1A5D11 (- power key).

Are the lights correct?

Y N

5
G 5
H

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 MAP 1703-4

G H
4 4

Control Panel MAP-4
5360 Systems Unit

MAP 1703-5

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016

- Leave the probe on the failing pin.
- Power down the system.
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

017

Bad card:
A-A1M2.

018

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

019

- Probe the following while pressing the failing key (If there is more than one key failing. Choose any one of the failing keys and identify that key as the failing key.)

Up Light: On
Down Light: On or Flashing

A-A1A5B02 (- addressed key pressed).

- Press and hold the failing key.

Are the lights correct?

Y N

7 6
J K

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EC 842375 PEC 842350
MAP 1703-5

K
5

Control Panel MAP-4
5360 Systems Unit

MAP 1703-6

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020

- Leave the probe on the same pin.
- Find the failing key in chart A.
- Press every key that is in the same column in the chart as the failing key, except the failing key.
- Check the probe light while pressing each key.

Up Light: On
Down Light: On or Flashing

Chart A

Row	Column 1	Column 2	Column 3	Column 4
1	Input key 0	Input key 4	Input key 8	Input key C
2	Input key 1	Input key 5	Input key 9	Input key d
3	Input key 2	Input key 6	Input key A	Input key E
4	Input key 3	Input key 7	Input key b	Input key F
5		Load	Clear Input	Disply Output
6	AdrCmp Stop CSP	MSP Stop	CSP Start	Disply Input
7	Main Stor Sel	Force CSP Run	System Reset	Input + 1
8	Mode Select			Line Select

Are the lights correct for all keys being pressed?

Y N

021

Are the lights correct for any key being pressed?

Y N

7 7 7
L M N

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MAP 1703-6

M N
6 6

Control Panel MAP-4

5360 Systems Unit

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022

- Leave the probe on the same pin.
- Press any one key in each column in chart A other than the column that the failing key is in.
- Check the probe light while pressing each key.

Up Light: 0n
Down Light: 0n or Flashing

Are the lights correct for all keys being pressed?

Y N

023

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

024

Bad board:
B-A1
---or---
Bad board:
B-A2
---or---
Bad connector:
B-A1J1.

025

Bad cable:
from A-A1A5 to A-A1M2
---or---
Bad board:
B-A1.

J L
5 6

MAP 1703-7

026

- Leave the probe on the same pin.
- Press every key that is in same row in chart A as the failing key, except the failing key.
- Check the probe light while pressing each key.

Up Light: 0n
Down Light: 0n or Flashing

Are the lights correct for any key being pressed?

Y N

027

Bad board:
B-A1
---or---
Bad board:
B-A2
---or---
Bad connector:
B-A1J1.

028

Bad board:
B-A1
---or---
Bad key.

029

- Leave the probe on the same pin.
- Press and hold Input Key 0
- Check the probe light while pressing the key.

Up Light: 0n
Down Light: 0n or Flashing

Are the lights correct?

Y N

8 8
P Q

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EC 842375 PEC 842350

MAP 1703-7

P 0
7 7

Control Panel MAP-4
5360 Systems Unit

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030

Bad cable:
from A-A1A5 to A-A1M2
---or---
Bad board:
B-A1.

031

- Enter 0123.
Do any of these 4 characters show up in the display?

Y N

032

Bad card:
A-A1M2
---or---
Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

033

- Set the key lock in the Service position.
- Press the Mode Select key.

Does the Mode display show blank?

Y N

034

Go to Step 037, Entry Point AC.

035

- Enter E.
Does the Mode display show blank?

Y N

036

Bad board:
B-A1
---or---
Bad board:
B-A2.

R

MAP 1703-8

037

(Entry Point AC)

- Probe the following for the good condition:

Up Light: Off
Down Light: On

A-A1A5B13 (- keylock service).

Are the lights correct?

Y N

038

Bad board:
B-A1
---or---
Bad cable:
from A-A1A5 to B-A1J4A.

039

Bad card:
A-A1M2.

R

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MAP 1703-8

Control Panel MAP-4
5360 Systems Unit

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U V W X

MAP 1703-9

040

(Entry Point D)

Is system power on?

Y N

041

- Place the key in the locked position then place the key in the service position.

Did the system power up?

Y N

042

- Press the Power key (power on).
- Wait 15 seconds.

Did the system power up and remain up?

Y N

043

- Measure the voltage of the following pin:
A-A1A5D02 (- power off).

Does the meter read above 3 V?

Y N

044

- Remove card A-A1M2.
- Measure the voltage of the following pin:
A-A1A5D02 (- power off).

Does the meter read above 3 V?

Y N

045

- Set CB1 to the Off position (05-215).
- Remove connector JA1 in the power compartment.
- Set CB1 to the On position (05-215).
- Measure the voltage of the following pin on the upper maple block:
JA1-B06 (- power off).

Does the meter read above 3 V?

Y N

046

Bad upper maple block (05-220)
---or---
Bad protect card (05-220).

047

Bad cable:
from JA1 to B-A1J4D
---or---
Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

048

Bad card:
A-A1M2
---or---
Bad board:
B-A1.

049

Problem in panel interface bus.
Bad card:
A-A1M2
---or---
Bad board:
B-A1.

050

Go to Page 10, Step 052, Entry Point DA.

1 1
O O
S T U V W X

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S T
9 9

Control Panel MAP-4

5360 Systems Unit

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051

Go to Step 052, Entry Point DA.

052

(Entry Point DA)

- Select mode 6.

Did the system power down?

Y N

053

- Press and hold the Power key.
- Probe the following for the good condition:

Up Light: Off
Down Light: On

A-A1A5D11 (- power key isolated).

Are the lights correct?

Y N

054

Bad board:

B-A1

---or---

Bad cable:

from A-A1A5 to B-A1J4A.

055

- Press and hold the Power key.
- Probe the following for the good condition:

Up Light: Off
Down Light: On

A-A1A5D02 (- power off).

Are the lights correct?

Y N

056

Bad card:

A-A1M2.

Y Z

MAP 1703-10

057

- Set CB1 to the Off position (05-215).
- Remove cable from B-A1J4D.
- Connect the meter from A-A1A5D02 (- power off) to B-A1J4D D06 (- power off) on the control panel.

Does the meter read less than 10 ohms?

Y N

058

Bad board:

B-A1

---or---

Bad cable:

from A-A1A5 to B-A1J4A.

059

Bad cable:

from JA1 to B-A1J4D

---or---

Bad protect card (05-220)

---or---

Bad upper maple block (05-220)

---or---

Bad lower maple block (05-220)

---or---

Bad JC4 jumper.

060

- Place the key in the Locked position, then place the key in the Service position.

Did the system power up?

Y N

061

Bad board:

B-A1

---or---

Bad cable:

from A-A1A5 to B-A1J4A

---or---

Bad card:

A-A1M2.

Y Z

1
1
A
A

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A
A
1
0

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MAP 1703-11

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062

Bad board:

B-A1

---or---

Bad board:

B-A2

---or---

Bad power key.

063

(Entry Point E)

- If the keylock is not in the locked position, place the keylock in the locked position.

- Probe the following for the condition indicated:

Up Light: On

Down Light: Off

A-A1A5B13 (- keylock service).

Are the lights correct?

Y N

064

- Connect the meter from B-A1J4AB13 (- keylock service) to B-A1J4AD08 (ground)

Does the meter read less than 10 ohms?

Y N

065

Bad cable:

A-A1A5 to B-A1J4A

---or---

Bad card:

A-A1M2.

066

Bad board:

B-A1

---or---

bad keylock assembly

B-A1J4C.

067

Bad board:

B-A1

---or---

bad keylock assembly

B-A1J4C.

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MAP 1703-11

Control Panel MAP-4

MAP 1703-12

5360 Systems Unit

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068

(Entry Point F)

- Probe the following for the condition indicated.

Up Light: Off

Down Light: On

A-A1A5B13 (- keylock service).

Are the lights correct?

Y N

069

Bad card:

A-A1M2.

070

Bad board:

B-A1

---or---

Bad cable:

from A-A1A5 to B-A1J4A.

(Entry Point G)

Bad board:

B-A1

---or---

Bad keylock assembly:

B-A1J4C.

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MAP 1703-12

071

(Entry Point H)

- Select mode 6.
- Press the Power key (power off).
- Disconnect cable B-A1J4A.
- Connect probe to B-A1J4AD12 (- power on reset).
- Press the power key and observe the down light on the probe as the power appears.

Did the down light flicker before coming on?

Y N

072

(see note 1)

Bad board:

B-A1

---or---

Bad cable from JA1 to B-A1J4D

---or---

Bad upper maple block

---or---

Bad card:

Bad protect card (05-220)

---or---

Bad upper maple block (05-220).

073

Bad cable:

from A-A1A5 to B-A1J4A (see note 1).

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

Control Panel MAP-5

MAP 1704-1

5360 Systems Unit

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ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
1700	A	1	001
1700	B	12	070

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
19	114	0101	N
10	063	0599	F

001

(Entry Point A)

MAP DESCRIPTION:

This MAP checks out display lights on the control panel and determines what causes display problem.

START CONDITIONS:

Power on reset is assumed in this MAP. If you have not just powered on, power off, wait 30 seconds, and then power on the machine.

FRUs TESTED:

A-A1N2, A-A1M2
B-A1, B-A2

Panel ref:

Control panel FRUs, see MIM 10-215
Control panel removal, see MIM 10-325

Note: In cases that the machine cannot be powered down from the control panel, power off the machine by setting Unit Emergency switch to Power Off position. After power is off, set the switch to Power Enable position.

Are any of the LED indicators blinking?

Y N

1
0
A

2
B

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MAP 1704-1

6
1

Control Panel MAP-5
5360 Systems Unit

MAP 1704-2

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002

Do all following character displays show blank (all 7 segments off)?

- 1.Line
- 2.Mode
- 3.Display
- 4.Interrupt level

Y N

003

- Press and hold the Lamp Test key.

Do all following character displays show 8's?

- 1.Line
- 2.Mode
- 3.Display
- 4.Interrupt level

Y N

004

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1M2B09 (address latch enable)

Are the lights correct?

Y N

005

Bad card:

A-A1M2 (see note 1).

Note 1: When card A-A1M2 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

6 6 3
C D E

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MAP 1704-2

E
2

Control Panel MAP-5

MAP 1704-3

5360 Systems Unit

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006

- Press and hold the Lamp Test key.

Does any of the following character displays show blank (all 7 segments off)?

1.Line

2.Mode

3.Any character of the Display

4.Interrupt Level

Y N

007

- Press and hold the Lamp Test key.

- Disregard Line, Mode, Display and Interrupt level character displays.

Are all other indicator LED lights on?

Y N

008

- Press and hold the Lamp Test key.

- Probe the following for the good condition:

Up Light: Off

Down Light: On

A-A1A5D10 (- lamp test).

Are the lights correct?

Y N

009

Bad cable:

from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

010

Bad card:

A-A1M2.

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PEC -----

MAP 1704-3

4 4
F G

F 3
G 3

Control Panel MAP-5

MAP 1704-4

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011

- Probe the following for the good condition :

Up Light: 0n
Down Light: 0n

A-A1M2G08 (+ panel adr/data bus bit 0)
G09 (+ panel adr/data bus bit 1)
G10 (+ panel adr/data bus bit 2)
G11 (+ panel adr/data bus bit 3).

Are the lights correct?

Y N

012

Bad card:
A-A1M2.

013

Bad cable:
from A-A1A5 to B-A1J4A

---or---
Bad board:
B-A1

---or---
Bad board:
B-A2.

014

- Release the Lamp Test key.
- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1A5D05 (+ select bus bit 0)
D06 (+ select bus bit 1)
D07 (+ select bus bit 2).

Are the lights correct?

Y N

5 5
H J

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MAP 1704-4

H J
4 4

Control Panel MAP-5

MAP 1704-5

5360 Systems Unit

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015

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: On
Down Light: On

Are the lights correct?

Y N

016

Bad card:
A-A1M2 (see note 1).

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

017

(see note 1)
Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

018

Are more than two of the following characters displays blank?

- 1.Line
- 2.Mode
- 3.Any character of the 4 character display
- 4.Interrupt level

Y N

6 6
K L

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MAP 1704-5

D K L
2 5 5

Control Panel MAP-5

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019

Bad board:
B-A1
---or---
Bad board:
B-A2.

020

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

021

- Release the Lamp Test key.
- Observe the following indicators:
Console Check
Processor Check
Program Check
Load

Are the indicators off?

Y N

022

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1A5D09 (- Panel strobe).

Are the lights correct?

Y N

023

Bad card:
A-A1M2.

M N

C M N
2

MAP 1704-6

024

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

025

Individual indicator light is incorrect.
Bad board:
B-A1
---or---
Bad board:
B-A2.

026

(Entry Point AC)

- Ensure that A-A1M2 card, A-A1A5 cable connector, B-A1J4A cable connector, B-A1J3 connector are seated properly.
- Probe the following for the good condition:

Up Light: 0n
Down Light: 0ff

A-A1M2B07 (- MFG test)
J07 (- power on reset)
D04 (+ LSSD A clock)
G07 (- addr key pressed)
B05 (-DSBL microp & ROS)
B10 (-DSBL write).

Are the lights correct?

Y N

027

Is A-A1M2J07 the failing pin?

Y N

1
0 7 7
P Q R

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MAP 1704-6

Q R
6 6

Control Panel MAP-5

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028

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: On
Down Light: Off

Are the lights correct?

Y N

029

Bad card:
A-A1M2.

030

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

031

Is there an A3 board?

Y N

032

Is there an A2 board?

Y N

033

Go to Page 8, Step 041, Entry Point AE.

034

Go to Page 8, Step 040, Entry Point AD.

035

Is there an A2 board?

Y N

S T

S T

MAP 1704-7

036

- Set CB1 to the Off position (05-215).
- Remove cable A1Z1 - A3Y4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

037

Go to Page 8, Step 041, Entry Point AE.

038

Bad cable:
A1Z1 - A3Y4.

039

- Set CB1 to the Off position (05-215).
- Remove cable A2Z4 - A3Y4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

9 8
U V

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MAP 1704-7

040

(Entry Point AD)

- Set CB1 to the Off position (05-215).
- Remove cable A1Z1 - A2Y1.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2JC7).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

041

(Entry Point AE)

Are 21ED disk drives installed on the system?

Y N

042

(Entry Point AF)

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad card:
A-A1M2

---or---

Bad board:
B-A1

---or---

Bad cable:
B-A1J4D - 1CA1A1

---or---

Bad upper maple block (05-220)

---or---

Bad protect card (05-220).

043

- Set CB1 to the Off position (05-215).
- Reinstall the following cables where it is possible:
A1Z1 - A2Y1
A2Z4 - A3Y4
A1Z1 - A3Y4.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Unplug 21ED disk drive cable(s) at the drive end (F-B1A2, G-B1A2 MIM 95-235) (There can be one or two drives installed on the system).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

044

- Unplug 21ED disk drive cable(s) at the board end (MIM 95-205) A-A1A2, A-A1A3.
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

045

- Set CB1 to the Off position (05-215).
- Remove 21ED disk adapter cards A-A1C2, A-A1D2.
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

7 8 A A
8 8 A B

**Control Panel MAP-5
5360 Systems Unit**

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046

Go to Page 8, Step 042, Entry Point AF.

047

- Set CB1 to the Off position (05-215).
- Replace A-A1C2 card (no need to replace top card connector).
- Set CB1 to the On position (05-215).
- Press the Power key (power on).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

048

Bad 21ED disk adapter card A-A1C2.

049

Bad 21ED disk adapter card A-A1D2.

050

- Replace drive A cable A-A1A2 - F-B1A2 (you may have to power off to reconnect the cable at the board end if you find that the A-A1M2 card makes reconnection difficult).
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

051

Bad cable:
A-A1A2 - F-B1A2.

052

Bad cable:
A-A1A3 - F-B1A2.

U W Y
7 8 8

MAP 1704-9

053

- Replace drive A cable at the drive end 1F-B1A2.
- Leave the probe on the same pin (A-A1M2J07).

Up Light: On
Down Light: Off

Are the lights correct?

Y N

054

Bad drive A digital card F-A1A2 (95-235)

---or---

Bad drive A drive card F-C1A1 (95-235, 95-340).

055

Bad drive B digital card G-A1A2 (95-235)

---or---

Bad drive B drive card G-C1A1 (95-235, 95-340).

056

Bad cable:
A1Z1 - A2Y1.

057

Bad cable:
A2Z4 - A3Y4.

P
6

Control Panel MAP-5

5360 Systems Unit

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058

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1M2B09 (+ addr latch enable)
D05 (- write)
G04 (+ stg addr bit 8)
G05 (+ stg addr bit 10)
G06 (+ stg addr bit 12)
G13 (+ degate display)
J04 (+ stg addr bit 9)
J05 (+ stg addr bit 11)
J06 (+ stg addr bit 13).

Are the lights correct?

Y N

059

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: 0n
Down Light: 0n

Are the lights correct?

Y N

060

Bad card:
A-A1M2.

061

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

A
C

A A
I C

MAP 1704-10

062

- Unplug B-A1J4C while the power is on.
- Set the meter to measure Vdc.
- Connect the meter from D03 to D08 on the cabl

Does the meter read at least 4.5 Vdc?

Y N

063

Go To Map 0599, Entry Point F.

064

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

065

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1A5D09 (- panel strobe).

Are the lights correct?

Y N

066

- Select mode 6.
- Press the Power key (power off).
- Leave the probe on the failing pin.
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Are the lights correct?

Y N

067

Bad card:
A-A1M2.

1 1
1 1
A A
D E

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MAP 1704-10

A A
D E
1 I
0 O

Control Panel MAP-5
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MAP 1704-11

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068

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

069

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

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MAP 1704-11

Control Panel MAP-5
5360 Systems Unit

MAP 1704-12

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070

(Entry Point B)

Is Interrupt Level blank?

Y N

071

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1M2X28 (- operating level bit 2)
X29 (- operating level bit 0)
X30 (- operating level bit 1).

Are the lights correct?

Y N

072

Bad top card connector

---or---

Bad card:

A-A1N2.

073

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1M2G13 (+ degate display).

Are the lights correct?

Y N

1 1 1
4 3 3
A A A
F G H

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MAP 1704-12

A
G
1
2

Control Panel MAP-5
5360 Systems Unit

MAP 1704-13

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074

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: On
Down Light: On

Are the lights correct?

Y N

075

Bad card:
A-A1M2.

076

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

077

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1M2D10 (- read).

Are the lights correct?

Y N

078

Bad card:
A-A1M2.

1
4
A
J

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MAP 1704-13

A
F
1
2
A
J
1
3

Control Panel MAP-5
5360 Systems Unit

MAP 1704-14

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079

- Probe the following for the good condition:

Up Light: On
Down Light: Off

A-A1M2B06 (-battery low)

Are the lights correct?

Y N

080

Bad card:
A-A1M2.

081

Bad cable:
from A-A1A5 to B-A1J4A

---or---

Bad board:
B-A1.

082

- Enter 7777.

Does the display show 7777?

Y N

083

- Probe the following for the good condition:

Up Light: On
Down Light: On

A-A1M2G09 (+ panel addr/data bus bit 1)
G10 (+ panel addr/data bus bit 2)
G11 (+ panel addr/data bus bit 3).

Are the lights correct?

Y N

1 1 1
6 5 5
A A A
K L M

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MAP 1704-14

A
L
1
4

Control Panel MAP-5
5360 Systems Unit

MAP 1704-15

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084

- Leave the probe on the failing pin.
- Select mode 6.
- Press the Power key (power off).
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: 0n
Down Light: 0n

Are the lights correct?

Y N

085

Bad card:
A-A1M2 (see note 1).

Note 1: When card A-A1M2 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

086

Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1 (see note 2).

Note 2: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

087

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1M2G08 (+ panel addr/data bit 0).

Are the lights correct?

Y N

1
6
A
N

1
6
A
P

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MAP 1704-15

A A A
K N P
1 1 1
4 5 5

Control Panel MAP-5

MAP 1704-16

5360 Systems Unit

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088

Bad card:
A-A1M2.

089

Bad cable:
from A-A1A5 to B-A1J4

---or---

Bad board:
B-A1.

090

- Check for the following indicator lights:
All lights in the right hand operator portion of the control panel are off except power light.
All of the following lights off:
CSP Run
MSP Run
Force CSP Run
MSP Stop
Main Stg Sel
Adr Cmp Stop CSP.

Are the indicator lights correct?

Y N

091

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1A5D09 (- panel strobe).

Are the lights correct?

Y N

1 1 1
9 7 7
A A A
Q R S

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MAP 1704-16

A
R
1
6

Control Panel MAP-5
5360 Systems Unit

MAP 1704-17

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092

- Select mode 6.
- Press the Power key (power off).
- Leave the probe on the failing pin.
- Remove cable A-A1A5.
- Jumper A-A1A5D4 to A-A1A5D8 (ground).
- Press the Power key (power on).
- Remove jumper from A-A1A5D4.

Up Light: 0n
Down Light: 0n

Are the lights correct?

Y N

093

Bad card:
A-A1M2.

094

(see note 1).
Bad cable:
from A-A1A5 to B-A1J4A
---or---
Bad board:
B-A1.

Note 1: When cable A-A1A5 is removed, power off is accomplished by setting the Unit Emergency switch to the Power Off position. After power is off, set the switch to the Power Enable position.

095

- Probe the following for the good condition:

Up Light: 0n
Down Light: 0n

A-A1N2Z22 (- W clock to MSP)

Are the lights correct?

Y N

096

Bad card:
A-A1N2.

1
8
A
T

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MAP 1704-17

A
T
1
7

**Control Panel MAP-5
5360 Systems Unit**

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097

Is the MSP Run light off?

Y N

098

- Probe the following for the good condition:

Up Light: Off

Down Light: On

A-A1M2B13 (- MSP clocks stopped).

Are the lights correct?

Y N

099

Bad card:

A-A1M2

---or---

A-A1P2

---or---

Bad cable:

from A-A1A5 to B-A1J4A

---or---

Bad board:

B-A1.

100

Go to Page 19, Step 111, Entry Point E.

101

(Entry Point D)

Is the Diskette In Use light off?

Y N

102

- Probe the following for the good condition:

Up Light: On

Down Light: Off

A-A1M2D11 (- chan diskette in use light).

Are the lights correct?

Y N

1 1
9 9
A A
U V W

MAP 1704-18

A
W

103

Is there a A-A1F2 card installed?

Y N

104

- Select mode 6.

- Press the Power key (power off).

- Remove cable A1Z1-A2Y1.

- Press the Power key (power on).

Is the Diskette In Use light off?

Y N

105

Bad card:

A-A1M2.

106

Bad cable:

A1Z1 - A2Y1

---or---

Bad card:

A-A2F2.

107

- Select mode 6.

- Press the Power key (power off).

- Remove card A-A1F2.

- Press the Power key (power on).

Is Diskette In Use light off?

Y N

108

Bad card:

A-A1M2.

109

Bad card:

A-A1F2.

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PEC -----

MAP 1704-18

A A A
Q U V
1 1 1
6 8 8

Control Panel MAP-5
5360 Systems Unit

MAP 1704-19

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110

(Entry Point C)

Individual indicator is incorrect.

Bad board:

B-A1

---or---

Bad board:

B-A2.

111

(Entry Point E)

- Jumper A-A1M2B13 to A-A1M2D08 (ground).

Is the MSP Run LED on?

Y N

112

Bad board:

A-A1

---or---

Bad card:

A-A1P2.

113

Bad card:

A-A1M2

---or---

Bad board:

B-A1

---or---

Bad board:

B-A2.

114

- Return to the Entry MAP.

Go To Map 0101, Entry Point N.

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MAP 1704-19