

ENTRY POINTS

FROM				ENTER THIS MAP			
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
2000	A	1	001				
2000	DLB	29	012				
2000	DFP	3	020				
2000	TFP	30	022				
2000	KE	30	018				
2000	LA	7	051				
2000	LC	5	034				
2000	LL	1	002				
2000	ML	14	014				
2000	ML	17	025				
2000	MR	13	011				
2000	MS	1	011				
2000	PC	3	022				
2000	PR	4	029				
2000	PK	28	208				
2000	ST	25	183				
2000	TH	22	148				
2000			164				

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
31	228	0020	ID
012	012	0020	LK
132	132	0070	A
187	187	1072	RC
236	236	2071	A
238	238	2071	A
239	239	2071	A
003	003	2071	AD
010	010	2071	CB
177	177	2072	A
237	237	2072	A

001  
 (ENTRY POINT A)

- SEE THE NOTE ---->
- ENSURE THE DISKETTE UNIT IS NOT READY.
- POWER OFF THE PROCESSING UNIT.
- ENSURE THE MODE SWITCH IS IN DIAGNOSTIC POSITION.
- ENSURE THE IPL SOURCE SWITCH IS IN THE POSITION FOR THE DISKETTE UNIT (PRIMARY OR ALTERNATE).
- POWER ON THE PROCESSING UNIT.
- WAIT 15 SECONDS.
- SEE THE CONSOLE FOR CORRECT 'POWER ON' AS FOLLOWS:

WHEN USING THIS MAP:

- SEE MLD BINDER VOLUME ONE (1).
- SEE THE CORRECT PROGRAMMER CONSOLE ALD PAXXX.
- SEE THE CORRECT PROCESSING UNIT ALD AXXXX.

SEE THE PROCESSING UNIT INSTALLED. AFTER FIFTEEN (15) SECONDS, THE POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON,  
 THE CONSOLE IS SILENT (NO SOUND).

- SEE IF THE PROCESSING UNIT POWERED ON CORRECTLY.

IS THE CONSOLE AS NOTED ABOVE?

N

002  
 (ENTRY POINT LL)

- SEE THE AUDIBLE DEVICE.
- SEE IF THE AUDIBLE DEVICE IS SILENT.

IS THE CONSOLE SILENT?

N

003  
 GO TO MAP 2071, ENTRY POINT AD.

004  
 - SEE THE DATA LEDS

DO THE DATA LEDS EQUAL '0085' OR '008A'?

N

005  
 - SEE THE DATA LEDS

DO THE DATA LEDS EQUAL '0025'?

N

2  
 5  
 A B C D

006  
- SEE THE DATA LEDS

THE FOLLOWING ARE FLOATING POINT STOPS	
LEDS	PROBLEM IS
00F3	ROS PROBLEM
00F4	REGISTER
00F5	DATA PATH
00FX	UNKNOWN STOP

DO THE DATA LEDS EQUAL AS NOTED ABOVE?

N  
007  
- SEE THE DATA LEDS.

THE FOLLOWING ARE PROCESSING UNIT DIAGNOSTIC STOPS:		
003X	0087	009X
004X	0088	00CX
005X	0089	00EE

DO THE DATA LEDS EQUAL AS NOTED ABOVE?

N  
008  
- SEE THE DATA LEDS.

THE FOLLOWING ARE IPL PROBLEM STOPS	
00E0 OR *00E5	

\* MAY BE A POLL PROBLEM.  
ENSURE THE POLL JUMPERS ARE CORRECT.  
EVERY OTHER CARD POSITION MUST HAVE A CARD  
INSTALLED, OR A POLL JUMPER MUST BE  
INSTALLED FROM PIN M11 TO PIN M12 IN ALL  
EMPTY CARD POSITIONS.  
- SEE MLD VOLUME ONE (1), PROCESSING UNIT  
OR EXPANSION LOGICS (AXXXX).

DO THE DATA LEDS EQUAL AS NOTED ABOVE?

N  
009  
- WAIT 15 SECONDS AFTER POWER ON.  
- CHECK THE CONSOLE LEDS.  
- IF THE LOAD LED FLASHED ON AND  
OFF REPEATEDLY.  
- IF THE RUN LED IS FLASHING.  
- IF THE WAIT LED IS FLASHING.  
- IF ONE, TWO OR ALL THREE OF THE LEDS  
IS AS NOTED ABOVE, ANSWER THE QUESTION  
'YES'.

IS/ARE THE LED(S) AS NOTED ABOVE?

N  
010  
GO TO MAP 2071, ENTRY POINT CB.

011  
(ENTRY POINT MS)

- ENSURE THE MODE SWITCH ON THE BASIC  
CONSOLE IS IN 'DIAGNOSTIC' MODE.

IF THE MODE SWITCH IS IN 'AUTO IPL', THE  
PROCESSING UNIT WILL IPL IF YOU POWER  
ON.

IF THE MODE SWITCH IS IN 'NORMAL', A  
DIAGNOSTIC WILL NOT STOP ON A PROGRAM  
STOP.

IS THE MODE SWITCH IN 'DIAGNOSTIC'?

N  
012  
- PLACE THE MODE SWITCH IN THE  
DIAGNOSTIC POSITION.  
- ENSURE THE IPL SOURCE SWITCH IS  
CORRECT.  
GO TO MAP 0020, ENTRY POINT LK.

013  
- SEE IF THE 'AUDIBLE DEVICE' IS SOUNDING.

IS THE 'AUDIBLE DEVICE' SOUNDING?

N

014

CHECK THE MODE SWITCH.	
IF THE PROCESSING UNIT IS:	GO TO MAP:
4954	1072; ENTRY POINT A.
495X	1071; ENTRY POINT A.
IF NO REPAIR, RETURN HERE AND:	

GO TO PAGE 30, STEP 222, ENTRY POINT IP.

015

CHECK THE LOAD KEY.	
IF THE PROCESSING UNIT IS:	GO TO MAP:
4954	1072; ENTRY POINT A.
495X	1071; ENTRY POINT A.
IF NO REPAIR, RETURN HERE AND:	

GO TO PAGE 30, STEP 222, ENTRY POINT IP.

016

- SEE THE LOAD LED.

IS THE LOAD LED ON?

N

017  
THE PROCESSING UNIT IS SUSPECT.  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

018

- POWER OFF THE PROCESSING UNIT.  
- TEST THE MODE SWITCH.

PROCESSING UNIT IS:	GO TO MAP:
495X	1071; ENTRY POINT A.
4954	1072; ENTRY POINT A.
IF NO REPAIR: GO TO MAP 2070, ENTRY POINT PC.	

019

THE PROCESSING UNIT IS SUSPECT.  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

020

(ENTRY POINT FP)

THIS IS A FLOATING POINT ERROR.

- SEE THE NOTE --->
- SEE LOGIC A4XXX FOR THE FLOATING POINT INFORMATION.
- ENSURE JUMPERS, IF INSTALLED, ARE CORRECT.
- SEE IF FLOATING POINT IS INSTALLED.

IS FLOATING POINT INSTALLED ON THE PROCESSING UNIT CARD?

N

021  
THE PROCESSING UNIT IS SUSPECT.  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

022

- EXCHANGE THE FLOATING POINT.
- SEE LOGIC A4XXX FOR THE FLOATING POINT INFORMATION.
- ENSURE JUMPERS, IF INSTALLED, ARE CORRECT.

IS THE FLOATING POINT CORRECT?

N

Y

Y

Y

Y

Y

Y

Y

Y

Y

Y

Y

Y

- ENSURE THE CONFIGURATION TABLE IS CORRECT IF FLOATING POINT IS INSTALLED.
- ENSURE THE CONFIGURATION TABLE IS CORRECT IF FLOATING POINT IS NOT INSTALLED.

0 F 3 5

023  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

024  
- VERIFY THE REPAIR.

025  
ENSURE THE POLL JUMPERS ARE CORRECT.  
EVERY OTHER CARD POSITION MUST HAVE A CARD  
INSTALLED, OR A POLL JUMPER MUST BE  
INSTALLED FROM PIN H11 TO PIN H12 IN ALL  
EMPTY CARD POSITIONS.  
- SEE HLD VOLUME ONE (1), PROCESSING UNIT OR  
EXPANSION LOGICS (AXXXX).

IS POLL CORRECT?  
N

026  
CORRECT POLL AND:  
- VERIFY THE REPAIR.

027  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

028  
STORAGE IS SUSPECT ON THE SYSTEM. THIS  
MAP WILL USE THE STORAGE DIAGNOSTICS TO  
ISOLATE TO THE FRU. IF THIS CANNOT BE DONE,  
ANOTHER METHOD WILL BE USED.

- ENSURE THE DISKETTE UNIT IS READY.
- PRESS THE LOAD KEY.

WAIT FOR A MESSAGE AS FOLLOWS:  
'RDY ENTER'

IF USING A PROGRAMMER OR C E CONSOLE:  
-----  
DATA LEDS = 3800  
3800 = RDY ENTER

IS THERE A RDY ENTER MESSAGE AS NOTED?  
N

029  
(ENTRY POINT PR)  
- SEE IF A 4955 PROCESSING UNIT IS INSTALLED  
ON THE SYSTEM.

DO YOU HAVE A 4955 PROCESSING UNIT  
INSTALLED?  
N

030  
- SEE IF A 4954 PROCESSING UNIT IS  
INSTALLED ON THE SYSTEM.

DO YOU HAVE A 4954 PROCESSING UNIT  
INSTALLED?  
N

031  
- SEE IF A 4953 PROCESSING UNIT IS  
INSTALLED ON THE SYSTEM.

DO YOU HAVE A 4953 PROCESSING UNIT  
INSTALLED?  
N

032  
A 4952 PROCESSING UNIT IS INSTALLED.

- SEE THE HLD BINDER.
- SEE THE CORRECT PROCESSING UNIT MLD
- LOGIC PAXXX.
- THE NOTE ---->
- IF ONLY ONE (1) STORAGE MODULE  
IS INSTALLED ON THE CARD.

IS ONLY ONE (1) STORAGE MODULE  
INSTALLED ON THE CARD?  
N

A STORAGE MODULE IS THE MODULE ON THE 4952  
PROCESSING UNIT CARD. THERE MUST BE ONE (1)  
TO FOUR (4) STORAGE MODULE(S) INSTALLED ON THE  
PROCESSING UNIT CARD. ENSURE PROCESSING UNIT  
CARD JUMPER(S) ARE CORRECT.

2070-4  
L 1 2 3 4 5  
N O P Q R

033  
THERE IS MORE THAN ONE STORAGE MODULE  
INSTALLED ON THE PROCESSING UNIT CARD.

- POWER OFF THE PROCESSING UNIT.
- REMOVE THE PROCESSING UNIT CARD.
- REMOVE ALL THE STORAGE MODULE(S) BUT THE FIRST 32K MODULE FROM THE PROCESSING UNIT CARD.
- ENSURE THE CARD JUMPERS IF INSTALLED, ARE CORRECT.
- SEE MLD VOLUME ONE (1), LOGIC AXXXX.
- INSTALL THE PROCESSING UNIT CARD.
- POWER ON THE PROCESSING UNIT.
- RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

THE STORAGE SIZE IS CHANGED.  
THERE MAY BE A CONFIGURATION ERROR OR A DIAGNOSTIC FAILURE.  
NOTE THIS WHEN USING THE 'FAILURE INDICATION'.  
DO NOT CONFUSE THE 'CONFIGURATION ERROR' CAUSED BY STORAGE SIZE WITH THE 'ERROR INDICATION' USED BY YOU.

THE JUMPERS, IF INSTALLED, AND THE CONFIGURATION TABLE MAY HAVE TO BE CHANGED.

DID THE SAME FAILURE OCCUR?

N

034  
(ENTRY POINT LC)

A REMOVED STORAGE MODULE IS SUSPECT.

- POWER OFF THE PROCESSING UNIT.
- REMOVE THE PROCESSING UNIT CARD.
- INSTALL A REMOVED STORAGE MODULE AS FOLLOWS:

IF THE LAST MODULE INSTALLED IS:	INSTALL MODULE:
32K	64K
64K	96K
96K	128K

- ENSURE THE CARD JUMPERS IF INSTALLED, ARE CORRECT.
- SEE MLD VOLUME ONE (1), LOGIC AXXXX.
- INSTALL THE PROCESSING UNIT CARD IN THE BOARD.
- POWER ON THE PROCESSING UNIT.
- RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?

N

- 035
- SEE IF ALL REMOVED STORAGE MODULE(S) ARE INSTALLED.

ARE ALL STORAGE MODULE(S) INSTALLED?

N

036  
GO TO STEP 034,  
ENTRY POINT LC.

- 037
- SEE IF THE SYSTEM IS REPAIRED.

IS THE SYSTEM REPAIRED?

N

038  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

- 039
- VERIFY THE REPAIR.

040 THE STORAGE MODULE JUST INSTALLED MAY BE BAD.

- POWER OFF THE PROCESSING UNIT.
- SEE THE MLD BINDER.
- SEE THE CORRECT PROCESSING UNIT MLD AXXXX.
- SEE LOGIC PAXXX.
- REMOVE THE PROCESSING UNIT CARD.
- EXCHANGE THE POSITION OF THE LAST STORAGE MODULE INSTALLED WITH THE POSITION OF THE 32K STORAGE MODULE.
- INSTALL THE PROCESSING UNIT CARD IN THE BOARD.
- POWER ON THE PROCESSING UNIT.
- RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?

Y  
N

- 041
- EXCHANGE THE FAILING STORAGE MODULE.
  - VERIFY THE REPAIR.

042 GO TO PAGE 32, STEP 232, ENTRY POINT PC.

043 THE 32K STORAGE MODULE INSTALLED MAY BE BAD.

- POWER OFF THE PROCESSING UNIT.
- REMOVE THE PROCESSING UNIT CARD.
- EXCHANGE A REMOVED STORAGE MODULE WITH THE 32K STORAGE MODULE NOW INSTALLED.
- INSTALL THE PROCESSING UNIT CARD IN THE BOARD.
- POWER ON THE PROCESSING UNIT.
- RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?

Y  
N

044 THE ORIGINAL 32K STORAGE MODULE THAT WAS REMOVED IS BAD.

- EXCHANGE THE 32K STORAGE MODULE THAT WAS REMOVED WITH A GOOD ONE.
- VERIFY THE REPAIR.

045 GO TO PAGE 32, STEP 232, ENTRY POINT PC.

- 046
- POWER OFF THE PROCESSING UNIT.
  - REMOVE THE PROCESSING UNIT CARD.
  - REMOVE THE STORAGE MODULE FROM THE CARD.
  - INSTALL A KNOWN GOOD STORAGE MODULE ON THE PROCESSING UNIT CARD.
  - INSTALL THE PROCESSING UNIT CARD.
  - POWER ON THE PROCESSING UNIT.
  - RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?

Y  
N

- 047
- THE REMOVED STORAGE MODULE IS BAD.
  - VERIFY THE REPAIR.

048 GO TO PAGE 32, STEP 232, ENTRY POINT PC.

049 A 4953 PROCESSING UNIT IS INSTALLED.

- SEE THE MLD BINDER.
- SEE THE CORRECT PROCESSING UNIT MLD AXXXX.
- SEE LOGIC PAXXX.
- IF ONLY ONE (1) STORAGE CARD IS INSTALLED ON THE SYSTEM.

IS ONLY ONE (1) STORAGE CARD INSTALLED?

Y  
N

Y  
6

050  
THERE IS MORE THAN ONE STORAGE CARD INSTALLED ON THE SYSTEM.

- POWER OFF THE PROCESSING UNIT.
- SEE THE MLD BINDER.
- SEE THE CORRECT PROCESSING UNIT MLD AXXXX.
- SEE LOGIC PAXXX.
- REMOVE ALL THE STORAGE CARDS BUT THE FIRST CARD FROM THE PROCESSING UNIT BOARD.
- INSTALL A JUMPER FROM PIN M11 TO PIN M12 IN THE CARD POSITION WHERE THE CARD WAS REMOVED OR UNSEATED.
- POWER ON THE PROCESSING UNIT.
- RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?

N

051  
(ENTRY POINT LA)

A REMOVED STORAGE CARD IS SUSPECT.

- POWER OFF THE PROCESSING UNIT.
- INSTALL A REMOVED STORAGE CARD AS FOLLOWS:

IF THE LAST CARD INSTALLED IS:	INSTALL STORAGE CARD:
16K	32K
32K	48K
48K	64K

- INSTALL THE STORAGE CARD IN THE BOARD AS NOTED.
- ENSURE THE CARD JUMPERS IF INSTALLED, ARE CORRECT.
- SEE MLD VOLUME ONE (1), LOGIC AXXXX.
- ENSURE THE JUMPER FROM PIN M11 TO PIN M12 IF INSTALLED, IS REMOVED IN THE CARD POSITION WHERE THE CARD IS SEATED.
- POWER ON THE PROCESSING UNIT.
- RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?

N

- 052
- SEE IF ALL REMOVED STORAGE CARDS ARE INSTALLED.

ARE ALL STORAGE CARD(S) INSTALLED?

N

053  
GO TO STEP 051,  
ENTRY POINT LA.

- 054
- SEE IF THE SYSTEM IS REPAIRED.

IS THE SYSTEM REPAIRED?

N

055  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

- 056
- VERIFY THE REPAIR.

057  
THE STORAGE CARD INSTALLED IS FAILING.  
- VERIFY THE REPAIR.

8

058  
THERE IS ONE STORAGE CARD INSTALLED AND  
THERE IS A FAILURE.

- POWER OFF THE PROCESSING UNIT.
- REMOVE THE INSTALLED STORAGE CARD.
- MARK IT AND SET IT TO ONE SIDE.
- INSTALL A REMOVED STORAGE CARD THAT IS NOT MARKED.
- POWER ON THE PROCESSING UNIT.
- RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?

N

059  
THE MARKED STORAGE CARD IS FAILING.  
- VERIFY THE REPAIR.

060  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

061  
THERE IS ONLY ONE STORAGE CARD INSTALLED.

- POWER OFF THE PROCESSING UNIT.
- REMOVE THE STORAGE CARD.
- INSTALL A KNOWN GOOD STORAGE CARD.
- POWER ON THE PROCESSING UNIT.
- RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?

N

062  
THE REMOVED STORAGE CARD IS FAILING.  
- VERIFY THE REPAIR.

063  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

- 064
- POWER OFF THE PROCESSING UNIT.
- POWER ON THE PROCESSING UNIT.

DISPLAY AND NOTE THE FOLLOWING:

- ENTER ON THE PROGRAMMER CONSOLE:
- 
- PRESS THE LEVEL SELECT KEY.
- PRESS THE AKR KEY.
- NOTE THE ADDRESS KEY REGISTER DISPLAYED IN THE DATA LEDS. THIS IS AKR\*.
- PRESS THE SAR KEY.
- NOTE THE STORAGE ADDRESS REGISTER DISPLAYED IN THE DATA LEDS. THIS IS SAR\*. NOTE BIT 14. THIS IS BIT 14\*.
- PRESS THE LEVEL SELECT KEY.
- PRESS THE REGISTER ZERO (0) KEY.
- NOTE THE EXPECTED DATA FROM STORAGE DISPLAYED IN THE DATA LEDS.
- PRESS THE REGISTER ONE (1) KEY.
- NOTE THE ACTUAL DATA FROM STORAGE DISPLAYED IN THE DATA LEDS.
- SEE IF THE ADDRESS KEY REGISTER IS '0000'.

IS THE ADDRESS KEY REGISTER '0000'?

N

065  
- SEE IF THE ADDRESS KEY REGISTER IS '0001'.

IS THE ADDRESS KEY REGISTER '0001'?

N

066  
- SEE IF THE ADDRESS KEY REGISTER IS '0002'.

IS THE ADDRESS KEY REGISTER '0002'?

N

067  
- SEE IF THE ADDRESS KEY REGISTER IS '0003'.

IS THE ADDRESS KEY REGISTER '0003'?

N

1 1 1 9 A  
X V 2 A B

A A  
8 8

495X CONSOLE MAP  
PAPER ONLY MAP  
PAGE 9 OF 32

MAP 2070-9

068  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

069  
THE ADDRESS KEY REGISTER IS '0003'.  
- SEE DATA FROM REGISTER ZERO (0), NOTED PREVIOUSLY.  
- SEE DATA FROM REGISTER ONE (1), NOTED PREVIOUSLY.  
- SEE IF DATA BITS 0 - 15 ARE EQUAL.

ARE THE DATA (BITS 0 - 15) EQUAL?  
N

070  
- SEE BITS 0 - 7 FROM REGISTER ZERO (0).  
- SEE BITS 0 - 7 FROM REGISTER ONE (1).  
- SEE IF THE BITS ARE EQUAL.

ARE BITS 0 - 7 EQUAL?  
N

071  
BITS 0 - 7 ARE NOT EQUAL.  
- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?  
N

072  
THE ADDRESS KEY REGISTER IS '0003', WITH BIT 14 OFF.  
MODULE 'D' IS SUSPECT.  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

073  
THE ADDRESS KEY REGISTER IS '0003', WITH BIT 14 ON.  
MODULE 'C' IS SUSPECT.  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

074  
BITS 0 - 7 ARE EQUAL.  
- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?  
N

075  
THE ADDRESS KEY REGISTER IS '0003', WITH BIT 14 OFF.  
MODULE 'E' IS SUSPECT.  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

076  
THE ADDRESS KEY REGISTER IS '0003', WITH BIT 14 ON.  
MODULE 'F' IS SUSPECT.  
GO TO PAGE 13, STEP 111, ENTRY POINT MR.

077  
THE ADDRESS KEY REGISTER IS '0003'.  
- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?  
N

078  
THE ADDRESS KEY REGISTER IS '0003', WITH BIT 14 OFF.  
MODULE 'D' IS SUSPECT.  
MODULE 'E' IS SUSPECT.  
GO TO PAGE 22, STEP 164, ENTRY POINT TM.

079  
THE ADDRESS KEY REGISTER IS '0003', WITH BIT 14 ON.  
MODULE 'C' IS SUSPECT.  
MODULE 'F' IS SUSPECT.  
GO TO PAGE 22, STEP 164, ENTRY POINT TM.

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EC466795 PEC987889  
MAP 2070-9

Z  
8

495X CONSOLE MAP  
PAPER ONLY MAP  
PAGE 10 OF 32

MAP 2070-10

080  
THE ADDRESS KEY REGISTER IS '0002'.  
- SEE DATA FROM REGISTER ZERO (0), NOTED  
PREVIOUSLY.  
- SEE DATA FROM REGISTER ONE (1), NOTED  
PREVIOUSLY.  
- SEE IF DATA BITS 0 - 15 ARE EQUAL.

ARE THE DATA (BITS 0 - 15) EQUAL?

N

081  
- SEE BITS 0 - 7 FROM REGISTER ZERO (0).  
- SEE BITS 0 - 7 FROM REGISTER ONE (1).  
- SEE IF THE BITS ARE EQUAL.

ARE BITS 0 - 7 EQUAL?

N

082  
BITS 0 - 7 ARE NOT EQUAL.  
- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?

N

083  
THE ADDRESS KEY REGISTER IS '0002', WITH  
BIT 14 OFF.

MODULE '9' IS SUSPECT.  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

084  
THE ADDRESS KEY REGISTER IS '0002', WITH  
BIT 14 ON.

MODULE '8' IS SUSPECT.  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

085  
BITS 0 - 7 ARE EQUAL.

- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?

N

086  
THE ADDRESS KEY REGISTER IS '0002', WITH  
BIT 14 OFF.

MODULE 'A' IS SUSPECT.  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

087  
THE ADDRESS KEY REGISTER IS '0002', WITH BIT  
14 ON.

MODULE 'B' IS SUSPECT.  
GO TO PAGE 13, STEP 111, ENTRY POINT MR.

088  
THE ADDRESS KEY REGISTER IS '0002'.

- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?

N

089  
THE ADDRESS KEY REGISTER IS '0002', WITH BIT  
14 OFF.

MODULE '9' IS SUSPECT.  
MODULE 'A' IS SUSPECT.  
GO TO PAGE 22, STEP 164, ENTRY POINT TM.

090  
THE ADDRESS KEY REGISTER IS '0002', WITH BIT  
14 ON.

MODULE '8' IS SUSPECT.  
MODULE 'B' IS SUSPECT.  
GO TO PAGE 22, STEP 164, ENTRY POINT TM.

20NOV81 PN6838186  
EC466795 PEC987889  
MAP 2070-10

Y  
8

495X CONSOLE MAP  
PAPER ONLY MAP  
PAGE 11 OF 32

MAP 2070-11

091  
THE ADDRESS KEY REGISTER IS '0001'.  
- SEE DATA FROM REGISTER ZERO (0), NOTED  
PREVIOUSLY.  
- SEE DATA FROM REGISTER ONE (1), NOTED  
PREVIOUSLY.  
- SEE IF DATA BITS 0 - 15 ARE EQUAL.  
ARE THE DATA (BITS 0 - 15) EQUAL?  
N

092  
- SEE BITS 0 - 7 FROM REGISTER ZERO (0).  
- SEE BITS 0 - 7 FROM REGISTER ONE (1).  
- SEE IF THE BITS ARE EQUAL.

ARE BITS 0 - 7 EQUAL?  
N

093  
BITS 0 - 7 ARE NOT EQUAL.  
- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?  
N

094  
THE ADDRESS KEY REGISTER IS '0001', WITH  
BIT 14 OFF.  
MODULE '5' IS SUSPECT,  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

095  
THE ADDRESS KEY REGISTER IS '0001', WITH  
BIT 14 ON.

MODULE '4' IS SUSPECT,  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

096  
BITS 0 - 7 ARE EQUAL.  
- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?  
N

097  
THE ADDRESS KEY REGISTER IS '0001', WITH  
BIT 14 OFF.

MODULE '6' IS SUSPECT,  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

098  
THE ADDRESS KEY REGISTER IS '0001', WITH BIT  
14 ON.

MODULE '7' IS SUSPECT,  
GO TO PAGE 13, STEP 111, ENTRY POINT MR.

099  
THE ADDRESS KEY REGISTER IS '0001'.  
- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?  
N

100  
THE ADDRESS KEY REGISTER IS '0001', WITH BIT  
14 OFF.

MODULE '5' IS SUSPECT,  
MODULE '6' IS SUSPECT,  
GO TO PAGE 22, STEP 164, ENTRY POINT TM.

101  
THE ADDRESS KEY REGISTER IS '0001', WITH BIT  
14 ON.

MODULE '4' IS SUSPECT,  
MODULE '7' IS SUSPECT,  
GO TO PAGE 22, STEP 164, ENTRY POINT TM.

20NOV81 PN6838186  
EC466795 PEC987889  
MAP 2070-11

102  
THE ADDRESS KEY REGISTER IS '0000'.

- SEE DATA FROM REGISTER ZERO (0), NOTED PREVIOUSLY.
- SEE DATA FROM REGISTER ONE (1), NOTED PREVIOUSLY.
- SEE IF DATA BITS 0 - 15 FROM REG 0 ARE EQUAL TO DATA BITS 0 - 15 FROM REG 1.

IF THE BITS ARE EQUAL, ANSWER THE QUESTION YES.  
IF THE BITS ARE NOT EQUAL, ANSWER THE QUESTION NO.

ARE THE DATA (BITS 0 - 15) EQUAL?  
N

103  
DATA BITS 0 - 15 ARE NOT EQUAL.

- SEE BITS 0 - 7 FROM REGISTER ZERO (0).
- SEE BITS 0 - 7 FROM REGISTER ONE (1).
- SEE IF DATA BITS 0 - 7 FROM REG 0 ARE EQUAL TO DATA BITS 0 - 7 FROM REG 1.

ARE BITS 0 - 7 EQUAL?  
N

104  
BITS 0 - 7 ARE NOT EQUAL.  
- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?  
N

105  
THE ADDRESS KEY REGISTER IS '0000', WITH BIT 14 OFF.

MODULE '1' IS SUSPECT.  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

106  
THE ADDRESS KEY REGISTER IS '0000', WITH BIT 14 ON.

MODULE '0' IS SUSPECT.  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

107  
BITS 0 - 7 ARE EQUAL.

- SEE BIT 14 FROM THE SAR.

IS BIT 14 ON?  
N

108  
THE ADDRESS KEY REGISTER IS '0000', WITH BIT 14 OFF.

MODULE '2' IS SUSPECT.  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

109  
THE ADDRESS KEY REGISTER IS '0000', WITH BIT 14 ON.

MODULE '3' IS SUSPECT.  
- NOTE THIS SUSPECT MODULE.

IS THE MODULE NOTED?  
N

110  
- NOTE THE MODULE AND:  
GO TO PAGE 13, STEP 111,  
ENTRY POINT MR.

A  
D  
Z

11  
(ENTRY POINT MR)

- POWER OFF THE PROCESSING UNIT.
- REMOVE THE SUSPECT MODULE.
- EXCHANGE THE SUSPECT MODULE AS SEEN IN THE CHART
- ENSURE THE JUMPER(S) ARE CORRECT (SEE A4XXX).

SUSPECT MODULE IS:	SWAP MODULE POSITION
0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z	0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

- POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED.  
AFTER FIFTEEN (15) SECONDS, THE POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON,  
THE CONSOLE IS SILENT (NO SOUND).

DID THE SYSTEM 'POWER ON' CORRECT?

N

- SEE IF THIS FAILURE IS THE SAME AS THE ORIGINAL FAILURE.

IF NEEDED:  
COMPARE THE AKR.  
COMPARE THE SAR.  
COMPARE THE CONTENTS OF RO.  
COMPARE THE CONTENTS OF RI.

IS THIS FAILURE THE SAME AS THE ORIGINAL FAILURE?

N

113  
THE ORIGINAL SUSPECT MODULE IS BAD AS NOTED.

ORIGINAL SUSPECT MODULE:	EXCHANGE MODULE IN POSITION:
0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z	0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

(STEP 113 CONTINUES)

STORAGE CARD MODULE AND JUMPER LOCATIONS.

		64K	128K	192K	256K
	IXI	3	7	B	F
TOP	IXI	2	6	A	E
OF	* 0 0 0	1	4	7	1
CARD	IXI	1	5	9	D
	IXI	0	4	8	C

64K	128K	192K	256K
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0

\* SEE LOGICS A4XXX FOR JUMPER LOCATIONS.

2  
1  
4  
A  
E



- 16  
 THE INSTALLED STORAGE MODULES ARE SUSPECT.
- REMOVE THE MODULE FROM POSITION ZERO (0).
  - MARK THIS MODULE AND SET IT TO ONE SIDE. IT IS SUSPECT.
  - INSTALL ONE OF THE REMOVED MODULES IN POSITION ZERO (0).
  - POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED. AFTER FIFTEEN (15) SECONDS, THE POWER ON GOOD INDICATORS ARE:				
TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF
THE POWER ON LED IS ON, THE CONSOLE IS SILENT (NO SOUND).				

STORAGE CARD MODULE AND JUMPER LOCATIONS.

		64K	128K	192K	256K
	IXI	3	7	B	F
TOP	IXI	2	6	A	E
OF	* 0 0 0	1	5	9	D
CARD	0 0 0	1	5	9	D
	IXI	0	4	8	C

64K	128K	192K	256K
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0

\* SEE LOGICS A4XXX FOR JUMPER LOCATIONS.

DID THE SYSTEM 'POWER ON' CORRECT?

- 117
- REMOVE THE MODULE FROM POSITION ONE (1).
  - MARK THIS MODULE AND SET IT TO ONE SIDE. IT IS SUSPECT.
  - INSTALL ONE OF THE REMOVED MODULES IN POSITION ONE (1).
  - POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED. AFTER FIFTEEN (15) SECONDS, THE POWER ON GOOD INDICATORS ARE:				
TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF
THE POWER ON LED IS ON, THE CONSOLE IS SILENT (NO SOUND).				

DID THE SYSTEM 'POWER ON' CORRECT?

K  
L  
M

A  
K  
5  
A  
L  
5  
M  
5

- 118 REMOVE THE MODULE FROM POSITION TWO (2).
- MARK THIS MODULE AND SET IT TO ONE SIDE.
- IT IS SUSPECT
- INSTALL ONE OF THE REMOVED MODULES IN POSITION TWO (2).
- POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED.  
AFTER FIFTEEN (15) SECONDS, THE  
POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON,  
THE CONSOLE IS SILENT (NO SOUND).

DID THE SYSTEM 'POWER ON' CORRECT?  
N

- 119 REMOVE THE MODULE FROM POSITION THREE (3).
- MARK THIS MODULE AND SET IT TO ONE SIDE.
- IT IS SUSPECT
- INSTALL ONE OF THE REMOVED MODULES IN POSITION THREE (3).
- POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED.  
AFTER FIFTEEN (15) SECONDS, THE  
POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON,  
THE CONSOLE IS SILENT (NO SOUND).

DID THE SYSTEM 'POWER ON' CORRECT?  
N

120 GO TO PAGE 20, STEP 148,  
ENTRY POINT ST.

- 21 THE MODULE REMOVED FROM POSITION THREE (3) IS BAD.
- VERIFY THE REPAIR.

- 22 THE MODULE REMOVED FROM POSITION TWO (2) IS BAD.
- VERIFY THE REPAIR.

- 23 THE MODULE REMOVED FROM POSITION ONE (1) IS BAD.
- VERIFY THE REPAIR.

- 24 THE MODULE REMOVED FROM POSITION ZERO (0) IS BAD.
- VERIFY THE REPAIR.

25  
 (ENTRY POINT ML)

- REMOVE THE MODULE FROM POSITION ZERO (0).
- MARK THIS MODULE AND SET IT TO ONE SIDE.
- INSTALL ONE OF THE REMOVED MODULES THAT HAS NOT BEEN TESTED IN POSITION ZERO (0).
- POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED. AFTER FIFTEEN (15) SECONDS THE POWER ON GOOD INDICATORS ARE:				
TYPE	DATA LEDS	STOP LED	LEVEL LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF
THE POWER ON LED IS ON, THE CONSOLE IS SILENT (NO SOUND).				

STORAGE CARD MODULE AND JUMPER LOCATIONS.

		64K	128K	192K	256K
	IXI	3	7	B	F
T O P	IXI	2	6	A	E
O F	* 0 0 0 0 0 0				
C A R D	IXI	1	5	9	D
	IXI	0	4	8	C

64K	128K	192K	256K
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0

\* SEE LOGICS A4XXX FOR JUMPER LOCATIONS.

DID THE SYSTEM 'POWER ON' CORRECT?

126  
 THE MODULE IN POSITION ZERO (0) IS BAD.

- NOTE
- ENSURE THE CARD JUMPERS ARE CORRECT.
  - ENSURE THE CONFIGURATION TABLE IS CORRECT.
  - VERIFY THE REPAIR.

27  
 - SEE IF ALL REMOVED MODULES HAVE BEEN TESTED USING POSITION ZERO.

HAVE ALL MODULES HAVE BEEN TESTED USING POSITION ZERO?

128  
 GO TO STEP 125, ENTRY POINT ML.

- 129  
 - POWER OFF THE PROCESSING UNIT.  
 - INSTALL ALL REMOVED MODULES.  
 - ENSURE THE STORAGE CARD JUMPER IS CORRECT.  
 - POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED.  
 AFTER FIFTEEN (15) SECONDS, THE  
 POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL O LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON,  
 THE CONSOLE IS SILENT (NO SOUND).

STORAGE CARD MODULE AND JUMPER LOCATIONS.

		64K	128K	192K	256K
	IXI	[3]	[7]	[B]	[F]
TOP	IXI	[2]	[6]	[A]	[E]
OF	* 0 0 0	[1]	[4]	[9]	[D]
CARD	IXI	[1]	[5]	[9]	[D]
	IXI	[0]	[4]	[8]	[C]

64K	128K	192K	256K
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0

\* SEE LOGICS A4XXX FOR JUMPER LOCATIONS.

DID THE SYSTEM 'POWER ON' CORRECT?

- N  
 130  
 GO TO PAGE 20, STEP 148, ENTRY POINT ST.

- 131  
 - ENSURE THE DISKETTE UNIT IS READY.  
 - PRESS THE LOAD KEY.

WAIT FOR A MESSAGE AS FOLLOWS:

IF USING A PRINTER OR DISPLAY:  
 'RDY ENTER'

IF USING A PROGRAMMER OR C E CONSOLE:  
 '3800' IN THE DATA LEDS.

IS THERE A RDY ENTER (3800) MESSAGE AS NOTED?

- N  
 132  
 GO TO MAP 0070, ENTRY POINT A.

- 133  
 - ENTER ON THE ALTERNATE CONSOLE:  
 - B2000 ENTER OR RETURN

- WAIT FIFTEEN (15) MINUTES FOR AN ERROR  
 MESSAGE OR UNTIL THE TEST IS COMPLETE.

IS THERE AN ERROR MESSAGE?

- N  
 134  
 - SEE IF THE SYSTEM IS REPAIRED.

IS THE SYSTEM REPAIRED?

- N  
 135  
 GO TO PAGE 20, STEP 148,  
 ENTRY POINT ST.

- 136  
 - VERIFY THE REPAIR.

- ENTER ON THE PROGRAMMER CONSOLE:

{D} B2000 {I} (I)

WAIT FOR 2XXX IN THE DATA LEDS, WITH THE RUN  
 LED OFF.

137  
- SEE THE NOTE ---->  
- FOLLOW THE ERROR MESSAGE INSTRUCTIONS.

IS THE SYSTEM REPAIRED?

N

138  
GO TO PAGE 20, STEP 148,  
ENTRY POINT 51.

139  
- VERIFY THE REPAIR.

40  
ONE OF THE FOUR (4) MODULES IS SUSPECT.

- POWER OFF THE PROCESSING UNIT.
- REMOVE THE MODULE FROM POSITION ZERO (0).
- MARK THIS MODULE AND SET IT TO ONE SIDE.
- INSTALL A KNOWN GOOD MODULE IN POSITION ZERO (0).
- POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED.  
AFTER FIFTEEN (15) SECONDS, THE  
POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON,  
THE CONSOLE IS SILENT (NO SOUND).

- IF PROGRAMMER OR C E CONSOLE:

DATA LEDS = MAP NUMBER  
REGISTER ZERO (0) = STEP NUMBER

STORAGE CARD MODULE AND JUMPER LOCATIONS.

		64K	128K	192K	256K
	IXI	3	7	B	F
TOP	IXI	2	6	A	E
OF * 0 0 0		1	4	8	C
0 0 0		1	5	9	D
CARD	IXI	1	5	9	D
	IXI	0	4	8	C

64K	128K	192K	256K
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0

\* SEE LOGICS A4XXX FOR JUMPER LOCATIONS.

DID THE SAME FAILURE OCCUR?

N

141  
THE MODULE IN POSITION ZERO (0) IS BAD.  
- VERIFY THE REPAIR.

42

- POWER OFF THE PROCESSING UNIT.
- REMOVE THE MODULE FROM POSITION ONE (1).
- MARK THIS MODULE AND SET IT TO ONE SIDE.
- INSTALL THE REMOVED MODULE INTO POSITION ONE (1).
- POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED.  
AFTER FIFTEEN (15) SECONDS, THE  
POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON,  
THE CONSOLE IS SILENT (NO SOUND).

DID THE SAME FAILURE OCCUR?

N

143  
THE MODULE IN POSITION ONE (1) IS BAD.  
- VERIFY THE REPAIR.

- 144  
 - POWER OFF THE PROCESSING UNIT.  
 - REMOVE THE MODULE FROM POSITION TWO (2).  
 - MARK THIS MODULE AND SET IT TO ONE SIDE.  
 - INSTALL THE REMOVED MODULE INTO POSITION TWO (2).  
 - POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED.  
 AFTER FIFTEEN (15) SECONDS, THE  
 POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON,  
 THE CONSOLE IS SILENT (NO SOUND).

DID THE SAME FAILURE OCCUR?

- N  
 145  
 - THE MODULE IN POSITION TWO (2) IS BAD.  
 - VERIFY THE REPAIR.

- 146  
 - POWER OFF THE PROCESSING UNIT.  
 - REMOVE THE MODULE FROM POSITION THREE (3).  
 - MARK THIS MODULE AND SET IT TO ONE SIDE.  
 - INSTALL THE REMOVED MODULE INTO POSITION THREE (3).  
 - POWER ON THE PROCESSING UNIT.

- SEE THE MLD BINDER.  
 - VERIFY THE CORRECT PROCESSING UNIT MLD AXXXX.  
 - VERIFY LOGIC PAXXX.

SEE THE PROCESSING UNIT INSTALLED.  
 AFTER FIFTEEN (15) SECONDS, THE  
 POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON,  
 THE CONSOLE IS SILENT (NO SOUND).

DID THE SAME FAILURE OCCUR?

- N  
 147  
 - THE MODULE IN POSITION THREE (3) IS BAD.  
 - VERIFY THE REPAIR.

- 48  
 (ENTRY POINT ST)  
 - SEE IF THE STORAGE CARD HAS BEEN EXCHANGED PREVIOUSLY.

HAS THE STORAGE CARD BEEN EXCHANGED PREVIOUSLY?

- N  
 149  
 - SEE THE NOTE --->  
 - POWER OFF THE PROCESSING UNIT.  
 - REMOVE THE STORAGE CARD.

- NOTE  
 - ENSURE THE CARD JUMPERS ARE CORRECT.  
 - ENSURE THE CONFIGURATION TABLE IS CORRECT.

IF MODULES ARE INSTALLED ON THE CARD:

- REMOVE THE MODULES FROM THE OLD CARD AND  
 - INSTALL THEM ON THE NEW CARD.  
 - ENSURE JUMPERS ARE CORRECT, IF INSTALLED.  
 - INSTALL THE STORAGE CARD.  
 - POWER ON THE PROCESSING UNIT.  
 - RUN THE FAILING DIAGNOSTIC, IF NEEDED TO  
 - SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?

Y  
 N

2  
 2  
 2  
 T  
 A  
 S  
 T





167

THE BAD MODULE IS THE MODULE INSTALLED IN THE POSITION NOTED IN THE CHART.

- POWER OFF THE PROCESSING UNIT.

IF THE MODULES SWAPPED WERE:	EXCHANGE MODULE IN POSITION:
0 AND 1	0
4 AND 5	4
8 AND 9	8
C AND D	C

- VERIFY THE REPAIR.

168

THE BAD MODULE IS THE MODULE INSTALLED IN THE POSITION NOTED IN THE CHART.

- POWER OFF THE PROCESSING UNIT.

IF THE MODULES SWAPPED WERE:	EXCHANGE MODULE IN POSITION:
0 AND 1	1
4 AND 5	5
8 AND 9	9
C AND D	D

- VERIFY THE REPAIR.

169

- POWER OFF THE PROCESSING UNIT.

ORIGINAL SUSPECT MODULES ARE:	SWAP MODULE POSITION
0 AND 3 1 AND 2	2 WITH 3
4 AND 7 5 AND 6	6 WITH 7
8 AND B 9 AND A	A WITH B
C AND E D AND F	E WITH F

- EXCHANGE THE MODULE POSITIONS AS SHOWN IN THE CHART.  
 - POWER ON THE PROCESSING UNIT.

SEE THE PROCESSING UNIT INSTALLED. AFTER FIFTEEN (15) SECONDS, THE POWER ON GOOD INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	FFFF	ON	ON	OFF
4954	FFFF	ON	OFF	OFF
4955	FFFF	ON	OFF	OFF

THE POWER ON LED IS ON, THE CONSOLE IS SILENT (NO SOUND).

DID THE SYSTEM 'POWER ON' CORRECT?

Y  
N  
  
2  
4  
A  
Z

STORAGE CARD MODULE AND JUMPER LOCATIONS.

	64K	128K	192K	256K
IXI	3	7	B	F
IXI	2	6	A	E
IXI	1	5	9	D
IXI	0	4	8	C

64K	128K	192K	256K
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0
0 0 0	0 0 0	0 0 0	0 0 0

\* SEE LOGICS A4XXX FOR JUMPER LOCATIONS.

M 4  
A  
B  
C  
D  
E  
F

- 70  
DISPLAY AND NOTE THE FOLLOWING:
- ENTER ON THE PROGRAMMER CONSOLE:
  - PRESS THE LEVEL SELECT KEY.
  - PRESS THE AKR KEY.
- THE ADDRESS KEY REGISTER IS DISPLAYED IN THE DATA LEDS.
- PRESS THE SAR KEY.
- THE STORAGE ADDRESS REGISTER IS DISPLAYED IN THE DATA LEDS.
- NOTE BIT 14 (THIS IS BIT 14\*\*\*).
  - COMPARE BIT 14\*\*\* WITH BIT 14\* NOTED PREVIOUSLY.

IS BIT 14\*\*\* THE SAME AS BIT 14\*?

N

- 171  
- NOTE BIT 14\*\*\*.

IS BIT 14\*\*\* OFF?

N

172  
THE BAD MODULE IS THE MODULE INSTALLED IN THE POSITION NOTED IN THE CHART.

- POWER OFF THE PROCESSING UNIT.

IF THE MODULES SWAPPED WERE:	EXCHANGE MODULE IN POSITION:
2 AND 3	3
6 AND 7	7
A AND B	B
E AND F	F

- VERIFY THE REPAIR.

73  
THE BAD MODULE IS THE MODULE INSTALLED IN THE POSITION NOTED IN THE CHART.

- POWER OFF THE PROCESSING UNIT.

IF THE MODULES SWAPPED WERE:	EXCHANGE MODULE IN POSITION:
2 AND 3	2
6 AND 7	6
A AND B	A
E AND F	E

- VERIFY THE REPAIR.

74  
GO TO PAGE 14, STEP 114, ENTRY POINT M1.

75  
THERE MAY HAVE BEEN A STORAGE MODULE SEATING PROBLEM.  
THE PROBLEM IS NOT ON THE SYSTEM.  
- VERIFY THE REPAIR.

76  
THERE MAY HAVE BEEN A STORAGE MODULE SEATING PROBLEM.  
THE PROBLEM IS NOT ON THE SYSTEM.  
- VERIFY THE REPAIR.

77  
GO TO MAP 2072, ENTRY POINT A.

A L  
I 4

178  
- ENTER ON THE ALTERNATE CONSOLE:  
- B2000 ENTER OR RETURN  
- WAIT FIFTEEN (15) MINUTES FOR THE ERROR MESSAGE.

- ENTER ON THE PROGRAMMER CONSOLE:

{D} 2000 {I} (I)

WAIT FOR 2XXX IN THE DATA LEDS, WITH THE RUN LED OFF.

IS THERE AN ERROR MESSAGE?

N

179  
GO TO PAGE 4, STEP 029,  
ENTRY POINT PR.

180  
- SEE THE NOTE ---->  
- FOLLOW THE ERROR MESSAGE INSTRUCTIONS.

IF A PROGRAMMER OR C E CONSOLE:

DATA LEDS = MAP NUMBER  
REGISTER ZERO (0) = STEP NUMBER

IS THE SYSTEM REPAIRED?

N

181  
GO TO PAGE 4, STEP 029,  
ENTRY POINT PR.

182  
- VERIFY THE REPAIR.

183  
(ENTRY POINT RK)

- SEE THE DATA LEDS.
- WHEN THE RESET KEY IS PRESSED, LISTEN FOR THE CONSOLE AUDIBLE DEVICE TO SOUND.
- WHEN THE RESET KEY IS RELEASED, LISTEN FOR THE CONSOLE AUDIBLE DEVICE TO STOP AND THE DATA LEDS TO EQUAL '0000'.
- PRESS AND RELEASE THE RESET KEY.

SEE THE PROCESSING UNIT INSTALLED.  
AFTER FIFTEEN (15) SECONDS, THE INDICATORS ARE:

TYPE	DATA LEDS	STOP LED	LEVEL 0 LED	OTHER LEDS
495X	0000	ON	ON	OFF
4954	0000	ON	OFF	OFF
4955	0000	ON	OFF	OFF

THE POWER ON LED IS ON  
THE CONSOLE IS SILENT (NO SOUND).

DID THE RESET KEY CAUSE ALL THE ABOVE?

N

184  
THE RESET KEY OR AUDIBLE DEVICE IS SUSPECT.

DID THE RESET KEY CAUSE AN AUDIBLE?

N

185  
- SEE THE DATA LEDS.

DO THE DATA LEDS EQUAL '0000' ?

N

186  
- ENTER ON THE CONSOLE:  
- PRESS AND RELEASE A DATA KEY.

IS THE CONSOLE AUDIBLE?

N

187  
- TEST ROWS TO COLUMNS FOR A SHORT.  
GO TO MAP 1072, ENTRY POINT RC.

IF NO REPAIR,  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

2  
B  
C  
D  
E

UNIVAC  
UNIVAC  
UNIVAC

188  
- TEST THE RESET KEY FOR AN OPEN.

PROCESSING UNIT IS:	GO TO MAP:
495X 4954	1071; ENTRY POINT A: 1072; ENTRY POINT A:
IF NO REPAIR: GO TO MAP 2070, ENTRY POINT PC.	

189  
- TEST THE CONSOLE AUDIBLE DEVICE.

PROCESSING UNIT IS:	GO TO MAP:
495X 4954	1071; ENTRY POINT A: 1072; ENTRY POINT A:
IF NO REPAIR: GO TO MAP 2070, ENTRY POINT PC.	

190  
LISTEN TO THE CONSOLE.

- SEE IF THE AUDIBLE STOPPED AFTER THE RESET  
KEY WAS RELEASED.

DID THE AUDIBLE STOP?

191  
THE INTERRUPT OR STORE KEY IS SUSPECT.

- TEST THE FOLLOWING:  
THE INTERRUPT KEY.  
THE STORE KEY.

PROCESSING UNIT IS:	GO TO MAP:
495X 4954	1071; ENTRY POINT A: 1072; ENTRY POINT A:
IF NO REPAIR: GO TO MAP 2070, ENTRY POINT PC.	

192  
- SEE THE DATA LEDS.

DO THE DATA LEDS EQUAL '0000'?

193  
- SEE THE DATA LEDS.

DO THE DATA LEDS EQUAL '00E0' OR '00E5'?

194  
- SEE THE STOP AND POWER ON LEDS.

ARE THE STOP AND POWER ON LEDS ON?

195  
- SEE THE DATA LEDS.  
- SEE IF ONE AND ONLY ONE DATA LED IS  
ON.

IS ONE AND ONLY ONE DATA LED ON?

196  
- TEST THE RESET KEY.

PROCESSING UNIT IS:	GO TO MAP:
495X 4954	1071; ENTRY POINT A: 1072; ENTRY POINT A:
IF NO REPAIR: GO TO MAP 2070, ENTRY POINT PC.	

2 2 2 2  
P B G R J

UNDO  
UNDO  
UNDO  
UNDO  
UNDO

495X CONSOLE MAP  
PAPER ONLY MAP  
PAGE 27 OF 32

MAP 2070-27

197  
THE DATA LED ON IS SUSPECT.  
- TEST THE LED THAT IS ON.

PROCESSING UNIT IS:	GO TO MAP:
495X 4954	1071; ENTRY POINT A. 1072; ENTRY POINT A.
IF NO REPAIR: GO TO MAP 2070, ENTRY POINT PC.	

198  
GO TO PAGE 4, STEP 029,  
ENTRY POINT PR.

199  
- POWER OFF THE PROCESSING UNIT.  
- TEST THE RESET KEY AND THE LOAD KEY FOR  
A SHORT.

PROCESSING UNIT IS:	GO TO MAP:
495X 4954	1071; ENTRY POINT A. 1072; ENTRY POINT A.
IF NO REPAIR: GO TO MAP 2070, ENTRY POINT PC.	

200  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

201  
- PRESS THE LOAD KEY.  
- SEE IF THE LOAD LED GOES ON AND REMAINS ON.

DID THE LOAD LED GO ON AND REMAIN ON?  
N

202  
- SEE IF THE LOAD LED FLASHED ON AND OFF.

DID THE LOAD LED FLASH ON AND OFF?  
N

203  
- SEE IF THE LOAD KEY CAUSES AN AUDIBLE.  
- PRESS THE LOAD KEY.

DID THE LOAD KEY CAUSE AN AUDIBLE?  
N

204

CHECK THE LOAD KEY.	
IF THE PROCESSING UNIT IS:	GO TO MAP:
4954 495X	1072; ENTRY POINT A. 1071; ENTRY POINT A.

IF NO REPAIR:  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

205

CHECK THE LOAD LED.	
IF THE PROCESSING UNIT IS:	GO TO MAP:
4954 495X	1072; ENTRY POINT A. 1071; ENTRY POINT A.

IF NO REPAIR:  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

UNDO  
UNDO

206 - ENSURE THE MODE AND SELECT SWITCHES ARE CORRECT.

IF THE MODE AND SELECT SWITCHES ARE CORRECT:  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

207 - PRESS THE RESET KEY.  
- ENSURE THE DIAGNOSTIC DISKETTE IS INSTALLED.  
- ENSURE THE DISKETTE UNIT IS READY.  
- PRESS THE MODE AND SELECT SWITCHES ARE CORRECT.  
- PRESS THE LOAD KEY.  
- WAIT ONE MINUTE.

WAIT FOR A MESSAGE AS FOLLOWS:  
'RDY ENTER'

IF USING A PROGRAMMER OR C E CONSOLE:  
-----  
DATA LEDS = 3800  
3800 = RDY ENTER

IS THERE A RDY ENTER MESSAGE AS NOTED?

N  
208 (ENTRY POINT PW)

- SEE THE DATA LEDS.  
THESE ARE PROCESSING UNIT STOPS:

0E00  
0E05

DO THE DATA LEDS EQUAL ANY OF THE ABOVE ?

N  
209 - SEE THE DATA LEDS.

THESE ARE IPL STOPS:

00E0  
00E5

DO THE DATA LEDS EQUAL ANY OF THE ABOVE ?

N  
210 - SEE THE DATA LEDS.

THESE ARE STOPS IF YOU CANNOT IPL THE DISKETTE.

006A  
EEEE (FLASHING)

DO THE DATA LEDS EQUAL ANY OF THE ABOVE

N  
211 - SEE THE DATA LEDS.

THIS IS A NOT EXPECTED INTERRUPT:

0260

DO THE DATA LEDS EQUAL THIS VALUE ?

3-1-82  
3-1-82  
3-1-82  
3-1-82  
3-1-82  
3-1-82

0200B

12  
(ENTRY POINT DL)

- SEE THE DATA LEDS.

THESE ARE PROCESSING UNIT STOPS:

- 0006 --- ERROR IN PROCESSING UNIT TEST
- 0232 --- MACHINE CHECK
- 0234 --- PROGRAM CHECK
- 0236 --- SUPERVISOR CALL
- 0238 --- POWER THERMAL WARNING
- 023A --- TRACE
- 023C --- A SOFT EXCEPTION
- 023E --- CLOCK
- 0240 --- A CLASS INTERRUPT (NOT KNOWN)
- 03EA --- ERROR IN PROCESSING UNIT TEST
- 0416 --- ERROR IN PROCESSING UNIT TEST

FOR ALL THE ABOVE CLASS INTERRUPT PROCESSING UNIT STOPS (0232 - 0240), THE LSB START ADDRESS IS AT HEXADECIMAL '0240'.

DO THE DATA LEDS EQUAL ANY OF THE ABOVE?

N

213  
- SEE THE DATA LEDS.

THESE ARE A LOST INTERRUPT FROM THE IPL SOURCE.

2070  
2071

DO THE DATA LEDS EQUAL ANY OF THE ABOVE?

N

214  
- SEE THE DATA LEDS.

THESE ARE IPL SOURCE ERRORS:

- 0330 \* INTERRUPT CONDITION CODE ERROR FROM THE IPL SOURCE.  
THE RETRY NUMBER EQUALS ZERO (0).  
% CYCLE STEAL STATUS IS AT '0240'.  
02 STATUS WORDS IF A 4964.  
13 STATUS WORDS IF A 4966.
- 0338 - NOT EXPECTED INTERRUPT IPL SOURCE
- 0346 - NOT CORRECT DEVICE ADDRESS FROM INTERRUPT IS IN REGISTER 7.
- 037E \* RECALIBRATE OIO INSTRUCTION ERROR
- 0392 \* SEEK/READ OIO INSTRUCTION ERROR.
- 0A6C \* INITIAL IPL INTERRUPT ERROR.
- 0AB0 \* OIO TO READ DEVICE ID NOT CORRECT
- 0ACA - READ DEVICE ID WAS NOT CORRECT.  
RECEIVE ID DATA AT ADDRESS '026E'
- 0B0A \* OIO INSTRUCTION TO PREPARE ERROR.
- 0B1A \* READ DIAGNOSE INSTRUCTION ERROR.
- 0B2C - AN ERROR IN THE FIRST CHECKSUM.

- 0B3C --- AN ERROR IN THE SECOND CHECKSUM.  
THE FOLLOWING ARE 4964 ONLY.
- 0B4C \* DIAGNOSE DATA BYTE 11 NOT '00'.
- 0B58 \* DIAGNOSE DATA WORD 6 NOT '6E00'.  
+ THE FOLLOWING ARE 4966 ONLY.
- 0B6A \* AN ERROR IN THE THIRD CHECKSUM.
- 0B7A \* AN ERROR IN THE COMPLEMENT STATUS.
- 0B84 \* DIAGNOSE DATA WORD 08 NOT '0000'.
- 0B8E \* DIAGNOSE DATA WORD 09 NOT '0000'.
- 0B98 \* DIAGNOSE DATA WORD 10 NOT '0000'.
- 0BA8 \* OIO INSTRUCTION TO RECALIBRATE
- 0BB2 --- THE ODB ADDRESS IN REGISTER ONE (1)  
IS NOT CORRECT.
- 0BC2 \* AN OIO INSTRUCTION TO SEEK
- 0BD4 \* OIO INSTRUCTION TO READ SECTOR ID.
- 0C22 --- IPL READ SECTOR ID WAS NOT CORRECT.  
% THE SECTOR ID BUFFER IS AT '0D20'.  
+ TWO (2) WORDS IF A 4964.  
+ FOUR (4) WORDS IF A 4966.

0 EXPECTED A CONDITION CODE OF 03.  
% EXPECTED A CONDITION CODE OF 07.  
\* THIS IS A HEXADECIMAL ADDRESS.  
DIAGNOSTIC BUFFER START ADDRESS  
IS HEXADECIMAL '0000'.  
+ SEE HEXADECIMAL '3100' FOR THE  
RESIDUAL STATUS BUFFER.

DO THE DATA LEDS EQUAL ANY OF THE ABOVE?

N

215  
- SEE IF THE FAILURE INDICATION WAS IN A 2XXX DIAGNOSTIC.

WAS THE FAILURE INDICATION IN A 2XXX DIAGNOSTIC?

N

216  
- SEE IF THERE IS A KEY PROBLEM WITH THE BASIC OR PROGRAMMER CONSOLE.

WAS THE FAILURE INDICATION AS NOTED ABOVE?

N

PC001  
PC002  
PC003  
PC004  
PC005  
PC006  
PC007  
PC008  
PC009  
PC010

217  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

218  
(ENTRY POINT KE)

- TEST THE KEY(S) THAT ARE NOT  
CORRECT.

PROCESSING UNIT IS:	GO TO MAP:
495X	1071, ENTRY POINT A:
4954	1072, ENTRY POINT A:
IF NO REPAIR: GO TO MAP 2070, ENTRY POINT PC.	

219  
THERE MAY BE A STORAGE PROBLEM.  
GO TO PAGE 4, STEP 029,  
ENTRY POINT PR.

220

SEE THE IPL DEVICE. DETERMINE THE MAP(S) FOR THE IPL DEVICE.	
IF THE IPL DEVICE IS:	GO TO MAP:
4962	0180, ENTRY POINT A.
4964	0180, ENTRY POINT A.
4966	0290, ENTRY POINT A.
ALL OTHERS	0380, ENTRY POINT A.

221  
THE INTERRUPT FROM THE IPL DEVICE WAS LOST.  
- EXCHANGE THE IPL DEVICE ATTACHMENT CARD.

IF NO REPAIR,  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

222  
(ENTRY POINT IP)

GO TO PAGE 32, STEP 232, ENTRY POINT PC.

0032B  
0030B  
0028B  
0026B

223  
THIS IS A NOT KNOWN INTERRUPT.  
- PRESS THE REGISTER SEVEN (7) KEY.  
THE CONTENTS OF REGISTER SEVEN (7) IS AS  
FOLLOWS:  
XXAA  
AA = DEVICE ADDRESS  
THE DEVICE ADDRESS OF THE INTERRUPTING  
SOURCE IS 'AA'.  
SEE IF THE 'AA' ADDRESS FROM R7 AND THE  
ADDRESS OF THE IPL DEVICE YOU ARE USING  
ARE THE SAME.

ARE THE ADDRESSES THE SAME?  
N  
224  
- SEE THE DEVICE ADDRESSES OF THE  
ATTACHMENTS INSTALLED ON THE SYSTEM.  
SEE IF THE DEVICE ADDRESS FROM R7  
(AA) IS INSTALLED ON THE SYSTEM.

IS THE ADDRESS (AA) FOR A DEVICE  
INSTALLED ON THE SYSTEM?  
N  
225  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

226  
- SEE THE ATTACHMENT OR DEVICE CARD  
FOR THE ADDRESS (AA).  
- EXCHANGE THE ATTACHMENT CARD.  
IF NO REPAIR,  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

227  
GO TO PAGE 32, STEP 232,  
ENTRY POINT PC.

228  
YOU CANNOT IPL THE DISKETTE IN THE  
DISKETTE UNIT.  
- REMOVE THE DISKETTE IN THE DISKETTE  
UNIT.  
- INSTALL BASIC DISKETTE PART NUMBER  
1635001.  
GO TO MAP 0020, ENTRY POINT ID.

229

SEE THE IPL DEVICE. DETERMINE THE MAP(S) FOR THE IPL DEVICE.	
IF THE IPL DEVICE IS:	GO TO MAP:
4962	0170, ENTRY POINT A.
4964	0170, ENTRY POINT A.
4966	0270, ENTRY POINT A.
ALL OTHERS	0370, ENTRY POINT A.

230  
GO TO PAGE 32, STEP 232, ENTRY POINT PC.

DIAGNOSTIC LIST AND TEST DESCRIPTION

- 02X00
  - 1. PARITY CHECK.
  - 2. MAIN STORAGE TEST (LOWER 64K).
  - 3. PROCESSING UNIT BASIC.
  - 4. DIAGNOSTIC OPERATION TEST.
- 02X01
  - 1. REGISTER READ AND CHECK.
  - 2. PROCESSING UNIT BASIC.
- 02X02
  - 1. PROCESSING UNIT BASIC.
- 02X03
  - 1. PROCESSING UNIT BASIC.
  - 2. PROGRAM CHECK.
  - 3. SUPERVISOR CALL.

- SEE IF ALL '2XXX' DIAGNOSTICS WORKED CORRECTLY.  
- SEE IF ALL '2XXX' MAPS HAD NO 'ERROR INDICATIONS'.

IF THERE WAS A FAILURE INDICATION IN A '2XXX' DIAGNOSTIC OR MAP, ANSWER THE FOLLOWING QUESTION 'NO'.

DID ALL '2XXX' MAPS AND DIAGNOSTICS RUN CORRECTLY?  
N

232  
(ENTRY POINT PC)

- SEE IF THE PROCESSING UNIT CARD(S) WAS/WERE EXCHANGED PREVIOUSLY.

WAS/WERE THE PROCESSING UNIT CARD(S) EXCHANGED?  
N

233  
- SEE IF A 4955 PROCESSING UNIT IS INSTALLED ON THE SYSTEM.

DO YOU HAVE A 4955 PROCESSING UNIT INSTALLED?  
N

234  
- SEE THE MLD BINDER.  
- SEE THE CORRECT PROCESSING UNIT MLD XXXX.  
- SEE LOGIC PAXXX.  
- POWER OFF THE PROCESSING UNIT.  
- EXCHANGE THE PROCESSING UNIT CARD AS FOLLOWS:

IF STORAGE OR FLOATING POINT MODULES ARE INSTALLED:

- REMOVE THE MODULES FROM THE OLD CARD AND INSTALL THEM ON THE NEW CARD.
- ENSURE JUMPERS ARE CORRECT, IF INSTALLED.
- POWER ON THE PROCESSING UNIT.
- RUN THE FAILING DIAGNOSTIC, IF NEEDED TO SEE THE FAILURE.

DID THE SAME FAILURE OCCUR?  
N

235  
THE PROCESSING UNIT CARD IS BAD.  
- VERIFY THE REPAIR.

236  
GO TO MAP 2071, ENTRY POINT A.

237  
GO TO MAP 2072, ENTRY POINT A.

238  
GO TO MAP 2071, ENTRY POINT A.

239  
GO TO MAP 2071, ENTRY POINT A.

DIAGNOSTIC LIST AND TEST, CONTINUED

- 02X04
    - 1. NOT VALID PROCESSING UNIT FUNCTION(S) TESTED.
    - 2. PROGRAM LEVEL.
    - 3. TRACE
  - 02X05
    - 1. TIMER
    - 2. TRANSLATOR/EXPANDER INSTRUCTIONS.
  - 02X06
    - 1. TRANSLATOR/EXPANDER OPERATION.
    - 2. UPPER STORAGE (MORE THAN 64K).
- X = 495X