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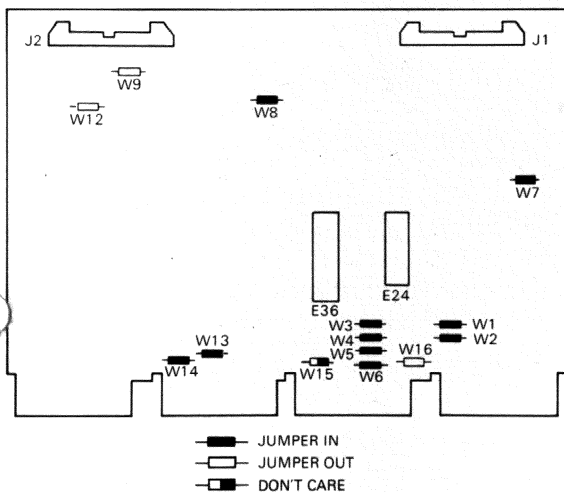
BARCLAYS BRANCH CONTROLLER MAINTENANCE GUIDE (YK-A05PA-00)

Date 21st October 1983

Make the following changes to the document:

Page	Line	
14	1	was (M7051) change to (M7501)
16	1	was (M7051) change to (M7501)
18	1	was (M7051) change to (M7501)

Figure	Page	
13,14,16, 17 & 20	15,17 & 19	was M7051 change to M7501
6	10	Jumpers W1 and W2 are installed.
12	14	} Jumper positions W10, W11, and W17 no longer exist. The status of jumper W15 does not affect the Barclays controller. It is installed on early revisions, but not on later ones. Do not change it. The correct jumper status is shown below.
15	16	
18	18	



Jumper Locations for Figures 12, 15, and 18.



YK-A05PA-00

Barclays Branch Controller

Maintenance Guide

First Edition, May 1983

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BARCLAYS BRANCH CONTROLLER MAINTENANCE GUIDE

INTRODUCTION

The Barclays controller has an internal diagnostic. The diagnostic will, upon initialization, check what position the keyswitch on the front panel is in, **NORMAL** or **TEST**.

NORMAL

All loopback connectors must be removed as they can cause operational problems, and, in addition, the full suite of **KMV11-B** and **DLV11-J** diagnostics will not be executed. After the final device is tested the controller will be booted from the **RL02** disk.

TEST

Loopback connectors are required on the rear distribution panel, because the diagnostic will execute the full suite of **KMV11-B** and **DLV11-J** diagnostics. No booting of the system occurs after the final device has been tested, but the diagnostics are run again. This cycle is repeated all the time the keyswitch is in the **TEST** position.

TESTING THE SYSTEM

Check that the mains power switch is on. The switch, located at the back of the controller and access can be gained from the right-hand side.

Before starting the diagnostic check that the POWER OK LED is lit on the front console panel, and that the fans are running. If either the LED or fans are not working see Section 2. If everything is working correctly you can continue.

To start the diagnostic ensure that the keyswitch is in the NORMAL position, and press the initialization switch. This switch is just above the mains ON/OFF switch.

Now look carefully at the six LEDs on the front diagnostic panel and the RUN LED on the front console panel. All six LEDs should be flashing on, indicating that the diagnostic has started running. The diagnostic will test each field replaceable unit (FRU) in turn and display a code on the six LEDs which will indicate the FRU under test. If an FRU has failed the RUN LED will go off leaving the FRU code displayed on the six LEDs.

See Table 1 for the display code to find out which FRU has failed.

The diagnostic run time should not exceed 16 minutes if successful. If the diagnostics are successful move the keyswitch to the TEST position and fit the loopback connectors on the rear distribution panel (see Figure 1 for loopback layout). Press the initialization switch again and look carefully at the six LEDs and RUN LED. Follow the display codes again; if the diagnostics are successful the unit is now working.

For D,E,F,G,H and I connectors fit either an RS-422 or RS-232 loopback connector to each position according to site configuration

- A. SLU 1
- B. SLU 2
- C. RLO2
- D. KMV11-B. 1 Port A
- E. KMV11-B. 1 Port B
- F. KMV11-B. 2 Port A
- G. KMV11-B. 2 Port B
- J. DLV11-J Port 3
- K. DLV11-J Port 2
- L. DLV11-J Port 1
- M. DLV11-J Port 0

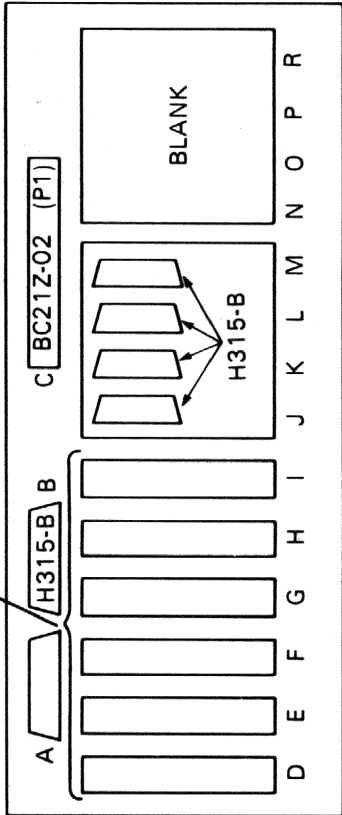


Figure 1 Loopback Layout

Table 1 Display Code

Unit Under Test	Display Layout	Change FRU (See below)
Power Up		Section 4
KDF11-BA/CPU.1		Section 4
Self Check		Section 4
DRV11		Section 11
MSV11-PL		Section 5
Double Addressing		Section 5
KDF11-BA/CPU.2		Section 4
KDF11-BA/EIS		Section 4
KDF11-BA/LTC		Section 4
KDF11-BA/SLU.1		Section 4
KDF11-BA/SLU.2		Section 4
KDF11-BA/MMU		Section 4
RLV12		Section 12
RL02 (Drive)		Section 13
RL02 (Cartridge)		Section 14
KMV11-B.1		Section 6
KMV11-B.2		Section 7
KMV11-B.3		Section 8
DLV11-J.1		Section 9
DLV11-J.2		Section 10
Primary Boot		N/A
System Running		N/A

● = LED lit

○ = LED unlit

SECTION 1**ACCESSING AN FRU**

For access to a field replaceable unit the following steps have to be taken.

Part 1

1. Unload the RL02 heads
2. Switch off the main power switch
3. Remove the rear dress plate
4. Lift the RL02 off the 11/23-BJ and place it on the left-hand side of the 11/23-BJ.
5. Undo the two quarter-turn fastenings which are situated at the two top rear corners of the top cover. Hold the handler and slide back the cover. Then lift the cover up and remove it (see Figure 2).

You now have access to the fans, power supply (H7861), and front panel assembly.

6. Undo the two quarter-turn fastenings which are situated at the two bottom corners of the rear panel, and swing open the rear panel.

You now have access to the modules, cables, and power controller.

Part 2

1. Tidy the cables at the rear panel and close the panel. Then do up the two quarter-turn fastenings on the rear panel.
2. Place the top cover onto the unit and slide it forwards. Then do up the two quarter-turn fastenings on the top cover.
3. Replace the RL02 on top of the 11/23-BJ (making sure both units line up).
4. Replace the rear dress plate.
5. Switch on the main switch, reload the RL02, and run the self-diagnostic test (see Testing the System).

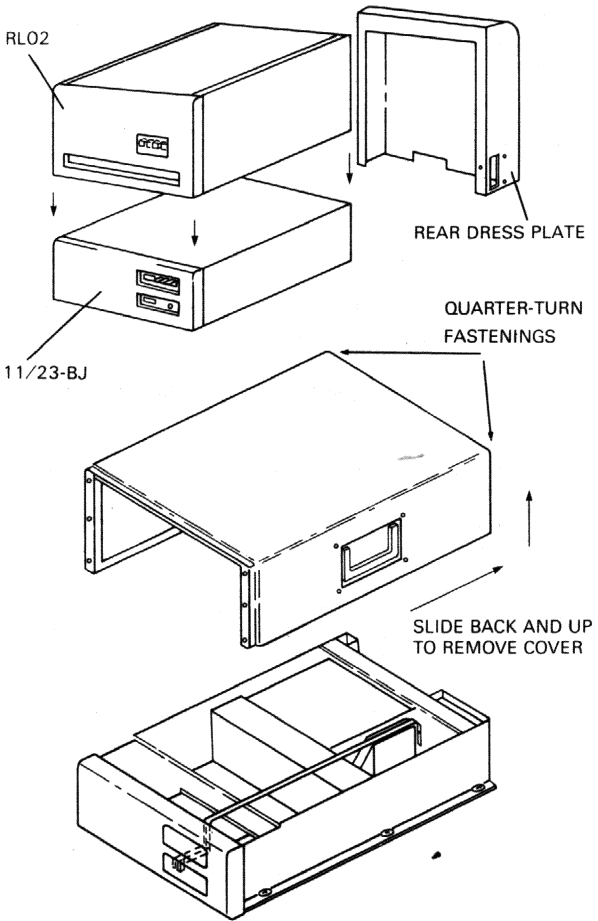


Figure 2 Gaining Access to an FRU

SECTION 2
POWER TESTING

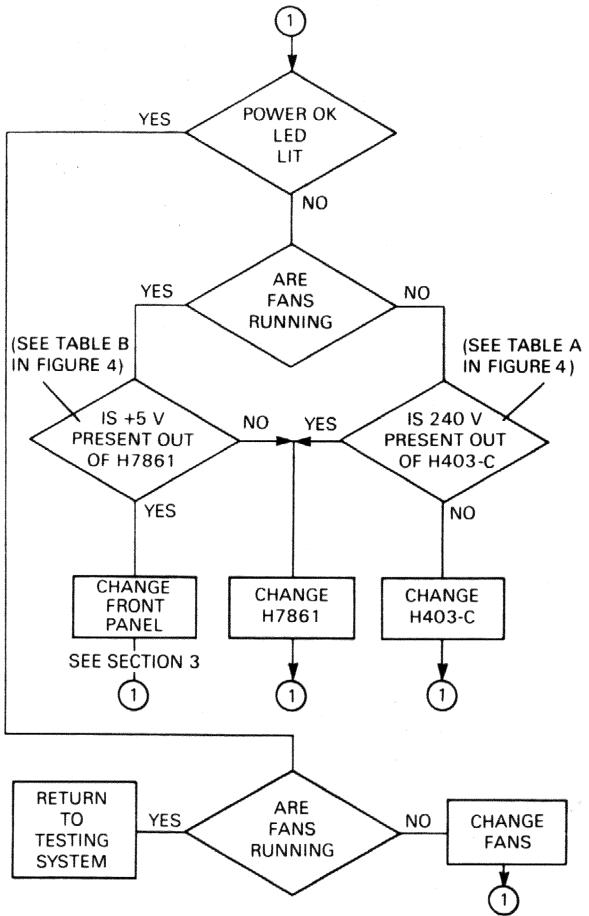


Figure 3 Power Testing Flowchart

TABLE A

1	—
2	EARTH
3	LIVE (240 V)
4	—
5	NEUTRAL
6	LIVE (240 V)
7	NEUTRAL
8	LIVE (240 V)
9	—
10	—
11	—
12	—

PIN LAYOUT

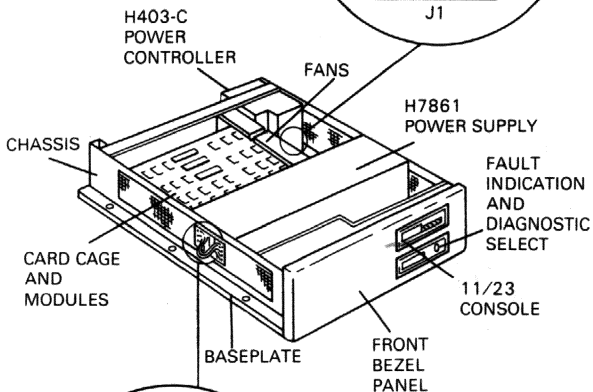
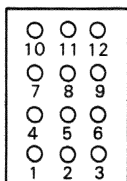


TABLE B

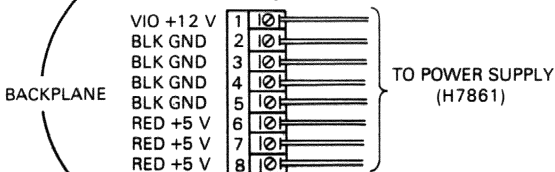


Figure 4 Voltage Location Diagram

SECTION 3

FRONT CONSOLE AND DIAGNOSTIC PANELS

Before changing the front console panel check that all cables are fitted in properly (see Figure 5).

If the cables are in properly change the front console panel.

When connecting up the two panels again, leave J1 disconnected and switch on the main power switch. Look at the LEDs; the POWER OK LED on the front console panel, and all the LEDs on the diagnostic panel should be on. If they are not, change the panel which is not working correctly.

If everything is working correctly return to Section 2.

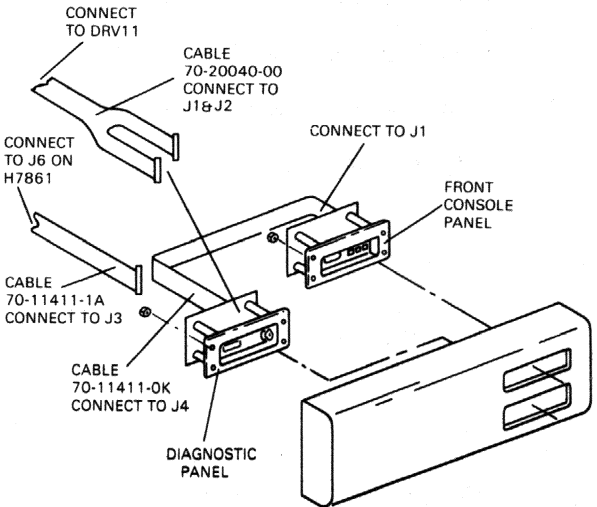


Figure 5 Front Panel Cable Layout

SECTION 4

KDF11-BA (M8189)

If the unit fails with the keyswitch in the NORMAL position, change the PCB. If the unit fails with the keyswitch in the TEST position, change the cables/PCB.

Follow the step by step guide below:

1. See Section 1 (part 1)
2. Remove cable connections from PCB
3. Remove PCB
4. Check new PCB for jumper and switch position (see Figure 6)
5. Check that E126 has a 23-240E4-00 and E127 has a 23-241E4-00 PROM fitted to the PCB
6. Fit new PCB (see Figure 7)
7. Fit cable connections to PCB (see Figure 8)
8. See Section 1 (part 2).

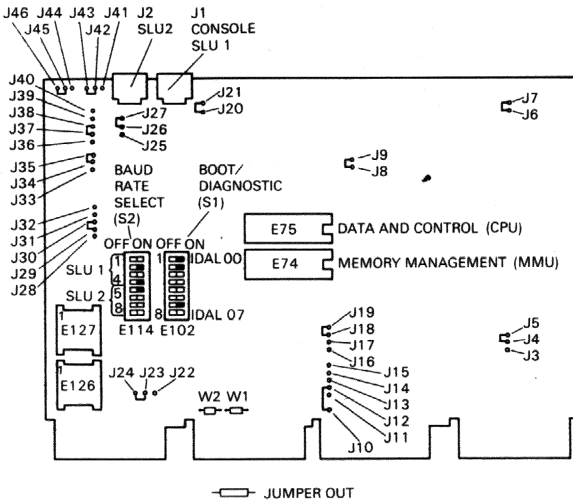


Figure 6 Jumper Locations

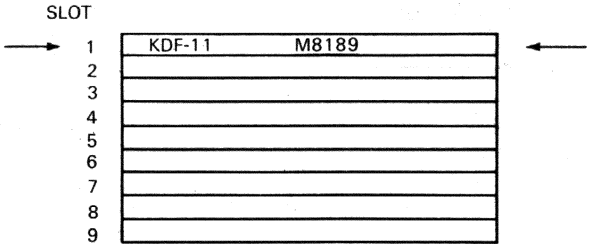


Figure 7 Backplane Position

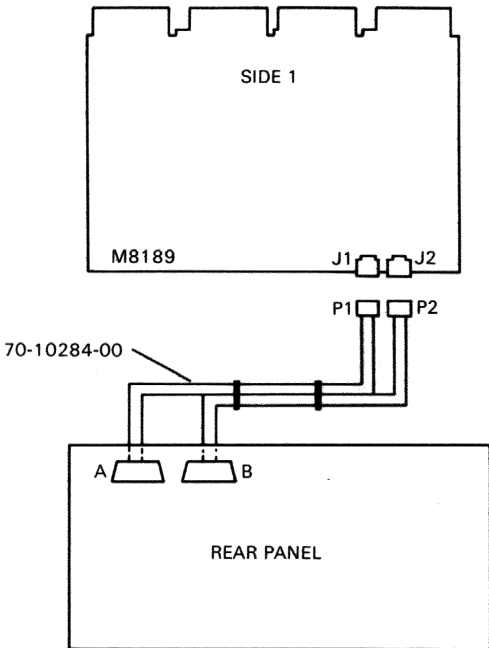


Figure 8 Cable Layout

SECTION 5

MSV11-PL (M8067)

Follow the step by step guide below.

1. See Section 1 (part 1)
2. Remove PCB
3. Check new PCB for jumper positions (see Figure 9)
4. Fit new PCB (see Figure 10 and 11)
5. See Section 1 (part 2)

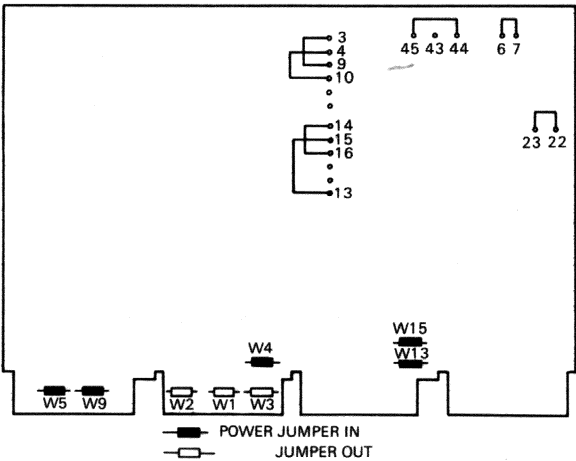


Figure 9 Jumper Locations

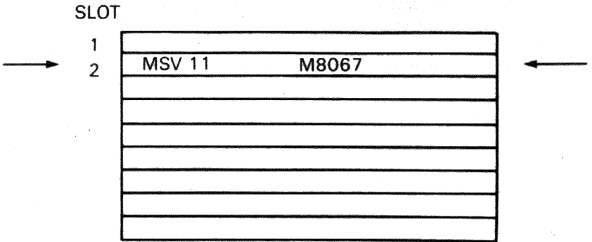
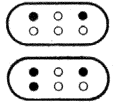


Figure 10 Backplane Position

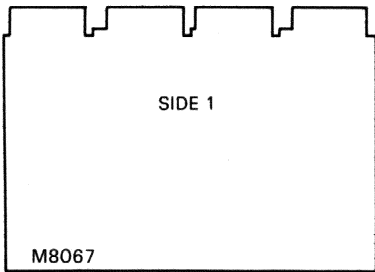


Figure 11 Module Configuration

SECTION 6

KMV11-B.1 (M7051)

If the unit fails with the keyswitch in the NORMAL position change the PCB. If the unit fails with the keyswitch in the TEST position change the cables/PCB.

Follow the step by step guide below.

1. See Section 1 (part 1)
2. Remove cable connections from PCB
3. Remove PCB
4. Check new PCB for jumper and switch position (see Figure 12)
5. Fit new PCB (see Figure 13)
6. Fit cable connections to PCB (see Figure 14)
7. See Section 1 (part 2).

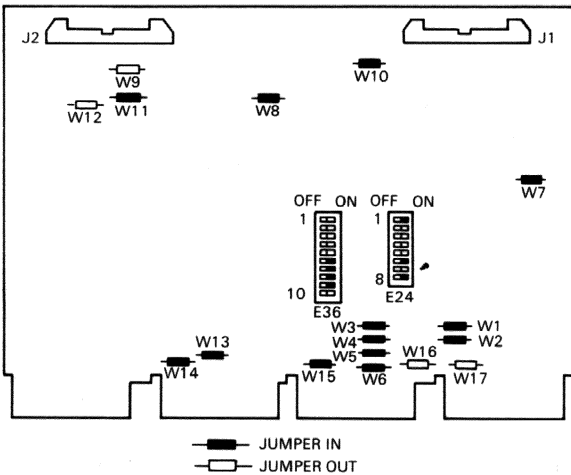


Figure 12 Jumper and Switch Locations

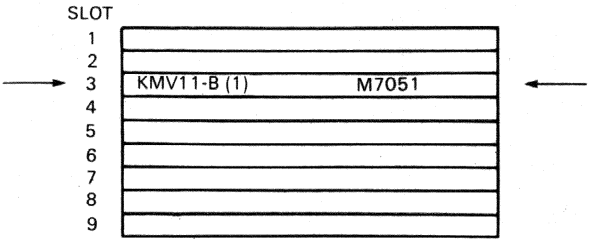
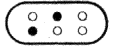


Figure 13 Backplane Position

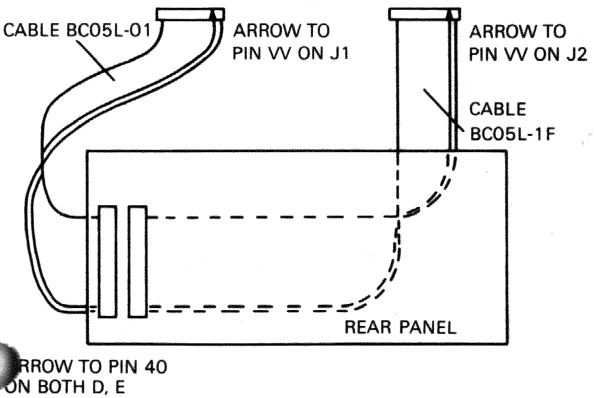
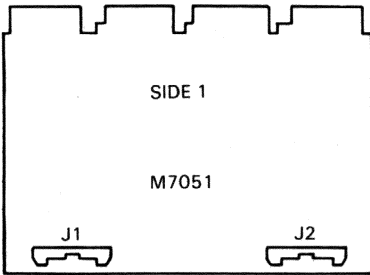


Figure 14 Cable Layout

SECTION 7

KMV11-B.2 (M7051)

If the unit fails with the keyswitch in the NORMAL position change the PCB. If the unit fails with the keyswitch in the TEST position change the cables/PCB.

Follow the step by step guide below:

1. See Section 1 (part 1)
2. Remove cable connections from PCB
3. Remove PCB
4. Check new PCB for jumper and switch position (see Figure 15)
5. Fit new PCB (see Figure 16)
6. Fit cable connections to PCB (see Figure 17)
7. See Section 1 (part 2).

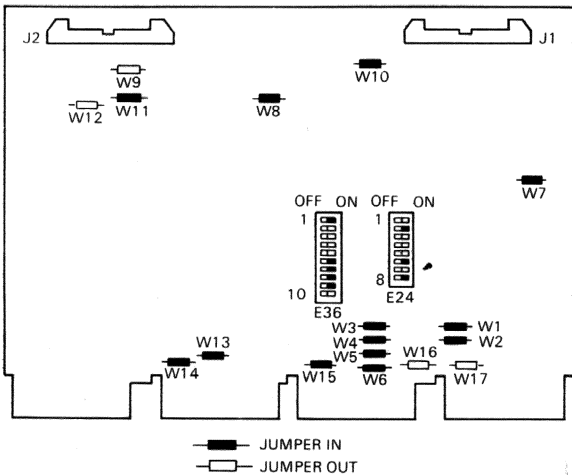


Figure 15 Jumper and Switch Locations

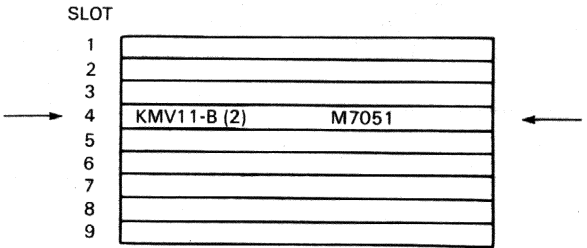


Figure 16 Backplane Position

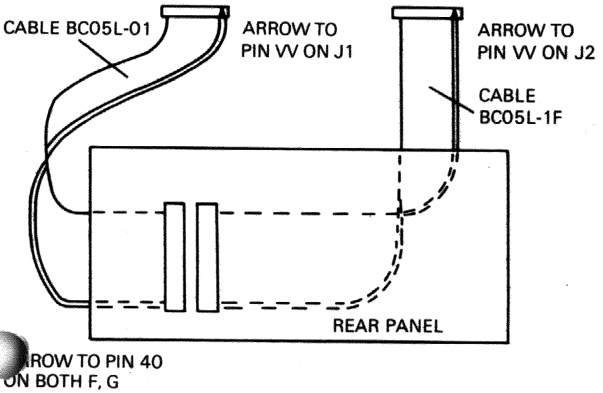
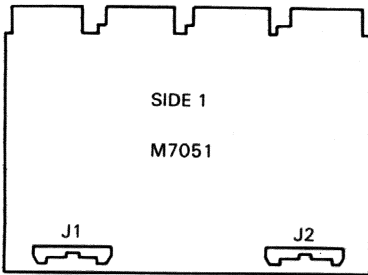


Figure 17 Cable Layout

SECTION 8

KMV11-B.3 (M7051)

If the unit fails with the keyswitch in the NORMAL position change the PCB. If the unit fails with the keyswitch in the TEST position change the cables/PCB.

Follow the step by step guide below:

1. See Section 1 (part 1)
2. Remove cable connections from PCB
3. Remove PCB
4. Check new PCB for jumper and switch position (see Figure 18)
5. Fit new PCB (see Figure 19)
6. Fit cable connections to PCB (see Figure 20)
7. See Section 1 (part 2).

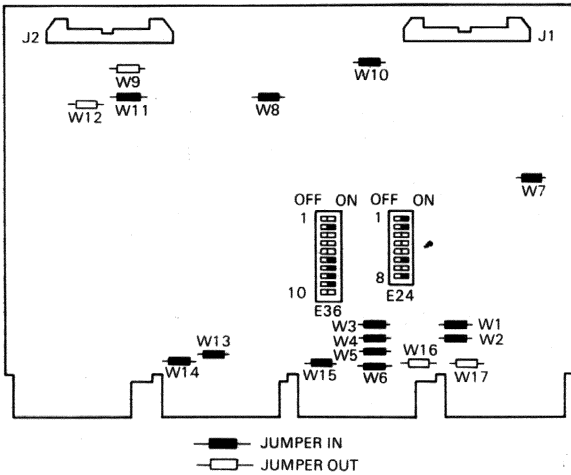


Figure 18 Jumper and Switch Locations

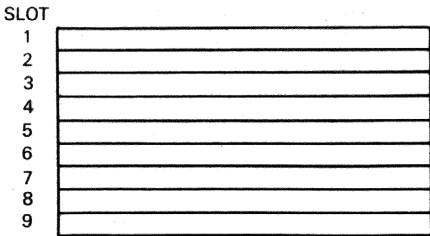
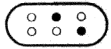


Figure 19 Backplane Position
(Fit According to Configuration)

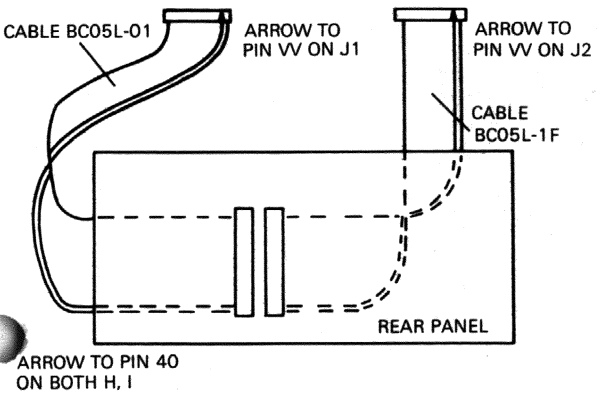
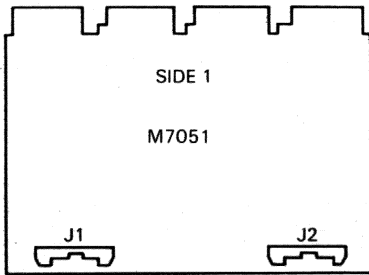


Figure 20 Cable Layout

SECTION 9

DLV11-J.1 (M8043)

If the unit fails with the keyswitch in the **NORMAL** position change the **PCB**. If the unit fails with the keyswitch in the **TEST** position change the **cables/PCB**.

Follow the step by step guide below:

1. See Section 1 (part 1)
2. Remove cable connections from PCB
3. Remove PCB
4. Check new PCB for jumper and switch position (see Figure 21)
5. Fit new PCB (see Figure 22)
6. Fit cable connections to PCB (see Figure 23)
7. See Section 1 (part 2).

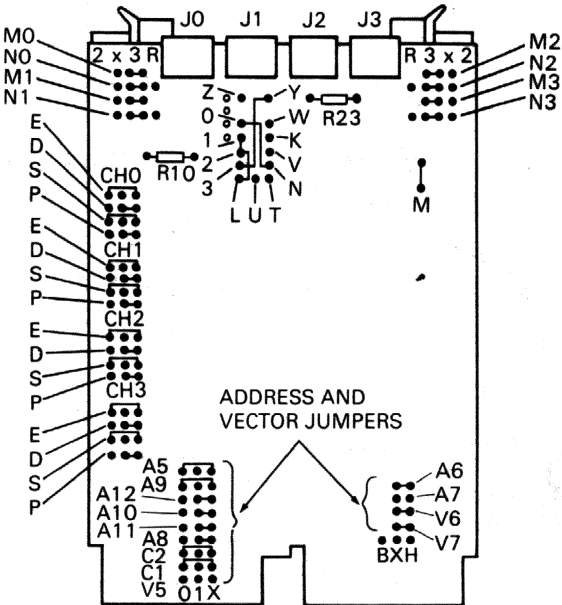


Figure 21 Jumper Locations

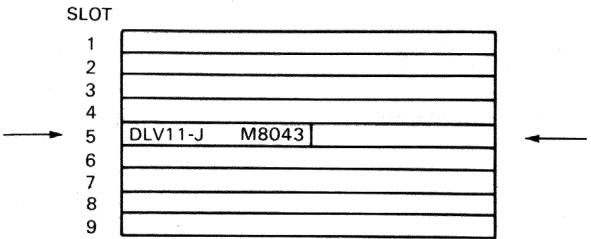
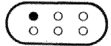


Figure 22 Backplane Position

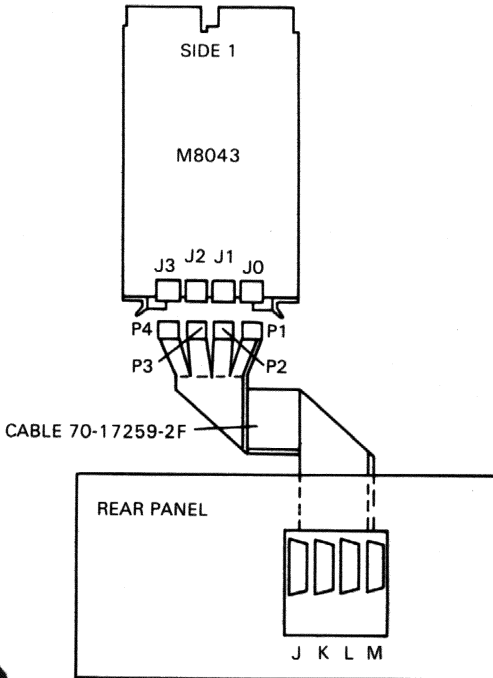


Figure 23 Cable Layout

SECTION 10

DLV11-J.2 (M8043)

If the unit fails with the keyswitch in the NORMAL position change the PCB. If the unit fails with the keyswitch in the TEST position change the cables/PCB.

Follow the step by step guide below:

1. See Section 1 (part 1)
2. Remove cable connections from PCB
3. Remove PCB
4. Check new PCB for jumper and switch position (see Figure 24)
5. Fit new PCB (see Figure 25)
6. Fit cable connections to PCB (see Figure 26)
7. See Section 1 (part 2).

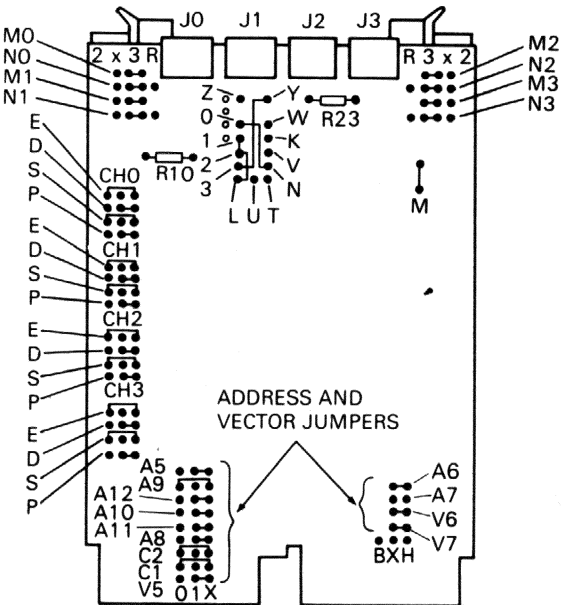


Figure 24 Jumper Locations

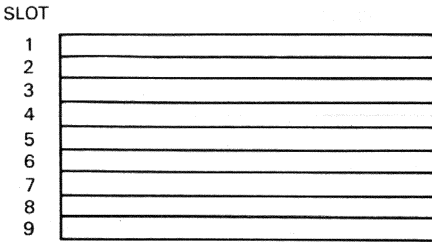
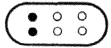


Figure 25 Backplane Position
(Fit Module According to Configuration)

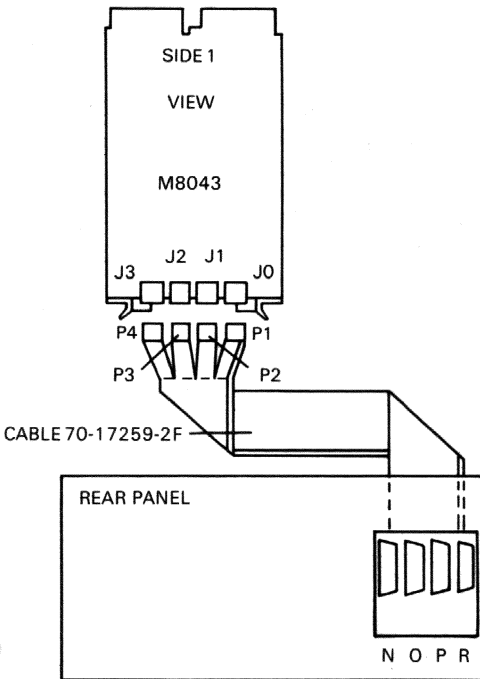


Figure 26 Cable Layout

SECTION 11

DRV11 (M7941)

Follow the step by step guide below:

1. See Section 1 (part 1)
2. Remove cable connections from PCB
3. Remove PCB
4. Check new PCB for jumper and switch position (see Figure 27)
5. Fit new PCB (see Figure 28)
6. Fit cable connections to PCB (see Figure 29)
7. See Section 1 (part 2)

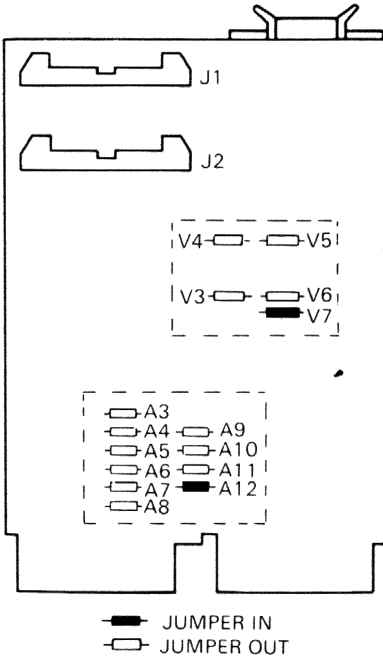


Figure 27 Jumper Locations

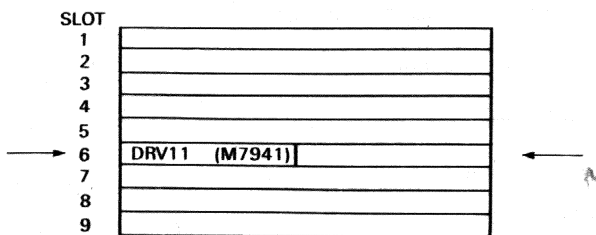
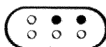


Figure 28 Backplane Position

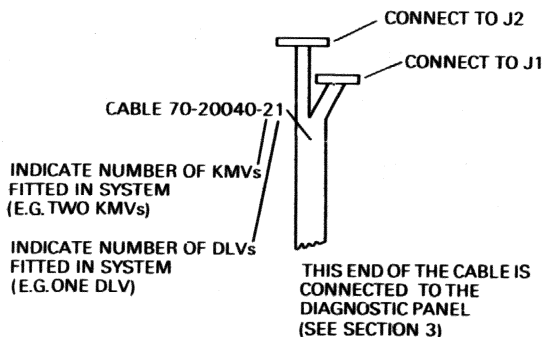
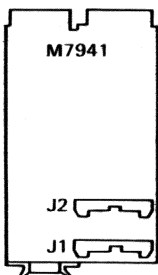


Figure 29 Cable Layout

SECTION 12

RLV12 (M8061)

Follow the step by step guide below:

1. See Section 1 (part 1)
2. Remove cable connections from PCB
3. Remove PCB
4. Check new PCB for jumper and switch position (see Figure 30)
5. Fit new PCB (see Figure 31)
6. Fit cable connections to PCB (see Figure 32)
7. See Section 1 (part 2).

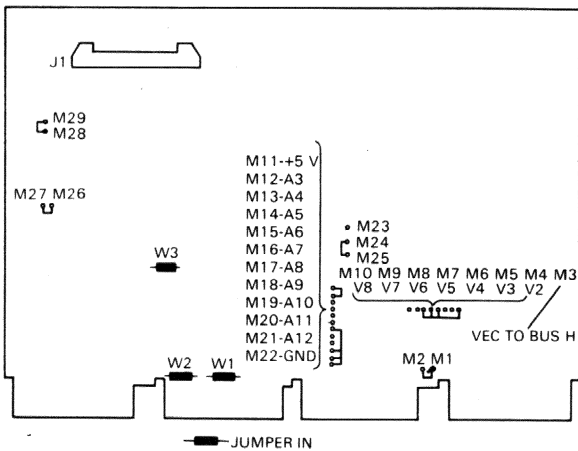


Figure 30 Jumper Locations

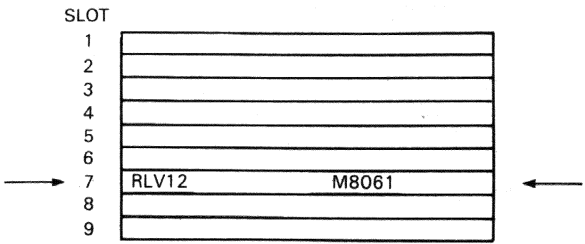


Figure 31 Backplane Position

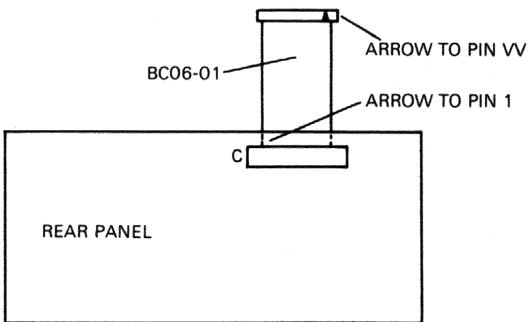
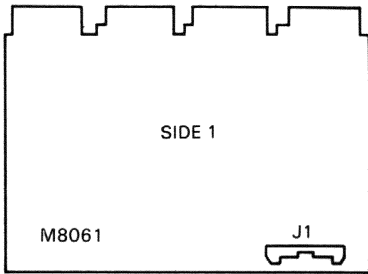


Figure 32 Cable Layout

SECTION 13

RL02 DRIVE

To change the RL02 unit follow the step by step guide below:

1. Remove RL02 cartridge
2. Switch off main switch
3. Remove rear dress plate
4. Disconnect main lead from RL02 to H403-C power controller
5. Disconnect I/O cable BC21Z-02 from RL02
6. Remove terminator (70-122293-00)
7. Replace RL02
8. Reconnect both cables and terminator
9. Replace rear dress plate
10. Install RL02 cartridge
11. Re-run diagnostic (see Testing the System).

SECTION 14

RL02 CARTRIDGE

If this fault is discovered, just replace the RL02 cartridge RL02K-DC.

The replacement RL02 cartridge must have a bad block file as this is used during the diagnostic boot.

However, if the cartridge has a bad sector which is not on the bad sector file, the coded LEDs for the RL02 cartridge will flash for approximately 10 seconds. This tells the operator that there is one or more bad sectors to be added to the file. The operator can add the sector(s) to the file or replace the cartridge altogether.

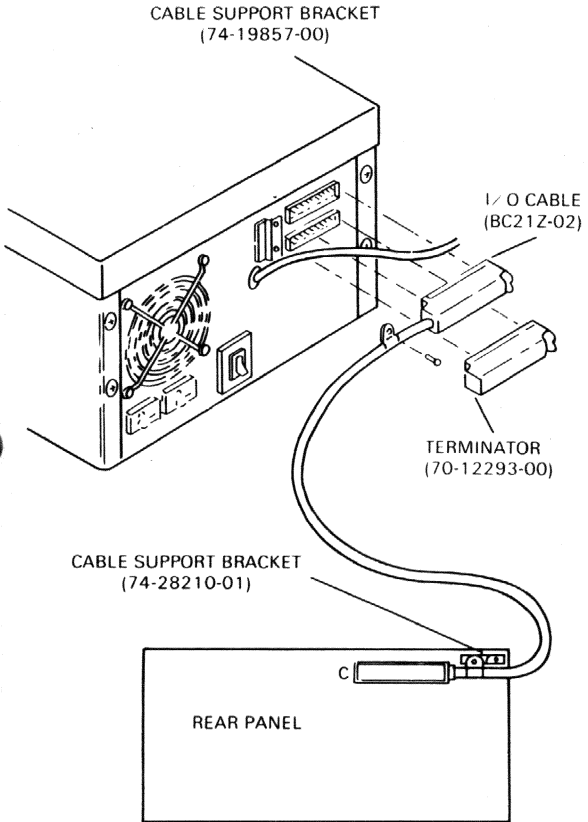
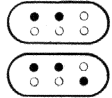


Figure 33 RL02 External Cable Configuration





