

RQDXE Expander Module

User's Guide

Prepared by Educational Services
of Digital Equipment Corporation

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RQDXE Expander Module

DESCRIPTION

This guide shows you how to install and configure the RQDXE dual-height expander module. The RQDXE (Digital part number M7513) is a replacement for the RQDX1-E extender module (Digital part number M7512).

The RQDXE lets you expand the RQDXn (RQDX1, RQDX2 and RQDX3) controller modules to support external drives (RD5n and RX50). The RQDXE carries RQDXn controller signals to external MSCP (mass storage control protocol) devices.

The enhanced features of the RQDXE allow support of up to four logical units.

You should install the RQDXE, dual-height module in a backplane slot directly below or next to the RQDXn.

CABLING OPTIONS

There are two cabling options available to connect RQDXE modules with RQDXn controller modules and disk drives.

- RQDXE-AA
- RQDXE-FA

RQDXE-AA Option

The RQDXE-AA option includes the following parts:

- RQDXE module
- BC020-01 cable
- Cable assembly 17-01223-01 or 70-20691-01

Figure 1 shows the RQDXE-AA option. Cable assembly 17-01223-01 or 70-20691-01 has a mounting plate to connect the RQDXE and the I/O distribution panel on the BA93 A CPU box. The I/O distribution panel connects to a desktop or rackmount expansion box via an external cable. Cable BC020-01 comes with the RQDXE and connects the RQDXE to the applicable RQDXn controller.

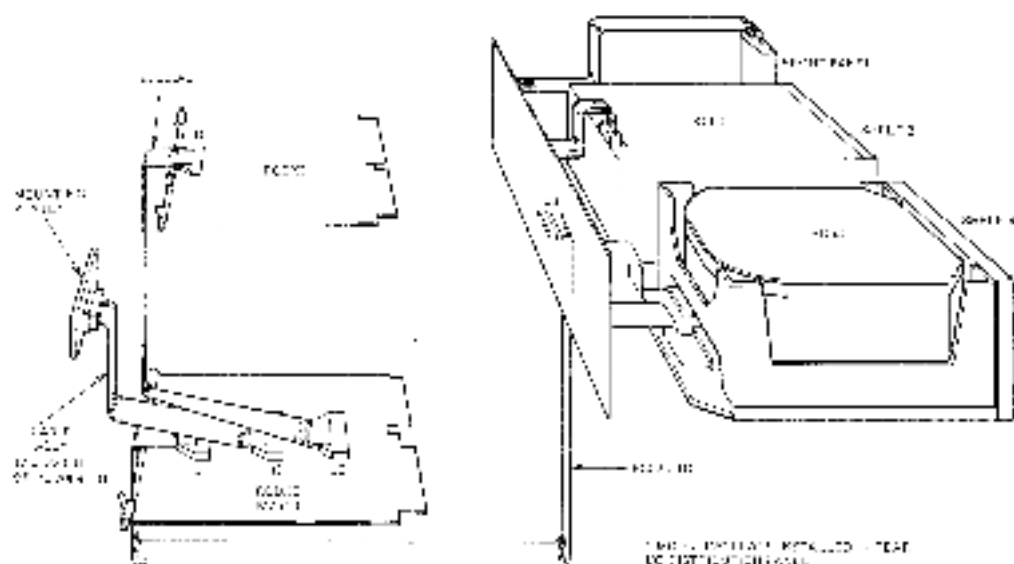


Figure 1 RQDXE-AA Option

RQDXE-FA Option

The RQDXE FA option includes the following parts.

- RQDXE module
- BC02D-01 cable
- BC02D-04 cable

Figure 2 shows the RQDXE-FA option. Cable BC02D-01 connects the RQDXE to the RQDXn controller. Cable BC02D-04 connects the RQDXE to the distribution panel on the BAZD-C expansion box.

NOTE

Figures 1 and 2 use the RQDX3 as a typical example. You can also use the RQDX1 or the RQDX2 with the RQDXE.

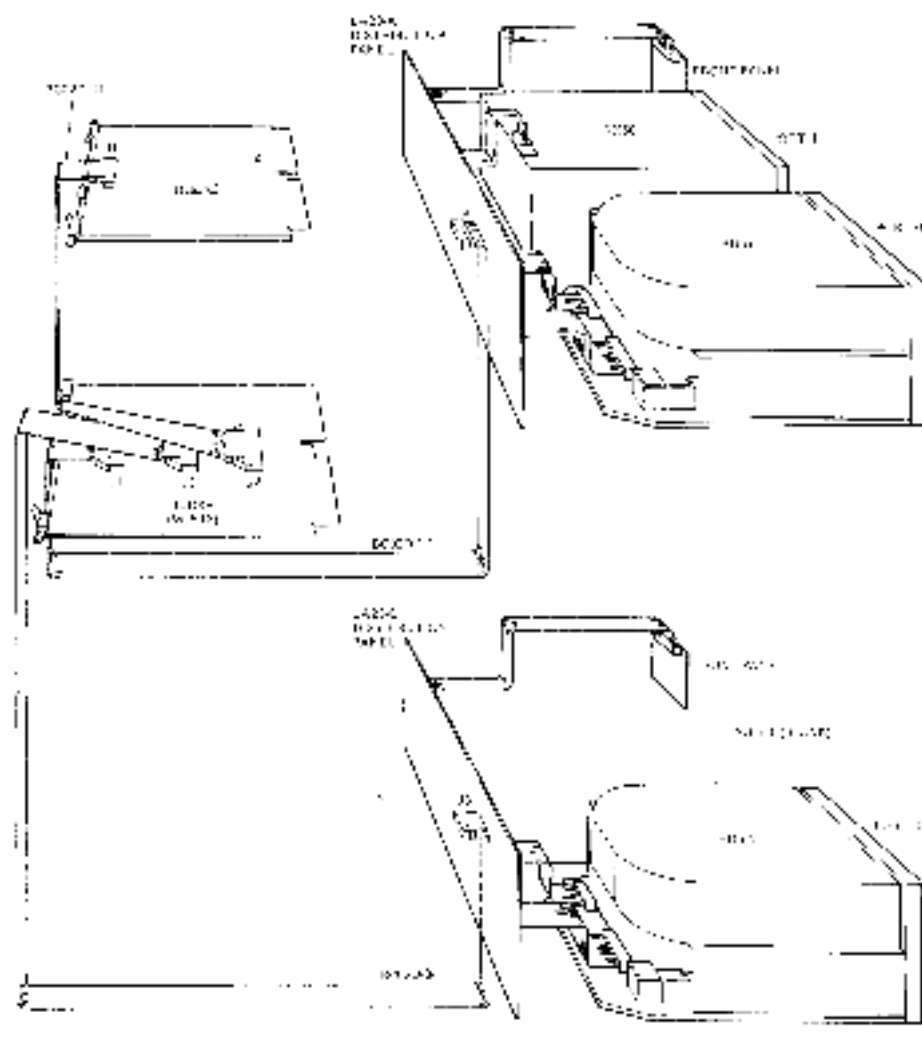


Figure 2 RQDKE-FA Option.

MODULE SPECIFICATIONS**Dimensions**

Height	22.8 cm (8.9 in)
Width	1.27 cm (0.5 in)
Length	13.84 cm (5.25 in)

Power Consumption

Typical	+5 Vdc +5% @ 0.80 Amps
Maximum	+5 Vdc +5% @ 0.90 Amps

Operating Requirements

Operating temperature mounted in cabinet	0° to 60° C (32° to 140° F)
Maximum outlet Temperature	3°C above 60°C (9°F above 140°F)
Relative humidity	10 to 90% noncondensing

Storage Requirements

Ambient temperature	-40° to +65° C (-40° to 149° F)
Relative humidity	10 to 90% noncondensing
Maximum altitude	9.1 km (50,000 feet)

Bus Loads

DC	1 unit load
AC	0 unit load

JUMPER CONFIGURATIONS

Figures 3, 4 and 5 show RQDXE jumper settings for different systems. Figure 3 is for a BA23-A CPU box. Figure 4 is for a BA23-C expansion box. Figure 5 is for an RD5n-D/-R or RXnn-D/-R mass storage tabletop or rackmount enclosures. These figures show the most common configurations. Figure 6 shows the RQDXE factory jumper configuration and the layout of the points to jump.

Figures 3 and 4 together show jumper settings required to support BA23-A/BA23-C configurations.

Figures 3 and 5 together show jumper settings required to support BA23-A/RD5n-D/-R or RXnn-D/-R configurations.

CPU and Expansion Box Terms

Figures 3 and 4 use the following terms to describe the CPU box (BA23-A) and expansion box (BA23-C).

Ports 0 and 1 identify the location of the drives in the BA23-A and BA23-C boxes.

CPU BOX (BA23-A)
AND EXP. BOX

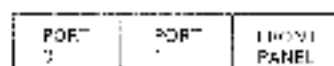
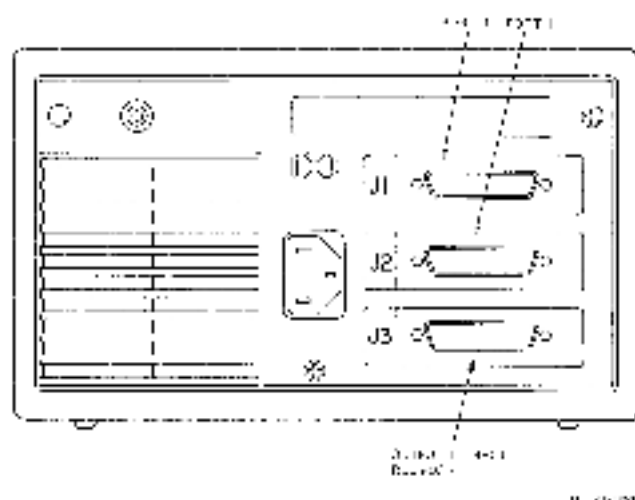


FIGURE 3

CPU box simply refers to the box in which the RQDXn controller resides.

The same terms apply to systems with disks in desktop or rackmount enclosures (external drives). In a desktop or rackmount enclosure, connector J1 is port 0 and J2 is port 1 (see below).

RD0, RD1, RD2 or RD3 designate the RD5n hard disks.



To configure the RQDXE to meet your system requirements, do the following:

- *For a CPU box (BA23-A)*

Install jumpers as shown in Figure 3. Use the column (A through C) that applies to your system. Pick column B if you have an R00 in port 0 and an RX00 in port 1 of the CPU box, as shown in Figure 1.

- *For an expansion box (BA23-C)*

Install jumpers as shown in Figure 4. Use the column (A through C) that applies to your system. Pick column A if you have an R00 in port 0 of the BA23 C, as shown in Figure 2.

- *For mass-storage tabletop enclosures (RD5n-D/-R or RXnn-D/-R)*

Install jumpers as shown in Figure 5.

NOTES

- R00 must be in port 0 in the BA23-A box.
- PORT 0 RD (drive select setting) must be 3.
- RX selects should be 1-2 for the first RX50 (factory configuration).
- The RQDXE occupies one dual Q-Bus slot in the backplane.
- RQDXn can be an RQDX1, RQDX2 or RQDX3.

		A	B	C
PORT C	RDC	X	X	
PORT D	RDI RDXD		X	X
IN- PORT C ²	R1 R2			
	R3 R4			
	R5 R6			

FIGURE 3

1. RDC MUST BE IN PORT D IN THE BA23-A CPC BOX
2. R1 IS A JUMPER. R2 IS A JUMPER.
3. NO TWO DIFFERENT TYPES OF JUMPER SHOULD BE USED TO MAP THE SAME LOGIC OR EXPANSION BOX OR BE USED IN THE SAME EXPANSION BOX.
4. COLUMN A OR C NEEDS TO BE A JUMPER CONNECTIONS
5. AND ARE THE ONLY JUMPERS INSTALLED

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Figure 3 RQDXE Jumper Settings for a BA23-A CPC Box

		A		B	
RQDXE C	RD1 RD2	X	X		
RQDXE 1	RD1 RD2 HXSC			X	X
RDY AND WRT P-IO	A1 A2				
	A3 A4				
	B1 B2				
	B3 B4				
	C1 C2				
	C3 C4				
	D1 D2				
	D3 D4				
	E1 E2				
	E3 E4				
RDY SFI	F1 F2				
	F3 F4				
	G1 G2				
	G3 G4				
	H1 H2				
RDY ACK	K1 K2				
	K3 K4				
RDY FOR CPL	L1 L2				
	M1 M2				
	M3 M4				

NOTE:

COLUMN A REPRESENTS

JUMPER LOCATION ORIENTATION.

10-1000-0001

Figure 4 RQDXE Jumper Settings for a BA23-C
Expansion Box

			A	B	C	D
NOPI C	1-1	X	A			
	5-5a			A	X	
PORT PORT	10-10					X
	3-3		X			
RDY AR: R WRT PROM	A1 A0					
	A3 A4					
	B0 B1					
	B2 B3					
	C1 C2					
	C3 C4					
	C5 C6					
	C7 C8					
DRV SE	L1 L2					
	E3 E4					
	F1 F2					
	F3 F4					
	H1 H2					
	H3 H4					
	K1 K2					
	K3 K4					
TOFT SEL	L1					
	L2					
	M1 M2					
	M3 M4					

10-1200-1100

Figure 5 RQDXE Jumper Settings for RDou-D/-R or RXAm-D/-R Add-On Drives

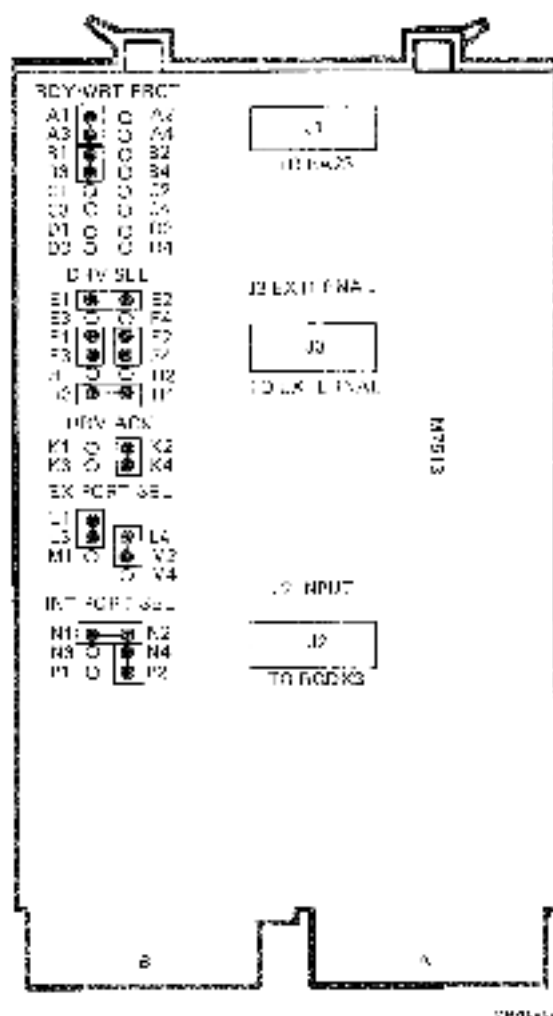


Figure 6 RODXE Factory Jumper Configuration

