## DCQ-1500

# DRQ3B Compatible Parallel DMA I/O Controller

The DCQ-1500 is a plug and play replacement for Digital's DRQ3B Q-bus I/O controller. Like the DRQ3B, the DCQ-1500 is a high performance 16-bit parallel interface designed for realtime data collection or for high-speed interprocessor communications. It provides PIO and DMA transfers between a Q-bus system and external equipment at transfer rates of up to 1.3 mHz of 16-bit words..

The DCQ-1500 is hardware and software compatible with Digital's DRQ3B. The module has two independent 16-bit channels for connection to external devices, allowing it to receive or send data or do both concurrently. Additionally, it can transfer data between two memory or I/O page locations.

The DCQ-1500 is a quad-width controller that can be installed in a variety of Digital's PDP-11 and MicroVAX systems.

Data transfers are selectable as burst, block or extended block mode DMA. Interrupt priority levels are switch selectable and interrupt conditions are program selectable. **High Performance**. Like the DRQ3B, the DCQ-1500 provides transfer rates of up to 1.3 megawords per second (2.6 Mbytes per second) in extended block mode. Its double buffering capability allows the DCQ-1500 to transfer data continuously up to this maximum rate.

**Software Compatible**. The DCQ-1500 is application software compatible providing a direct replacement for the DRQ3B.

**Hardware Compatible**. The DCQ-1500 is signal and connector compatible with Digital's DRQ3B allowing use of existing user cables and equipment.

**Easy to Maintain**. The DCQ-1500 is compatible with Digital's DRQ3B diagnostics.

### **Applications**

**General I/O Application:** Use the DCQ-1500 to connect to external user equipment such as data acquisition, A/D, telemetry or industrial control equipment supporting a DRQ3B compatible interface.

**Parallel Computer Link:** Use the DCQ-1500 to provide a parallel data link to another system supporting a DRQ3B compatible interface.

#### **Pin Assignments**

Signal	<u>Pin</u> <b>J1</b>	<u>Pin</u>	<u>Signal</u>
OUT00-H OUT01-H OUT02-H OUT03-H OUT04-H OUT05-H OUT06-H OUT06-H OUT09-H OUT10-H OUT11-H OUT112-H OUT13-H OUT14_H OUT15-H P1DAV-L P1ACK-L EXTINT-L LOOPC1-H INIT-L FNCT13-H FNCT14-H FNCT15-H P1CLR-L	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	GND
PORT 0 <u>Signal</u>	<u>Pin</u> <b>J2</b>	<u>Pin</u>	<u>Signal</u>
IN00-H IN01-H IN02-H IN03-H IN03-H IN04-H IN05-H IN06-H IN07-H IN08-H IN10-H IN11-H IN11-H IN11-H IN15-H POSTB-L POACK-L EXTINT-L POEOP-I INIT-L FNCTO1-H FNCTO2-H	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50	GND

#### **Specifications**

#### **Physical Dimensions**

Controller Quad-width Q-bus module,

10.5 in by 8.4 in (26.7 cm by 21.3 cm)

Interface

User Connections Two 50-pin DRQ3B style

connectors

**Electrical** 

Power Required:

+5.0 volts dc 4.5 amp ±12 volts dc Not used

I/O Port Transceivers:

Source 16 ma Sink 64 ma

MaximumThroughput

Burst Mode 500 kHz (1 Mbyte/sec)
Block Mode 1.1 MHz (2.2 Mbytes/sec)
Extended Block Mode 1.3 MHz (2.6 Mbytes/sec)

**Environmental** 

Operating Conditions:

Temperature 5° to 50° C (41° to 122° F) Relative Humidity 20% to 80% noncondensing

**Storage Conditions:** 

Temperature -40° to 66° C (-40° to 150° F) Relative Humidity 10% to 95% noncondensing

### **Ordering Information**

DCQ-1500-AB Data controller package for BA200

enclosures. Includes controller and owners manual. Direct replacement for Digital's DRQ3B-

SA or -SF.

DCQ-1500-AA Data controller package for BA23,

BA123, and H96XX enclosures. Includes controller and owners manual. Direct replacement for

Digital's M7658 module.

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