CIO-PDMA16
16 Bit, High Speed Digital I/O

FUNCTIONAL DESCRIPTION

The CIO-PDMA16 provides 16 bits of digital I/O on a single 1/2 slot PC bus expansion board. The digital I/O may be addressed in word mode (16 bits) or byte mode (8 bits). In byte mode the 16 bits of I/O are divided into two independent 8 bit ports; A and B.

Three additional auxiliary digital lines may be used for gating or trigger control when interfaced to other instruments with digital interfaces. Signals from the on-board 8254 timer as well as interrupt input and transfer request/acknowledge are brought to the 37 pin D type signal connector.

DIRECT MEMORY ACCESS (D.M.A.)

High speed transfers of blocks of up to 64K byte (32K words) of data at speeds up to 250,000 byte per second are made possible by using the personal computer's DMA capability. The DMA controller transfers data between CPU cycles and independent of current CPU instructions, thus it is truly a "background" operation.

TRIGGER LOGIC

The on-board 8254 may be programmed to supply regular trigger pulses initiating transfers of digital information either to or from the PC. DMA transfers may be initiated either by the 8254 or by external pulses.

An interrupt input to the personal computer's interrupt control circuitry provides a means of starting transfers under interrupt control.

Transfers may also be triggered by program control providing a means of simple word or byte I/O.

I/O & CONTROL REGISTER MAP

The CIO-PDMA16 and MetraByte PDMA-16 are software compatible because the I/O registers have identical functions on each board. I/O registers are the locations which the computer writes commands and data to and reads status and data from.

ADDRESS	FUNCTION	ADDRESS	FUNCTION
Base	PORT A	Base + 4	Counter 0
Base + 1	PORT B	Base + 5	Counter 1
Base + 2	DMA Control	Base + 6	Counter 2
Base + 3	IR Control	Base + 7	Counter Control

Register compatible with the MetraByte PDMA-16. Runs all MetraByte software such as Streamer and is supported by Labtech Notebook, Snapshot, ASYST,

SPECIFICATIONS   16 DIGITAL I/O

Data Transfer Rate	125,000 Words/Second
	250,000 Byte/Second
Logic Level	TTL
Power Consumption	850 mA Typ., 1 Amp Max
Size	5 3/4" Long, XT or AT Height
Operating Temperature	0 to 60 Degrees C.
Storage Temperature	-40 to 100 Degrees C.

ORDERING GUIDE

16 Bit High Speed Digital I/O	CIO-PDMA16

Screw Terminal Boards

16" X 4" all signals from one 37 D plus proto area & circuitry.	CIO-TERMINAL
4" X 4" all signals from one 37 D connector.	CIO-MINI37
16" X 4" all signals from one 37D, Spade Lug Terminals.	CIO-SPADE50

Cables

2 foot ribbon cable, 37 conductor, female connectors.	C37FF-2
"##" foot ribbon cable, 37 conductor, female connectors.	C37FF-##
5 foot shielded cable, molded female connectors, 37 cond.	C37FFS-5
10 foot shielded cable, molded female connectors, 37 cond.	C37FFS-10