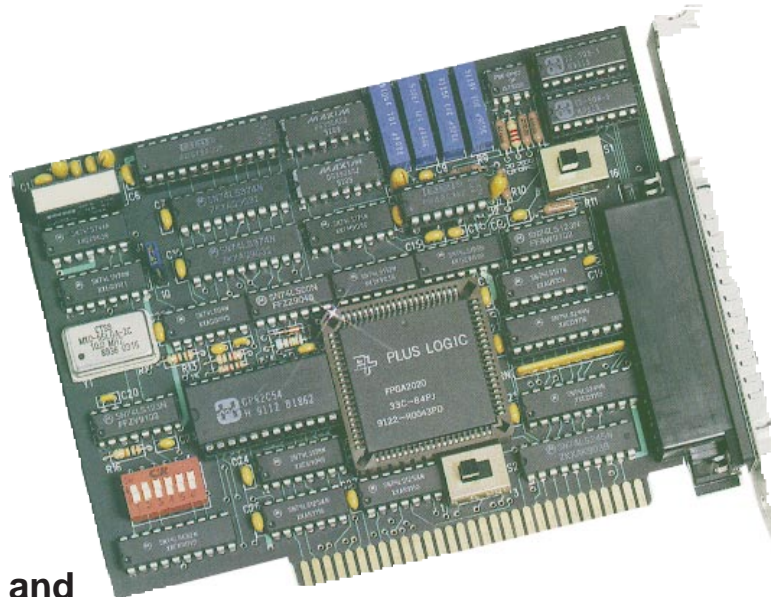


Low Cost Multifunction Analog and Digital IO Board



CIO-DAS16JR



CIO-DAS16JR and CIO-DAS16-330
\$399 Basic Unit

- ✓ 16 Single-Ended/8 Differential 12-Bit Analog Inputs
- ✓ High Speed Sampling (330 Khz for CIO-DAS16-330, 110 Khz for CIO-DAS16JR)
- ✓ 1 Counter Timer
- ✓ 8 Digital I/O Lines
- ✓ Labview Support

The CIO-DAS16JR and CIO-DAS16-330 are low cost multifunctional analog and digital IO boards. The CIO-DAS16JR is compatible with virtually all IBM PC and compatible computers with an 8-bit ISA slot. The CIO-DAS16-330 requires a 16-bit slot. The CIO-DAS16-330 can support sample rates up to 330 Khz, while the CIO-DAS16JR can sample up to 110 Khz.

The analog input section of both boards is designed for flexibility and accuracy in a number of configurations and ranges. The analog signals

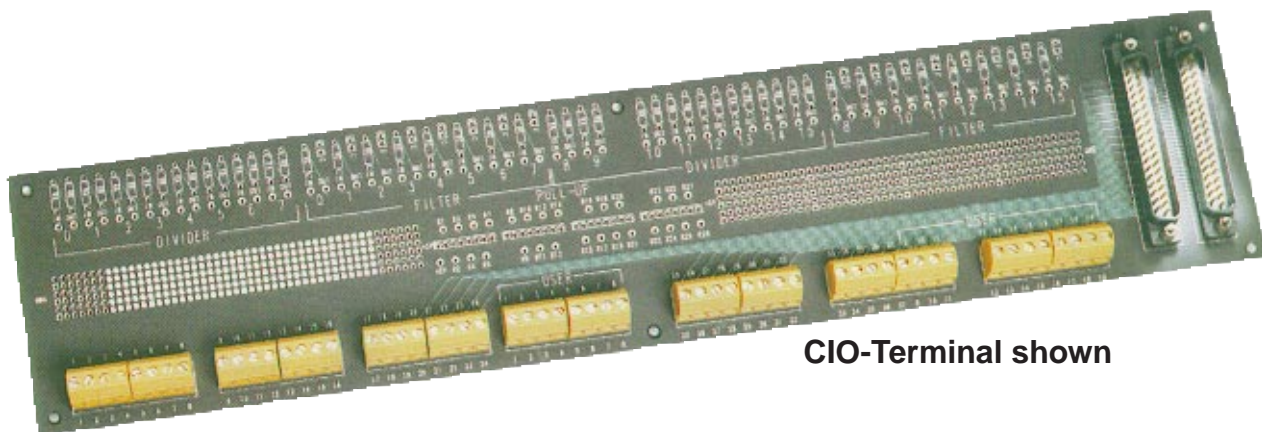
are brought on-board by a standard 37-pin D connector directly into two multiplexers. The two multiplexers may be configured as 16 channels of single-ended input or 8 channels of differential input. A programmable gain amplifier allows software selectable input ranges. The 12 bit A/D converter provides a resolution of 4095 parts of full scale. The speed of data gathering is dependent on the method of triggering and data transfer, such as "software polled" or "interrupt driven" methods.

For applications where channel-to-channel time skew is not acceptable, an optional simultaneous sample and hold accessory board is available. The CIO-SSH16 provides 16 simultaneous sample and hold channels with less than 50 nsec of aperture uncertainty.

There are three ways to trigger or initiate data collection with a CIO-DAS16JR: software trigger, via an internal pacer clock, or

with an external trigger. Using an external trigger allows you to synchronize samples to an external event. Data may be transferred from the CIO-DAS16JR three ways: under program control, via interrupt service routine, or via DMA. To achieve the maximum rated speeds of the CIO-DAS16-330, a transfer technique unique to data acquisition boards is employed. The CIO-DAS16-330 contains an on-board 1024 sample buffer. By using a REP INSW (Repeat Input String) CPU instruction, data may be transferred at the full speed of the board without placing unreasonable demands on the PC's resources. This technique is commonly employed by LAN and disk controllers

Method	Max. A/D Speed
Polled by software	2KHz
Interrupt Service Routine (no REP INSW)	20KHz
DMA	110KHz
REP INSW	330KHz



CIO-Terminal shown

On board is an 8254 counter/timer chip. This chip contains three 16-bit counters. Two of these counters are dedicated for use by the A/D pacer circuitry; one is available to the user. The counter may be used for frequency measurement, event counting and pulse train generation.

Optional software drivers are available for users writing their own programs. The UNIV-DRVR universal library package provides support for both DOS, Windows 3.1 and Windows 95 programming languages. DOS support includes QuickBasic 4.5, Visual Basic, Turbo C, Visual C++, Microsoft C and Quick C. Windows support includes Microsoft C, Visual C++, Visual Basic, Borland C, C++ and Delphi. 32-bit drivers are available on special request. Optional Labview drivers are also available.

SPECIFICATIONS

Channels: 16 single ended or 8 differential

A/D Type: Successive approx. ADS7800

A/D Convert and Transfer Speed: CIO-DAS16JR, 130Khz; CIO-DAS16-330, 330Khz

Accuracy: 0.01% +/- LSB
Integral Linearity: +/-1 LSB
Max. Overvoltage: +/-35 V

Input Ranges (software selectable)

Input Range
+/- 10 V
+/- 5 V
+/- 2.5 V
+/- 0.625 V
0 to 10 V
0 to 5 V
0 to 2.5 V
0 to 1.25 V

DIGITAL I/O

Inputs: 4

Outputs: 4

Input Volts: Low, 0.8 V max.; High, 2.0 V min. @ 20 uA

Output Volts: Low, 0.5 V max @ 8.0 ma; High 2.4 V min @ -0.4 mA

PROGRAMMABLE TIMER

Type: 82C54

Counters: 3, 16-bit down counters, 2 dedicated to A/D pacer

XTAL: 1 or 10 MHz

To Order (<i>Specify Model Number</i>)		
Model Number	Price	Description
CIO-DAS16JR	\$399	130 KHz analog input board
CIO-DAS16-330	599	330 KHz max. analog input card
CIO-SSH16	399	16-Channel simultaneous sample and hold accessory board, 4 channels installed (requires any C37FF cable).
CIO-SSH-AMP	39	Additional S&H + amps Installed, up to 12 additional
CIO-TERMINAL	99	16" x 4" screw terminal board with prototype area, requires any C37FF cable
CIO-MINI37	49	4" x 4" screw terminal board, requires any C37FF-2 cable
C37FF-2	25	Cable
C37FFS-5	30	5-foot shielded cable, 37-pin female connectors
C37FFS-10	40	10-foot shielded cable, 37-pin female connectors
UNIV-DRVR	49	Universal Drivers for DOS and Windows
CIO-Labview-Drvr	49	Labview Drivers (requires UNIV-DRVR)

For Sales or Service call
1-800-826-6342