Model DIO48S/AT-P

48 Channel Digital Hardware Interrupt Generator Card

FEATURES

- **48 Channels of Digital I/O**
- **Interrupt Generation on Input Change of State**
- **Change-Of-State Interrupt Software Enabled in Six 8-Input Ports**
- **All 48 I/O Line Buffered**
- **Four and Eight Bit Ports**
- **Hysteresis and Pull-Ups on I/O Lines**
- **Compatible with Industry Standard I/O Racks**

DESCRIPTION

The DIO48S/AT-P provides 48 lines of digital I/O in two independent 24-bit groups. Each 24-bit group uses a Programmable Peripheral Interface chip type 8255-5. Each PPI provides three 8-bit ports (A, B, and C) which can be independently configured for either input or output. Port C can also be configured in four-bit groups for input or output. Type 74LS245 tri-state transceivers provide hysteresis correction for inputs and added drive capability for inputs. The direction of these buffers is automatically set as input or output according to software command. The 8255 PPIs only function in Mode 0.

A major feature of this card is that the state of all inputs can be monitored and, if any one or more bits change, a latched interrupt request can be generated. Thus, you can detect input state changes without the need for software to continuously poll the inputs. After the interrupt has been serviced, the interrupt latch can be cleared by software control. Interrupts are OR'ed together and may be directed to an "AT" interrupt level by jumper selection.

Two 50-wire ribbon interface cables plug into headers on the card and exit through a slot in the back-plate. The connectors are compatible with our PB Series isolation relay racks as well as relay racks from other sources such as Gordos, Burr Brown, Grayhill and OPTO 22.

SPECIFICATIONS

Digital Inputs

Tri State Buffered: 74LS245
Logic High: 2.0 to 5.0 VDC
Logic Low: -0.5 to +0.8 VDC
Input Load (Hi): 20 µA
Input Load (Lo): -200 µA

Digital Outputs

Logic High: 2.5 VDC Min,
Source 15 mA
Logic Low: 0.5 VDC max,
Sink 24 mA

Power Output

+5 VDC from computer bus
(external 1A fast-blow fuse recommended).

Power Required

+5 VDC @ 300 mA typical

Size

7.15 in (181.6 mm) long

Temperature

Operating: 0 to 60°C
Storage: -50 to +120°C

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Relative Humidity

0 to 90% non-condensing

Connector

50-pin IDC Header/ 24 I/O lines

Address Requirements

16 bytes

Interrupts

3 thru 7, 10 thru 12, 14 & 15

PIN CONNECTORS

Port C Hi	PC7*	1	2
	PC6	3	4
	PC5	5	6
	PC4	7	8
Port C Lo	PC3**	9	10
	PC2	11	12
	PC1	13	14
	PC0	15	16
Port B	PB7	17	18
	PB6	19	20
	PB5	21	22
	PB4	23	24
	PB3	25	26
	PB2	27	28
	PB1	29	30
	PB0	31	32
Port A	PA7	33	34
	PA6	35	36
	PA5	37	38
	PA4	39	40
	PA3	41	42
	PA2	43	44
	PA1	45	46
	PA0	47	48
	+5VDC	49	50

* I/O Line and an INT. Enable
** I/O Line and User Interrupt

SOFTWARE

A disk is provided that includes a graphical Set-up program, and a routine titled FINDBASE that helps select an I/O base address that will not conflict with other resources already installed in the computer. Another software feature included is Windows DLLs that are designed to work with any Windows language that allows calls to DLLs. These DLLs support Windows 3.1x, Windows 95 and Windows NT.

Operating Systems Supported

DOS 3.3 and higher
Windows 3.1x
Windows 95
Windows NT

Languages Supported

Visual BASIC V3.0 (16-bit DLL)
Visual BASIC V4.0 (32-bit DLL)
Turbo C V2.0
Borland C++ V3.1 or higher

Demo/Example Programs Included

Examples in C are provided. A Windows sample is also provided.

Drivers Provided

Software drivers are not provided because direct register I/O is the fastest way to communicate and can be used with ease. Most high-level languages provide means for output statements and the user manual contains complete details about register assignments.

ORDERING GUIDE

Model DIO48S/AT-P

Board, manual, software

Model 2M50FC

Screw terminal board for field wiring

Model 2TK2D-6

6" section of SNAPTRACK

Model TKAD

DIN kit mounting clips for SNAPTRACK (2 required)

Model 50IDC

IDC Header connector

Model CAB50-6

6 ft (1.83 m) cable to connect to PB24 Isolation Relay Rack

Model CAB50A-6

Cable to connect to UTB-K Screw Terminal Panel or to 2M50FC

Model UTB

Terminal Panel

Model UTB-K

Termination panel w/ metal enclosure

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