

CPCI-DIO96H & CPCI-DIO48H

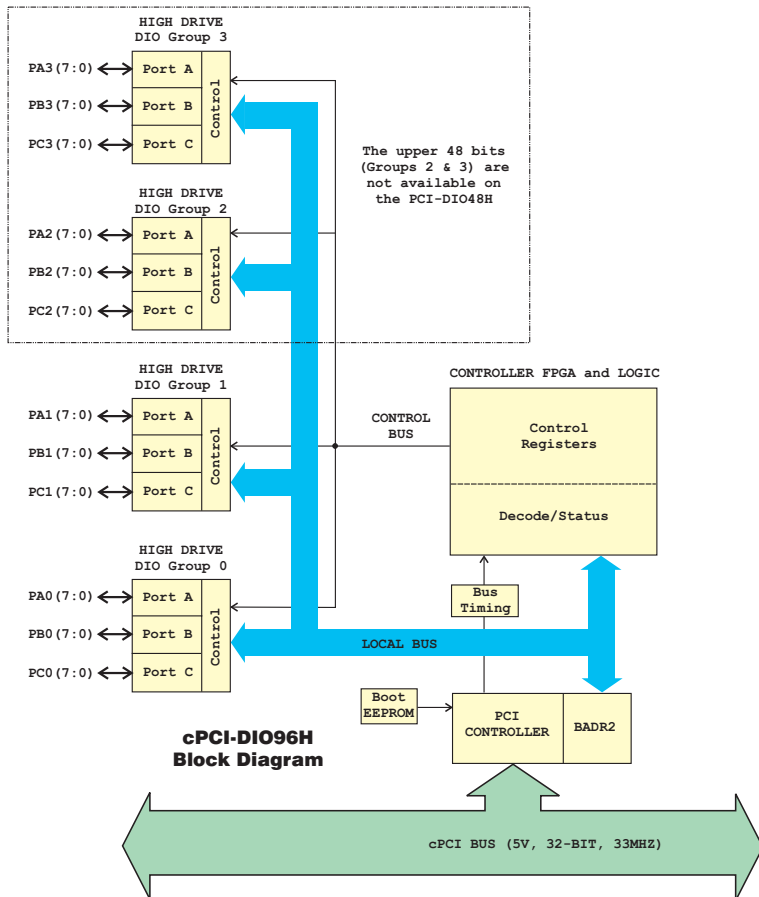
Compact PCI-bus Compatible, 96-Bit and 48-Bit, High Output Current, Logic Level Digital I/O Boards



Features

- 48 or 96 digital I/O bits
- High drive output (64 mA sink, 15 mA source)
- Emulates 8255 mode 0
- Compatible with a wide variety of relay and SSR module racks
- Register compatible with CIO-DIO48H/96H
- Fully plug-and-play

Block Diagram



I/O Connector & Cables

All CPCI-DIO96H I/O signals are brought through a 100-pin high-density connector. The C100FF-XX series cable splits the 100 pins into two separate 50-pin cables. The first 50-pin cable contains the signals from pins 1-50, (groups 0 & 1), while the second carries pins 51-100, (groups 2 & 3). These 50-pin cables are fully compatible with the SCB-50 and CIO-MINI50 screw terminal boxes/boards as well as all ComputerBoards 50-pin relay and solid state I/O module racks. The PCI-DIO48H signals are brought out through a 50-pin connector. The C50FF-XX cable connects the board to the SCB-50, CIO-MINI50 or any of our 50-pin compatible digital signal conditioning boards.

GND	50	●●●●	49	+5V
C0	48	●●●●	47	C1
C2	46	●●●●	45	C3
C4	44	●●●●	43	C5
C6	42	●●●●	41	C7
B0	40	●●●●	39	B1
B2	38	●●●●	37	B3
B4	36	●●●●	35	B5
B6	34	●●●●	33	B7
A0	32	●●●●	31	A1
A2	30	●●●●	29	A3
A4	28	●●●●	27	A5
A6	26	●●●●	25	A7
C0	24	●●●●	23	C1
C2	22	●●●●	21	C3
C4	20	●●●●	19	C5
C6	18	●●●●	17	C7
B0	16	●●●●	15	B1
B2	14	●●●●	13	B3
B4	12	●●●●	11	B5
B6	10	●●●●	9	B7
A0	8	●●●●	7	A1
A2	6	●●●●	5	A3
A4	4	●●●●	3	A5
A6	2	●●●●	1	A7

PCI-DIO48H Connector Diagram

Port A7	1	●●●●	51	Port A7
Port A6	2	●●●●	52	Port A6
Port A5	3	●●●●	53	Port A5
Port A4	4	●●●●	54	Port A4
Port A3	5	●●●●	55	Port A3
Port A2	6	●●●●	56	Port A2
Port A1	7	●●●●	57	Port A1
Port A0	8	●●●●	58	Port A0
Port B7	9	●●●●	59	Port B7
Port B6	10	●●●●	60	Port B6
Port B5	11	●●●●	61	Port B5
Port B4	12	●●●●	62	Port B4
Port B3	13	●●●●	63	Port B3
Port B2	14	●●●●	64	Port B2
Port B1	15	●●●●	65	Port B1
Port B0	16	●●●●	66	Port B0
Port C7	17	●●●●	67	Port C7
Port C6	18	●●●●	68	Port C6
Port C5	19	●●●●	69	Port C5
Port C4	20	●●●●	70	Port C4
Port C3	21	●●●●	71	Port C3
Port C2	22	●●●●	72	Port C2
Port C1	23	●●●●	73	Port C1
Port C0	24	●●●●	74	Port C0
Port A7	25	●●●●	75	Port A7
Port A6	26	●●●●	76	Port A6
Port A5	27	●●●●	77	Port A5
Port A4	28	●●●●	78	Port A4
Port A3	29	●●●●	79	Port A3
Port A2	30	●●●●	80	Port A2
Port A1	31	●●●●	81	Port A1
Port A0	32	●●●●	82	Port A0
Port B7	33	●●●●	83	Port B7
Port B6	34	●●●●	84	Port B6
Port B5	35	●●●●	85	Port B5
Port B4	36	●●●●	86	Port B4
Port B3	37	●●●●	87	Port B3
Port B2	38	●●●●	88	Port B2
Port B1	39	●●●●	89	Port B1
Port B0	40	●●●●	90	Port B0
Port C7	41	●●●●	91	Port C7
Port C6	42	●●●●	92	Port C6
Port C5	43	●●●●	93	Port C5
Port C4	44	●●●●	94	Port C4
Port C3	45	●●●●	95	Port C3
Port C2	46	●●●●	96	Port C2
Port C1	47	●●●●	97	Port C1
Port C0	48	●●●●	98	Port C0
+5V	49	●●●●	99	+5V
GND	50	●●●●	100	GND

PCI-DIO96H Connector Diagram

Functional Description

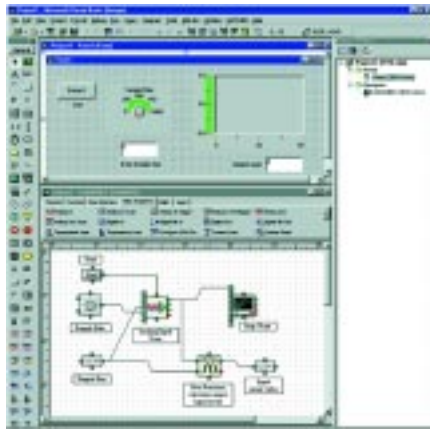
The PCI-DIO96H and PCI-DIO48H are high density, logic level, digital I/O boards for PCI bus compatible computers. The PCI-DIO96H offers 96 bits of digital I/O while the PCI-DIO48H has 48. Both boards the I/O in 24-bit *groups* based on an 82C55, mode 0 emulation. Each group provides an 8-bit port A and port B, as well as an 8-bit port C that can be split into independent 4-bit port C-HI and a 4-bit port C-LO.

The digital outputs drivers are 74S244 chips and provide 64 mA sink and 15 mA source current capabilities. The input buffers are 74LS373 and offer the high standard input impedance of the 74LS series. On power up and reset, all I/O bits are set to input mode. Like all members of the 74LS series, unconnected inputs will typically float high. If you are using the board to control items that must be *OFF* on reset, you will need to install pull-down resistors. Provisions have been made on the board to allow users to quickly and easily install SIP resistor networks in either pull-up or pull-down configurations.

The PCI-DIO48H and PCI-DIO96H are completely plug-and-play. There are no switches or jumpers on the board. All board addresses are set by your computer's plug-and-play software.

Software

All PCI-DIO96H and PCI-DIO48H series boards come complete with ComputerBoards' powerful *InstaCal*™ software package. *InstaCal* is a complete installation, calibration and test program for ComputerBoards data acquisition boards. Complete with extensive error checking, *InstaCal* guides you through installation and setup of your data acquisition board and creates the board configuration file for use by your program or application software package. *InstaCal* is described in the software section of this website.



SoftWIRE for Visual Basic combines the simplicity of graphical programming with the power and flexibility of programming in VB!

The boards are fully supported by ComputerBoards' powerful Universal Library. Universal Library is a complete set of I/O libraries and drivers for all of our boards, for all Windows based languages. When using the Universal Library you can switch boards or even programming languages and the syntax remains constant. Universal Library is fully described in the software section of this website.

The CPCI-DIO96H and CPCI-DIO48H boards are fully supported by a wide variety of applications software packages including SoftWIRE™, DAS-Wizard™, (and DAS-Wizard Pro™), HP VEE®, HP VEE Lab and LabVIEW™. For further details on these, as well as a variety of other software packages, please refer to the software section of this website.

Specifications

Digital Input / Output

CPCI-DIO48H Config	48 I/O bits: 2 banks of 8, 2 banks of 4, programmable by bank as input or output
CPCI-DIO96H Config	96 I/O bits: 8 banks of 8, 8 banks of 4, programmable by bank as input or output
Port configurations Digital Interface chips	Dual 8255 mode 0 emulation Output: 74S244 Input: 74LS373
Output High	2.4 volts @ -15mA min
Output Low	0.5 volts @ 64 mA min
Input High	2.0 volts min, 7 volts absolute max
Input Low	0.8 volts max, -0.5 volts absolute min
Power On / Reset State	All ports to input mode

Power consumption

CPCI-DIO48H	+5V: 1.2 A typical, 1.6 A max
CPCI-DIO96H	+5V: 2.2 A typical, 3.35 A max

Environmental

Operating temperature	0 to 70°C
Storage temperature	-40 to 100°C
Humidity	0 to 90% non-condensing

Ordering Guide

CPCI-DIO96H

96-bit, high current, logic level digital I/O board for PCI bus computers.

CPCI-DIO48H

48-bit, high current, logic level digital I/O board for PCI bus computers.



Solid State I/O Module Racks

SSR-RACK48	48-bit solid state I/O module rack
SSR-RACK24	24-bit solid state I/O module rack



Electromechanical Relay Boards

CIO-ERB48	48 relay, 6 Amp, Form C relay board
CIO-SERB48	48 relay, 10 Amp, Form C relay board with field replaceable relays
CIO-ERB24	24 relay, 6 Amp, Form C relay board
CIO-SERB24	24 relay, 10 Amp, fault detecting, Form C relay board w/ field replaceable relays

Screw Terminal Boxes and Boards

The CPCI-DIO48H is compatible with the SCB-50 and the CIO-MINI50 screw terminal box/board via the C50FF-2 cable. The CPCI-DIO96H utilizes the C100FF-2 cable as an interface to the SCB-50 (one required) or CIO-MINI50 (two required).

