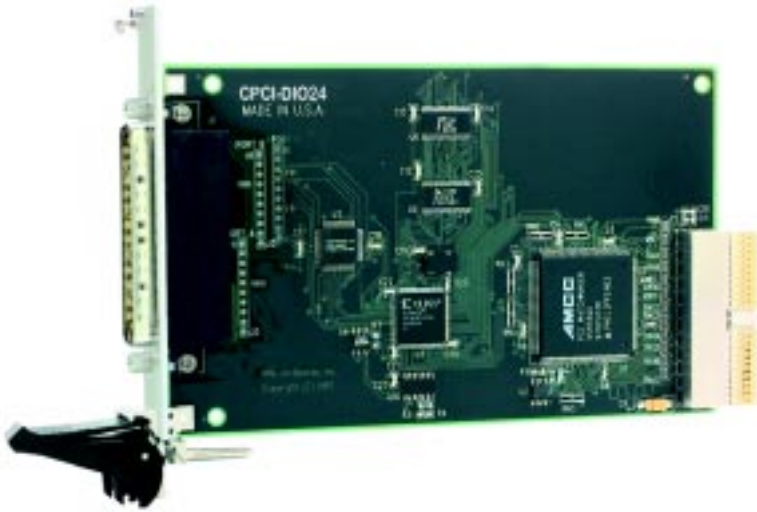


CPCI-DIO24H & CPCI-DIO24

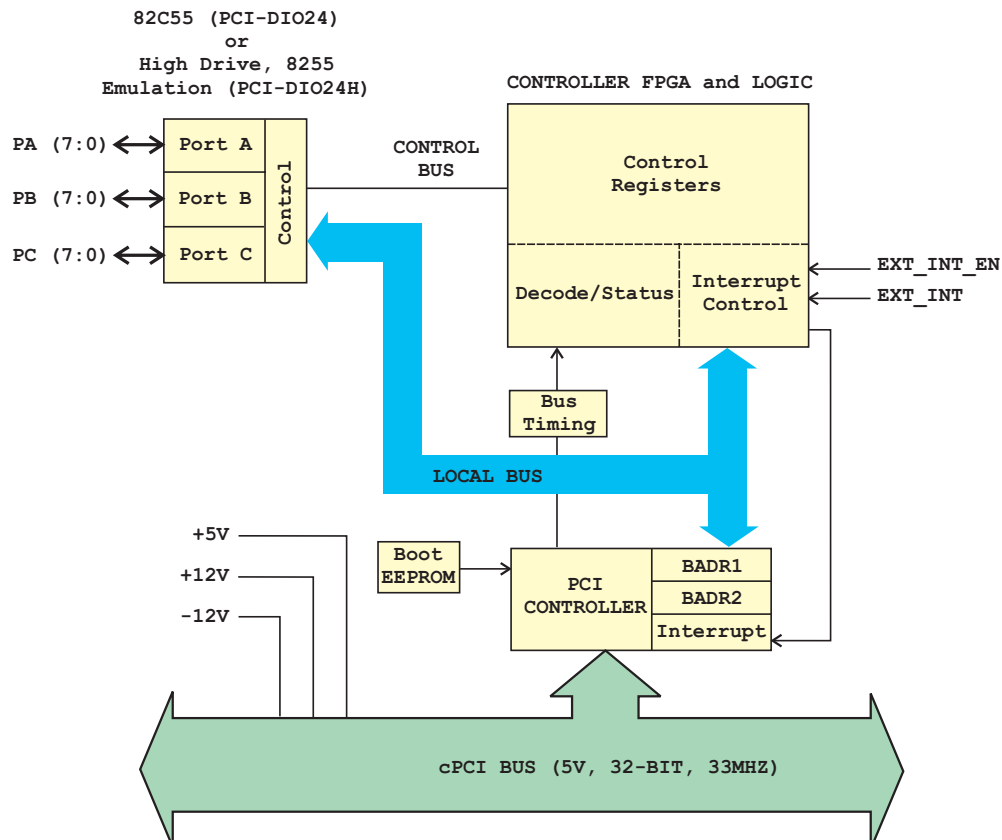
24-Bit CompactPCI-bus Compatible, Logic Level Digital I/O Boards



Features

- 24 digital I/O bits
- CPCI-DIO24 provides direct connections to an 82C55
- CPCI-DIO24H provides high current 82C55 mode 0 emulation (64 mA sink, 15 mA source)
- Compatible with a wide variety of Relay and SSR module racks
- Register compatible with the CIO-DIO24H and CIO-DIO24
- Connector compatible with the CIO-DIO24H and CIO-DIO24

Block Diagram



Functional Description

The CPCI-DIO24 and CPCI-DIO24H are low cost, 24-bit, logic level digital I/O boards for CompactPCI-bus compatible computers. The CPCI-DIO24 is based on the industry standard 82C55 chip, and the 82C55 I/O pins are brought directly to the board's I/O connector. The 82C55 is a powerful 24 bit chip and functions as two 8-bit ports, (Ports A and B) and a third 8-bit port (Port C) that may be further divided into two 4-bit ports (Port C-HI and C-LO). The CMOS outputs of the 82C55 are suitable for driving a wide array of logic devices, though the chips ± 2.5 mA drive capability may not be enough in some applications.

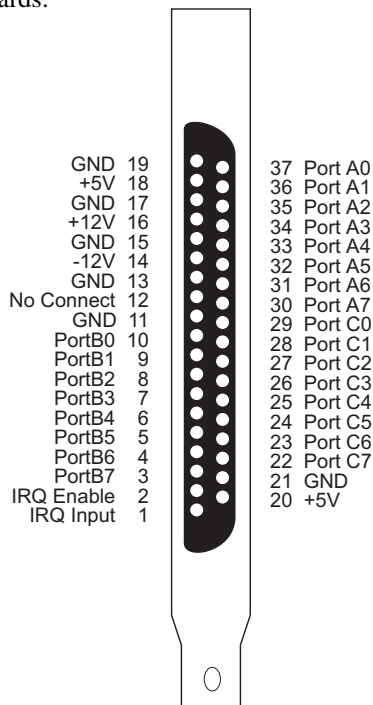
The CPCI-DIO24H board provides a discrete logic emulation of the 82C55 mode 0, but offers significantly higher output drive capability (64 mA sink, 15 mA source). This mode 0 emulation is fully compatible with the 82C55, and code written for 82C55 mode based boards will function perfectly on the CPCI-DIO24H.

The CPCI-DIO24(H) boards are connector and software compatible with ComputerBoards highly popular ISA based CIO-DIO24 board as well as a host of other 8255 based boards from other vendors. The boards are also supported by the same wide variety of external relay and solid state I/O module racks as the CIO-DIO24 boards.

The CPCI-DIO24 is completely plug-and-play. There are no switches, or jumpers on the board. All board addresses, interrupt channels etc. are set by your computers plug-and-play software.

I/O Connector & Cables

All I/O signals are brought through a 37-pin "D" connector. The (optional) C37FF-XX series cable brings all of the pins out and is suitable for use with all compatible screw terminal and signal conditioning accessory boards. The CPCI-DIO24 and CPCI-DIO24H connector pinout is identical to the standard ISA bus CIO-DIO24 boards and is fully compatible with the same wide assortment of signal conditioning accessory boards.



Software

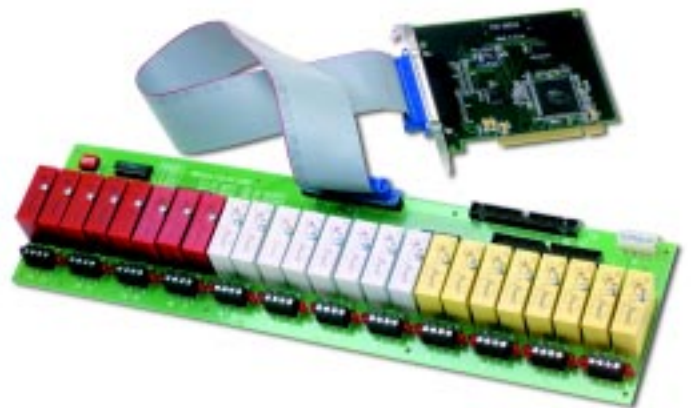
All PCI-DIO24 and PCI-DIO24H boards come complete with ComputerBoards' powerful **InstaCal**™ software package. **InstaCal** is a complete installation, calibration and test program for ComputerBoards data acquisition boards. Complete with extensive error checking, **InstaCal** guides you through installation 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.

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 PCI-DIO24 boards are also 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.



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



Combine a CPCI-DIO24, SSR-RACK24, C37FF-2 cable and your CompactPCI bus computer to create a powerful, low-cost digital monitoring and control station!

CPCI-DIO24 (&24H) Specifications

CPCI-DIO24

Digital Input / Output

Configuration	2 banks of 8, 2 banks of 4, programmable by bank as input or output
I/O device type	82C55
Number of channels	24 I/O
Output High	3.7 volts min @ -2.5mA
Output Low	0.4 volts max @ 2.5mA
Input High	2.2 volts min, VCC + .3 volts absolute max
Input Low	0.8 volts max, -0.3 volts absolute min
Power-up / reset state	Input mode (high impedance)
Interrupts	INTA# - mapped to IRQn via cPCI BIOS at boot-time
Interrupt enable	External (IR ENABLE, active low, programmable through PCI9050-1; 0 = disabled, 1 = enabled (default))
Interrupt sources	External source (IR INPUT), polarity programmable through PCI9050-1; 1 = active high, 0 = active low (default)

Power consumption

+5 V Operating	240 typical, 350 max
+12, -12	not used, but supplied to I/O connector

Environmental

Operating temperature	0 to 50 °C
Storage temperature	-20 to 70 °C
Humidity	0 to 90% non-condensing

CPCI-DIO24H

Digital Input / Output

Configuration	2 banks of 8, 2 banks of 4, programmable by bank as input or output
I/O Device Type	TTL based 8255 mode 0 emulation Output: 74S244 Input: 74LS373
Number of channels	24 I/O
Output High	2.4 volts min @ -15mA
Output Low	0.5 volts max @ 64 mA
Input High	2.0 volts min, 7 volts absolute max
Input Low	0.8 volts max, -0.5 volts absolute min
Power-up / reset state	Input mode (high impedance)
Interrupts	INTA# - mapped to IRQn via cPCI BIOS at boot-time
Interrupt enable	External (IR ENABLE, active low, programmable through PCI9050-1; 0 = disabled, 1 = enabled (default))
Interrupt sources	External source (IR INPUT), polarity programmable through PCI9050-1; 1 = active high, 0 = active low (default)

Power consumption

+5V Operating	625 mA typical, 960 mA max
+12, -12	not used, but supplied to I/O connector

Environmental

Operating temperature	0 to 50 °C
Storage temperature	-20 to 70 °C
Humidity	0 to 90% non-condensing

Signal Conditioning & Accessories

Solid State I/O Modules (see pages 176-178)



SSR-RACK08*	8 channel solid state I/O module rack.
SSR-RACK24*	24 channel solid state I/O module rack.
DR-Series	Single point, DIN rail mountable Solid State I/O modules.

Electromechanical Relays (see pages 174-175)



CIO-ERB08*	8 channel relay rack with 6 Amp, Form C relays
CIO-SERB08*	8 channel relay rack with 10 Amp, socketed and field replaceable Form C relays.
CIO-ERB24*	24 channel relay rack with 6 Amp, Form C relays
CIO-SERB24*	24 channel relay rack with 10 Amp, socketed and field replaceable Form C relays.

Screw Terminal Accessory Boards & Cables



SCB-37 Screw Connection Box
37 terminal shielded screw terminal box.
Requires C37FF-X series cable



CIO-MINI-37
37 terminal shielded screw terminal box.
Requires C37FF-X series cable.

* Items denoted with an asterisk are available with detachable screw terminals. These terminals simplify field wiring and board replacements. To specify detachable screw terminals add a /DST suffix to the part number (e.g., CIO-MINI37/DST or CIO-ERB24/DST).

Ordering Guide

CPCI-DIO24 24-bit, low cost, logic level digital I/O board for cPCI-bus computers.

CPCI-DIO24H 24-bit, high current, logic level digital I/O board for cPCI-bus computers.