

PCI-36C QUICK INSTALLATION GUIDE

1.0) Connecting the PCI 36C to the PC Backplane

Requirements:

- a) Any PCI Based Computer
- b) Philips Screw Driver (or one to match screw on the computer cabinet and bracket)

Procedure:

- a) Switch off the computer and all attached devices
- b) Unplug power cord from the computer and all attached devices.

Warning

Failure to disconnect all power cables can result in hazardous conditions, as there may be dangerous voltage levels present in externally connected cables.

- c) Remove the top cover from the PC. If you are not sure how to do this, consult the manual supplied with the system unit.
- d) Choose any PCI expansion slot and remove the screw from the metal bracket fixed corresponding to the chosen slot.
- e) If you are using the High Current Drive Feature (on the PCI-36C-ADV Boards) then you must insert the Ribbon Cable into the appropriate IDC20 Header.
- f) Align the gold plated edge connector with the edge socket and the rear adaptor slot with the board bracket. Firmly press the board down into the socket on the computer's system board. Ensure that the board's edge connector is in the socket and has not slipped sideways past the socket.
- g) Move the Ribbon Cable [for High Current Drive if you are using them as well] thru another empty slot on the computer.
- h) Replace the screw on the bracket and tighten the screw to the back panel.
- i) Replace the computer's cover. Plug in all cables and switch the computer power on. The PCI-36C is now installed.

2.1) PCI-36C DB37 Male User Connector (P1)

The PCI-36C interfaces to the external world via a D-Type 37 way Male Connector with pinouts shown below.

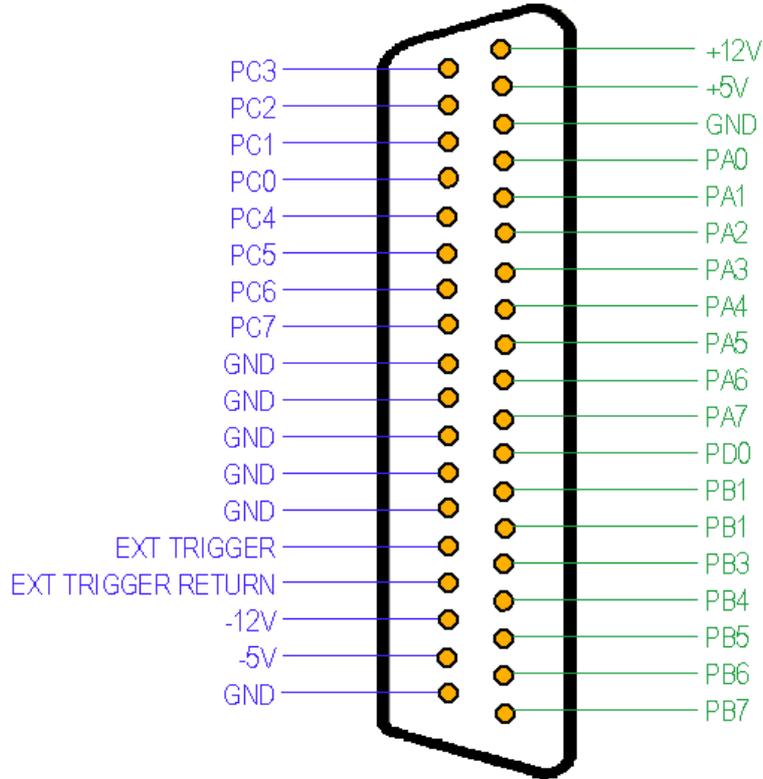


Figure 2.1: PCI-36C DB37RM Interface Connector (as seen from the rear of the PC)

2.2) Open Collector Digital Output Connector [H1]

This Connector is available on the PCI-36C-ADV Version. It allows an additional 16 Channels of high current drive into loads of up to 20mA per line. Connector Pinouts is shown in Figure 2.2a.

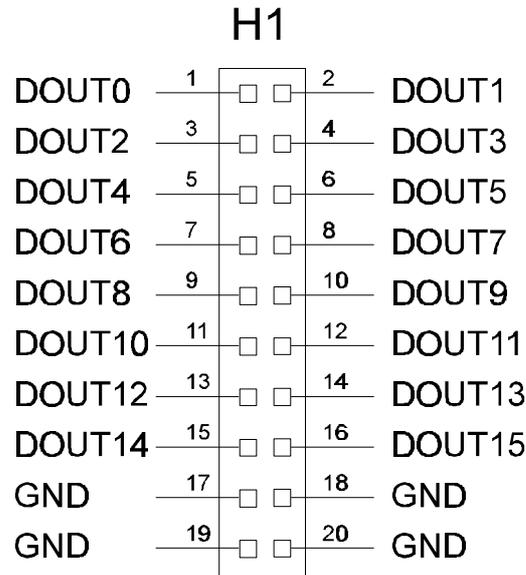


Figure 2:2a PCI-36C O/C Digital Output Connector (H1)

The O/C Digital Output Lines on this Connector [H1] is TTL Compatible and should never drive loads $> 5.1V$ with current $> 20mA$.

2.3) Differential/Single-ended External Interrupt Jumper Setting

The optically isolated input line can be connected differentially or single ended. Figure 1.5 illustrates this graphically:

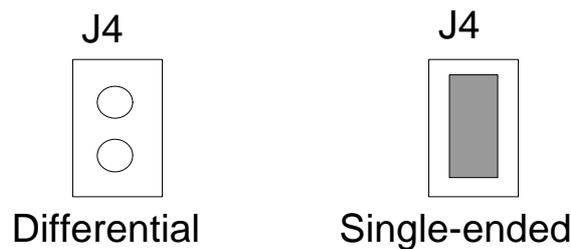


Figure 2.2a: Optically Isolated Input Diff/Single-ended Jumper Setting

Jumper J4 when enabled simply shorts the External Trigger Line Return to GND on the PCI-36C Board.

3) Testing the PCI-36C

Before attempting to interface the PCI-36C with your application, it is essential that you test the board first. This is done using the following procedure:

3.1) Testing the PCI-36C Board

- a) Install the PCI-36C hardware as explained above.
- b) Switch the Computer on and boot from an OS [DOS, Win '95/98 or NT] of your choice.
- b) Insert the EDR CD and run Setup under Win '95/98 or NT in order to install the all the files.
- c) For Windows NT: Run Install.bat in EDRE\WinNT\PCIXX\ directory.
Copy edrapi.dll and edrecfg.cpl from EDRE\UTILS\ to
WINNT\SYSTEM32.
- d) Reboot Computer
- e) Test card by running the **EAGLEDAQ control panel applet**.
- f) Run the DIO Example in the EDR\EXAMPLES\ SubDir.
- g) Apply a voltage (TTL only) to the digital inputs (assuming you are configuring the PPI as inputs). Check whether the input voltage (5V [1] or GND [0]) matches the bit settings displayed on the screen
- h) Assuming you are configuring the PPI as Digital Outputs: Write a logical Low or High to these lines and check (using a logic Probe or Multimeter) whether the output lines matched the levels of those written.
- i) If you have the PCI-36C-ADV Version then you can also test the additional 16 Output lines. Write a logical Low or High to these lines and check (using a logic Probe or Multimeter) whether the output lines matched the levels of those written.

The PCI-36C is now ready for use.

4.1) EDR Enhanced Functions for PCI-36C

Function List:

EDRE_GetAPIInfo	-Supply information about the EDRE API
EDRE_GetBoardInfo	-Supply information about a specific board that is installed
EDRE_GetSerialNo	-Return a specific device's serial number
EDRE_WaitOnInterrupt	-Hangs a thread until an interrupt event is received
EDRE_ReleaseInterrupt	-Releases an interrupt thread pre-maturely
EDRE_DioWrite	-Write to a Digital Port
EDRE_DioRead	-Read from a Digital Port
EDRE_StrBoardType	-Return a specific devices name
EDRE_StrError	-Convert an error code into a string

A detailed installation procedure is given in the EDR Enhanced Software Manual.