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ADAC/5500 Series Installation Guide

PCI Data Acquisition Boards



the smart approach to instrumentation ™

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Refer all service to qualified personnel. This caution symbol warns of possible personal injury or equipment damage under noted conditions. Follow all safety standards of professional practice and the recommendations in this manual. Using this equipment in ways other than described in this manual can present serious safety hazards or cause equipment damage.

This warning symbol is used in this manual or on the equipment to warn of possible injury or death from electrical shock under noted conditions.

This ESD caution symbol urges proper handling of equipment or components sensitive to damage from electrostatic discharge. Proper handling guidelines include the use of grounded anti-static mats and wrist straps, ESD-protective bags and cartons, and related procedures.

This symbol indicates the message is important, but is not of a Warning or Caution category. These notes can be of great benefit to the user, and should be read.

In this manual, the book symbol always precedes the words "Reference Note." This type of note identifies the location of additional information that may prove helpful. References may be made to other chapters or other documentation.

Tips provide advice that may save time during a procedure, or help to clarify an issue. Tips may include additional reference.

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Specifications are subject to change without notice. Significant changes will be addressed in an addendum or revision to the manual. As applicable, IOtech calibrates its hardware to published specifications. Periodic hardware calibration is not covered under the warranty and must be performed by qualified personnel as specified in this manual. Improper calibration procedures may void the warranty.

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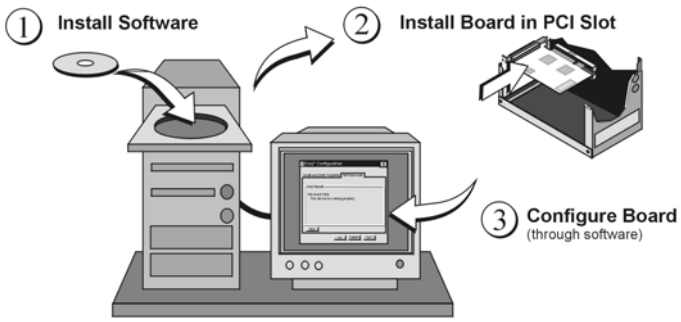
During software installation, Adobe® PDF versions of user manuals are automatically installed onto your hard drive as a part of product support. The default location is in the **Programs** group, which can be accessed from the Windows Desktop. A copy of the Adobe Acrobat Reader® is included on your CD. The Reader provides a means of reading and printing the PDF documents.

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ADAC/5500 Series, Installation

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Introduction

This document is designed to help you quickly install your ADAC software and ADAC/5500 Series Board. More detailed documents, in Adobe® PDF format, are installed on your hard-drive as a part of product support, during the software installation process.

After installing the software and the board, you will need to configure the board. Although this document provides some notes regarding board configuration, you will need to refer to your PDF copy of the *ADAC/5500 Series User's Manual* (p/n 1107-0905) for details.

You should keep your ADAC/5500 Series board's serial number and your authorization code (if applicable) with this document. Space is provided below for recording up to 4 board numbers and their PCI bus-slot location. The board serial number is located on the bottom of the board.

	Board Type (e.g., ADAC/5500MF, ADAC/5503HR, etc.)*	**Serial Number**	**PCI Bus-Slot Location**
Board 1			
Board 2			
Board 3			
Board 4			

The host PC can support up to four ADAC/5500 Series Boards.

***Note**: ADAC/5500 Series boards have device labels which read, for example, "ADAC/5500MF," "ADAC/5501MF," etc. The name labels are convenient for users of more than one board type.

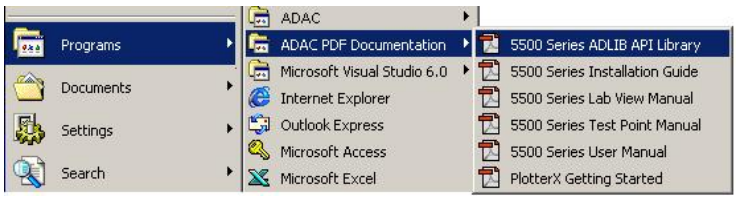
Authorization Code for purchased software (if applicable) _____

If you purchased software that requires an authorization code, the code will be located on an *authorization code sheet* that you will receive with your order.

WARNING

Always turn the computer power OFF and unplug it before connecting or disconnecting a screw terminal panel or a cable to the PCI card. Failure to do so could result in electric shock, or equipment damage.

Reference Notes:
(1) Each ADAC/5500 Series Board plugs into a PCI bus-slot. Consult your PC owner's manual as needed.
(2) After the software install, you can navigate to relevant electronic documents from your desktop as follows:
Start ⇒ Programs ⇒ ADAC PDF Documentation

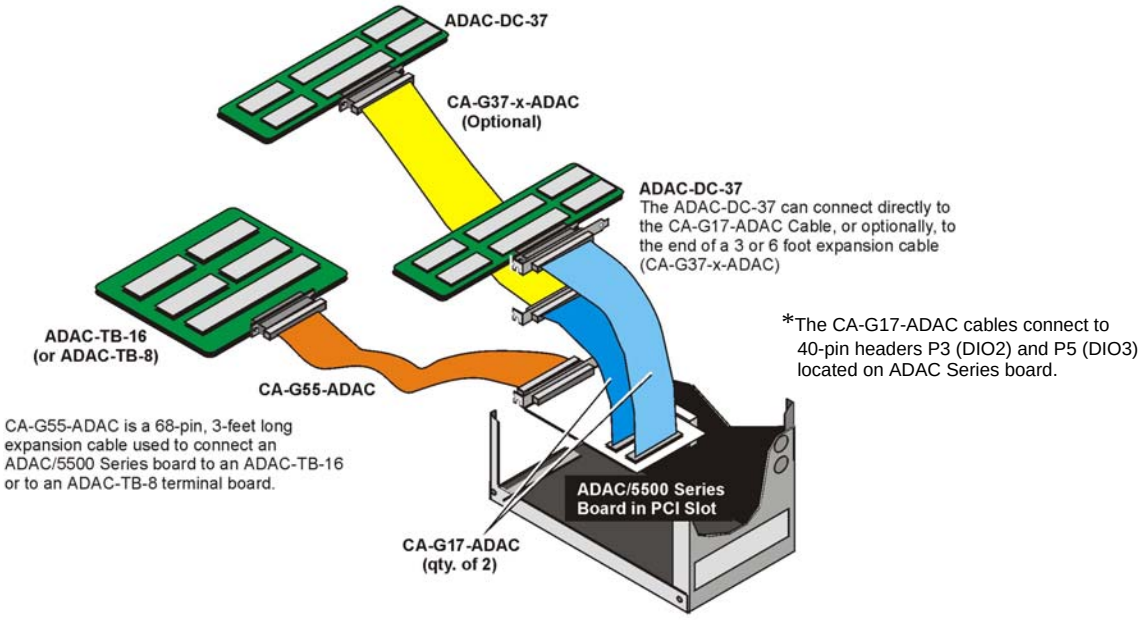


Accessing ADAC PDF Documentation

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ADAC/5500 Series Boards

Feature	/5500MF	/5501MF /5501MF-V	/5502MF /5502MF-V	/5503HR /5503HR-V	/5504HR /5504HR-V
Analog Inputs	8 Single-Ended	16 Single-Ended, or 16 Pseudo-Diff., or 8 Differential	16 Single-Ended, or 16 Pseudo-Diff., or 8 Differential	16 Single-Ended, or 16 Pseudo-Diff., or 8 Differential	16 Single-Ended, or 16 Pseudo-Diff., or 8 Differential
Ranges- Unipolar	0 to 10V	0 to10V 0 to 5V 0 to 2.5V 0 to 1.25V	0 to10V 0 to 1V 0 to 95mV 0 to 9.5mV	0 to10V 0 to 5V 0 to 2.5V 0 to 1.25V	0 to10V 0 to 1V 0 to 99.84 mV
Bipolar	± 10V	± 10V ± 5V ± 2.5V ± 1.25V	± 10V ± 1V ± 95mV ± 9.5mV	± 10V ± 5V ± 2.5V ± 1.25V	± 10V ± 1V ± 99.86mV
Resolution	12-bit	12-bit	12-bit	16-bit	16-bit
A/D Sample Rate	100 kHz	100 kHz	100 kHz	200 kHz	200 kHz
Gains (Programmable)	N/A	1, 2, 4, 8	1, 10, 100, 1000	1, 2, 4, 8	1, 10, 100
D/A Outputs (16-Bit)	0	2 Clocked DACs (/5501MF-V only)	2 Clocked DACs (/5502MF-V only)	2 Clocked DACs (/5503HR-V only)	2 Clocked DACs (/5504HR-V only)
Digital I/O	16 (Two 8-bit registers)	16 – from main I/O (Two 8-bit registers) 16 – from aux. P3* 16 – from aux. P5*	16 – from main I/O (Two 8-bit registers) 16 – from aux. P3* 16 – from aux. P5*	16 – from main I/O (Two 8-bit registers) 16 – from aux. P3* 16 – from aux. P5*	16 – from main I/O (Two 8-bit registers) 16 – from aux. P3* 16 – from aux. P5*
Counters (16-Bit)	2	2	2	2	2
Timers	2	2	2	2	2
Associated Terminal Boards	ADAC-TB-8	ADAC-TB-16 ADAC-DC-37 (qty. 2)	ADAC-TB-16 ADAC-DC-37 (qty. 2)	ADAC-TB-16 ADAC-DC-37 (qty. 2)	ADAC-TB-16 ADAC-DC-37 (qty. 2)
Associated Cables (see figure)	CA-G55-ADAC	CA-G55-ADAC CA-G17-ADAC CA-G37-x-ADAC	CA-G55-ADAC CA-G17-ADAC CA-G37-x-ADAC	CA-G55-ADAC CA-G17-ADAC CA-G37-x-ADAC	CA-G55-ADAC CA-G17-ADAC CA-G37-x-ADAC



ADAC/5500 Series, Possible Connections to Terminal Boards

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Step 1 – *Install Software*



IMPORTANT: Software must be installed before installing hardware.

1. Remove previous version ADAC drivers, if present. You can do this through Microsoft's **Add/Remove Programs** feature.
2. Place the Data Acquisition CD into the CD-ROM drive. *Wait for PC to auto-run the CD. This may take a few moments, depending on your PC.*

   If the CD does not auto-run, use the Desktop's Start/Run/Browse feature to select and run Setup.exe.
3. After the intro-screen appears, follow the screen prompts.

Upon completing the software installation, continue with step 2, *Install Boards in Available PCI Bus-Slots*.

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Step 2 – *Install Boards in available PCI Bus-slots*

IMPORTANT: Software must be installed before installing hardware.

WARNING

Turn OFF power to, and UNPLUG the host PC and externally connected equipment prior to removing the PC's cover and installing an ADAC/5500 Series Board. Failure to do so could result in electric shock, or damage to equipment.

CAUTION

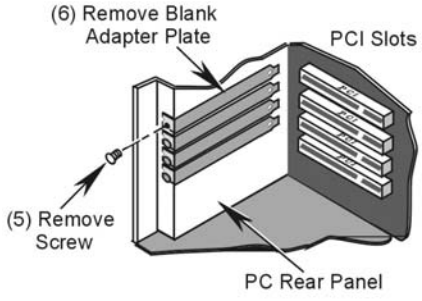
Take ESD precautions (packaging, proper handling, grounded wrist strap, etc.)
Use care to avoid touching board surfaces and onboard components. Only handle boards by their edges (or ORBs, if applicable). Ensure boards do not come into contact with foreign elements such as oils, water, and industrial particulate.

IMPORTANT: Bus Mastering DMA *must be* Enabled.

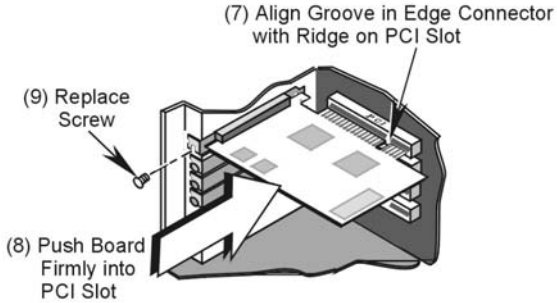
For an ADAC/5500 Series board to operate properly, Bus Mastering DMA *must be enabled* on the PCI slot [for which the board is to be installed]. Prior to installation, verify that your computer is capable of performing Bus Mastering DMA for the applicable PCI slot. Note that some computers have BIOS settings that enable [or disable] Bus Mastering DMA. If your computer has this BIOS option, ensure that Bus Mastering DMA is *Enabled* on the appropriate PCI slot.

Refer to your PC Owner's Manual for additional information regarding your PC and enabling Bus Mastering DMA for PCI slots.

1. Turn **OFF** power to, and **UNPLUG the host PC** and externally connected equipment.
2. Remove the PC's cover. *Refer to your PC Owner's Manual as needed*.
3. Choose an available PCI bus-slot.
4. Carefully remove ADAC/5500 Series Board from its anti-static protective bag. If you have not already done so, write down the serial number and type of ADAC board in the space provided on page 3 of this document.
5. On the PC's rear panel, loosen and remove the screw for the blank adapter plate that corresponds with the chosen PCI bus. *See left-hand figure, below.*



Removing a Blank Adapter Plate



Installing an ADAC/5500 Series Board

6. Remove the blank adapter plate. *Refer to your PC Owner's Manual if needed*.

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7. Align the groove in the ADAC/5500 Series board's PCI edge-connector with the ridge of the desired PCI slot. *See preceding right-hand figure.*
8. Push the board firmly into the PCI slot. The board should "snap" into position.
9. Secure the board by inserting the rear-panel adapter-plate screw.
10. Using the previous steps, install additional boards into available PCI bus-slots, if applicable to your application.
11. Replace the computer's cover.
12. Plug in all cords and cables that were removed in step 1.
13. Apply power to, and start up the PC.

Note: At this point some PCs may prompt you to insert an installation disk. While this is rare, if you do receive such a prompt simply place the install CD-ROM into the disk drive and follow additional screen prompts.



Reference Notes:
After you have completed the installation you should refer to the electronic documents that were automatically installed onto your hard drive as a part of product support. The default location is in the **Programs** group, which can be accessed from the Windows Desktop.

ADAC related documents, in Adobe® PDF format, are:

- ***ADAC/5500 Series User's Manual,*** **p/n 1107-0905**
  (ADAC5500 Series Users Manual.pdf)
- ***ADAC-LVi User's Manual, Data Acquisition VIs for LabView,*** **p/n 1107-0901**
  (ADAC-LVi Users Manual.pdf)
- ***ADLIB WIN Interface Library Software User's Manual,*** **p/n 1107-0902**
  (ADLIB WIN Users Manual.pdf)
- ***TP ADAC-32 (32-Bit TestPoint Driver) User's Manual,*** **p/n 1107-0903**
  (TP ADAC-32 Users Manual.pdf)
- ***PlotterX, PlotterX Plus, and ADAC Config Getting Started,*** **p/n 1107-0941**
  (PlotterX-GettingStarted.pdf)

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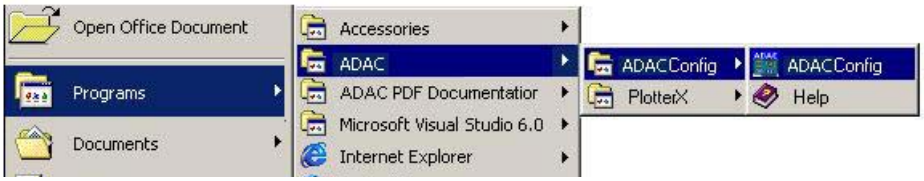
Step 3 – *Configure Boards*

WARNING

Always turn the computer power OFF and unplug it before connecting or disconnecting a screw terminal panel or a cable to the PCI card. Failure to do so could result in electric shock, or damage to equipment.

Before you can use your ADAC/5500 Series Board, you will need to configure it using the ***ADAC/5500 Series User's Manual,*** **p/n 1107-0905** (**ADAC5500 Series Users Manual.pdf**) for reference. However, prior to doing so you may find it helpful to review the following points:

- All configurations, including data-acquisition settings such as analog input, data collection rates, input voltage range, and operating modes are made through ADAC configuration software. The ADAC configuration software (**ADAC Config**) file can be accessed from the Windows desktop Start Menu by navigating as follows: **Start ⇒ Programs ⇒ ADAC ⇒ ADAC Config ⇒ ADAC Config**



Desktop Path to ADAC Config

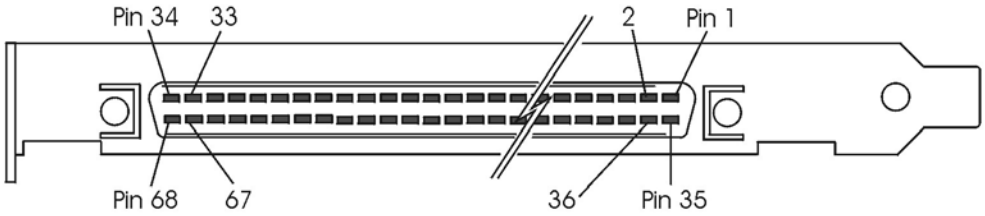
- **ADAC ADLIB WDM** software drivers provide an application level software interface to Windows 98/ME/NT/2000/XP. Software packages such as **LabVIEW**™ communicate through our ADLIB driver software. These packages configure and collect, or output, acquisition data in a GUI based interface.
- The **ADAC/5501MF, ADAC/5502MF, ADAC/5503HR** and **ADAC/5504HR** analog inputs are impedance buffered and drive a differential gain amplifier that can be referenced in a number of ways, allowing the following programmable input configurations: ***Single-Ended, Pseudo-Differential,*** **and** ***Fully-Differential.***
- The **ADAC/5500MF** analog inputs are impedance buffered. They can only be referenced in ***Single-Ended*** input configuration. 1 to 176 element channel-configuration RAM is provided to allow each ADC channel to be programmed with a different combination of Gain, Range, and Input Configuration. Note that these modes also apply to expansion channels located on the ADAC line of accessory screw terminal panels.
- The **analog inputs** on the ADAC/5500, ADAC/5501MF, ADAC/5502MF, ADAC/5503HR and ADAC/5504HR may be configured for either ±10 V bipolar or 0-10 V unipolar operation. The input range is programmable on a channel-by-channel basis in a 176-element channel configuration RAM. Note that the range selection also applies to expansion channels.
- The **programmable gain circuitry** on the ADAC/5501MF, ADAC/5502MF, ADAC/5503HR and ADAC/5504HR must be taken into account in defining the usable error free input range. The boards provide a wide range of programmable ranges and resolutions.
- The ADAC/5500 Series Boards each bring out ±15 V and +5 V to the main I/O connector (J1). In addition, the ADAC/5501MF, ADAC/5502MF, ADAC/5503HR and ADAC/5504HR bring +5 V to the auxiliary digital I/O connectors (P3 and P5), located on the backside of those boards. These power lines are individually fused to protect the ADAC/5500 Series Board. Note that connecting or disconnecting cables or screw terminal panels (as well as any user connections to these power lines) may blow a fuse, or cause damage to the board.
- Incorrect connection of user wiring is one of the most common problems experienced by users of data acquisition boards. To ensure proper results, you must first determine what type of signal source you are measuring (*Ground Referenced Source* or *Floating Source*), and then choose the appropriate input configuration on your data acquisition card (*Differential, Pseudo-Differential*, or *Single-Ended*). Your user's manual provides detailed information.

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Pinouts

This section contains pinouts for the various ADAC/5500 Series Boards and the terminal boards that can be used with them, i.e., ADAC-TB-8, ADAC-TB-16, and DC-37.

J1 Pin Assignments for ADAC/5500MF Only

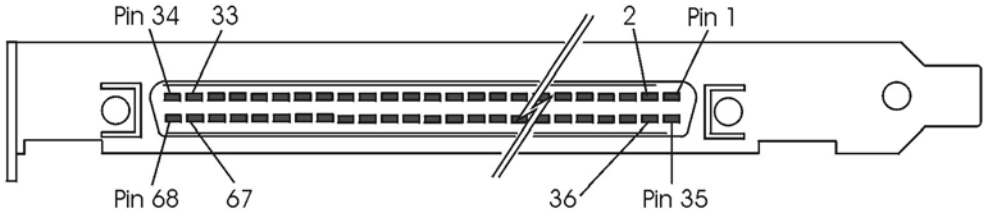


Standard 68-Pin SCSCI Type III, Socket (Female) Connector with Orb

Pin	Signal	Description / Comments	Pin	Signal	Description / Comments
1	DGND	Digital Ground	35	+5 V (fused)	Power
2	+15 V (fused)	Power	36	+5 V (fused)	Power
3	-15 V (fused)	Power	37	+5 V (fused)	Power
4	ADTGOUT / TMR0	Internal ADC Trigger Output / Timer 0 Clock Output	38	ADTGIN	External Gate (level controlled), or External Trigger (edge active)
5	ADCLKOUT / TMR1	Internal ADC Trigger Output / Timer 1 Clock Output	39	ADCLKIN / CNTR0	External ADC Clock In, or Counter 0. Rising or Falling Edge Sensitive.
6	N/C	Not Connected	40	CNTR1	Counter 1 Clock Input
7	DIO_15	TTL Level Digital I/O Ch. 15	41	DIO_14	TTL Level Digital I/O Ch. 14
8	DIO_13	TTL Level Digital I/O Ch. 13	42	DIO_12	TTL Level Digital I/O Ch. 12
9	DIO_11	TTL Level Digital I/O Ch. 11	43	DIO_10	TTL Level Digital I/O Ch. 10
10	DIO_9	TTL Level Digital I/O Ch. 9	44	DIO_8	TTL Level Digital I/O Ch. 8
11	DIO_7	TTL Level Digital I/O Ch. 7	45	DIO_6	TTL Level Digital I/O Ch. 6
12	DIO_5	TTL Level Digital I/O Ch. 5	46	DIO_4	TTL Level Digital I/O Ch. 4
13	DIO_3	TTL Level Digital I/O Ch. 3	47	DIO_2	TTL Level Digital I/O Ch. 2
14	DIO_1	TTL Level Digital I/O Ch. 1	48	DIO_0	TTL Level Digital I/O Ch. 0
15	DGND	Digital Ground	49	N/C	Not Connected
16	N/C	Not Connected	50	N/C	Not Connected
17	N/C	Not Connected	51	N/C	Not Connected
18	N/C	Not Connected	52	N/C	Not Connected
19	N/C	Not Connected	53	N/C	Not Connected
20	N/C	Not Connected	54	N/C	Not Connected
21	AGND	Analog Ground	55	AGND	Analog Ground
22	N/C	Not Connected	56	N/C	Not Connected
23	SGND	Signal Ground	57	N/C	Not Connected
24	N/C	Not Connected	58	N/C	Not Connected
25	AIN_7	Analog Input, Ch. 7	59	AIN_3	Analog Input, Ch. 3
26	N/C	Not Connected	60	N/C	Not Connected
27	AIN_6	Analog Input, Ch. 6	61	AIN_2	Analog Input, Ch. 2
28	N/C	Not Connected	62	N/C	Not Connected
29	AIN_5	Analog Input, Ch. 5	63	AIN_1	Analog Input, Ch. 1
30	N/C	Not Connected	64	N/C	Not Connected
31	AIN_4	Analog Input, Ch. 4	65	AIN_0	Analog Input, Ch. 0
32	N/C	Not Connected	66	N/C	Not Connected
33	N/C	Not Connected	67	N/C	Not Connected
34	AGND	Analog Ground	68	DGND	Digital Ground

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J1 Pin Assignments for ADAC/5501MF, ADAC/5502MF, ADAC/5503HR, and ADAC/5504HR



Standard 68-Pin SCSCI Type III, Socket (Female) Connector with Orb

Pin	Signal	Description / Comments	Pin	Signal	Description / Comments
1	DGND	Digital Ground	35	+5 V (fused)	Power
2	+15 V (fused)	Power	36	+5 V (fused)	Power
3	-15 V (fused)	Power	37	+5 V (fused)	Power
4	ADTGOUT / TMR0	Internal ADC Trigger Output / Timer 0 Clock Output	38	ADTGIN	External Gate (level controlled), or External Trigger (edge active)
5	ADCLKOUT / TMR1	Internal ADC Trigger Output / Timer 1 Clock Output	39	ADCLKIN / CNTR0	External ADC Clock In, or Counter 0. Rising or Falling Edge Sensitive.
6	DATRIGIN	DAC0 External Gate (Level Controlled), or External Trigger (Edge Active)	40	DACLKIN / CNTR1	External ADC Clock In, or Counter 0. Rising or Falling Edge Sensitive.
7	DIO_15	TTL Level Digital I/O Ch. 15	41	DIO_14	TTL Level Digital I/O Ch. 14
8	DIO_13	TTL Level Digital I/O Ch. 13	42	DIO_12	TTL Level Digital I/O Ch. 12
9	DIO_11	TTL Level Digital I/O Ch. 11	43	DIO_10	TTL Level Digital I/O Ch. 10
10	DIO_9	TTL Level Digital I/O Ch. 9	44	DIO_8	TTL Level Digital I/O Ch. 8
11	DIO_7	TTL Level Digital I/O Ch. 7	45	DIO_6	TTL Level Digital I/O Ch. 6
12	DIO_5	TTL Level Digital I/O Ch. 5	46	DIO_4	TTL Level Digital I/O Ch. 4
13	DIO_3	TTL Level Digital I/O Ch. 3	47	DIO_2	TTL Level Digital I/O Ch. 2
14	DIO_1	TTL Level Digital I/O Ch. 1	48	DIO_0	TTL Level Digital I/O Ch. 0
15	DGND	Digital Ground	49	CJ2	Reserved
16	CJ1	Reserved	50	CJ0	Reserved
17	MUX7	Reserved	51	MUX6	Reserved
18	MUX5	Reserved	52	MUX4	Reserved
19	MUX3	Reserved	53	MUX2	Reserved
20	MUX1	Reserved	54	MUX0	Reserved
21	AGND	Analog Ground	55	AGND	Analog Ground
22	ADEX_LO	Reserved, AD Expansion LO	56	ADEX_HI	Reserved, AD Expansion HI
23	SGND	Signal Ground	57	PDIN	Pseudo-Differential Input return
24	AIN_15	Analog Input, Ch. 15	58	AIN_7	Analog Input, Ch. 7
25	AIN_14	Analog Input, Ch. 14	59	AIN_6	Analog Input, Ch. 6
26	AIN_13	Analog Input, Ch. 13	60	AIN_5	Analog Input, Ch. 5
27	AIN_12	Analog Input, Ch. 12	61	AIN_4	Analog Input, Ch. 4
28	AIN_11	Analog Input, Ch. 11	62	AIN_3	Analog Input, Ch. 3
29	AIN_10	Analog Input, Ch. 10	63	AIN_2	Analog Input, Ch. 2
30	AIN_9	Analog Input, Ch. 9	64	AIN_1	Analog Input, Ch. 1
31	AIN_8	Analog Input, Ch. 8	65	AIN_0	Analog Input, Ch. 0
32	RTN1	Voltage output return, line 1.	66	DAC1 (Note 2)	Digital-to-Analog Converter 1
33	RTN0	Voltage output return, line 0.	67	DAC0 (Note 1)	Digital-to-Analog Converter 0
34	AGND	Analog Ground	68	DGND	Digital Ground

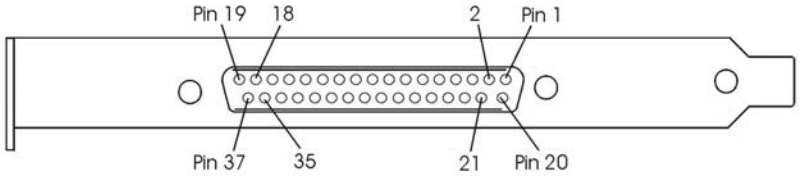
Note 1: The clock source of the primary DAC0 channel may be software command, DAC0 Pacer clock, or an external event (DACLKIN).

Note 2: The clock source of the secondary DAC1 channel may be software command, DAC1 Pacer clock, or Channel 0 clock source.

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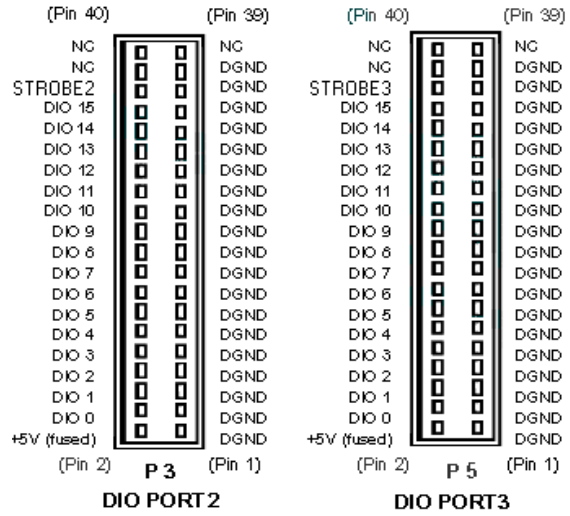
P3 and P5 Pin Assignments

The ADAC/5501MF, ADAC/5502MF, ADAC/5503HR and ADAC/5504HR include two auxiliary 40-pin headers. These are located on the back of the boards, and provide access to the two 16-bit DIO ports (DIO2 and DIO3). Two CA-G17-ADAC cables can be used to bring the DIO2 and DIO3 headers to separate37-pin D-type connectors [one GA-17 cable per DIO header]. GA17's orb (following figure) mounts at the back of the host PC.

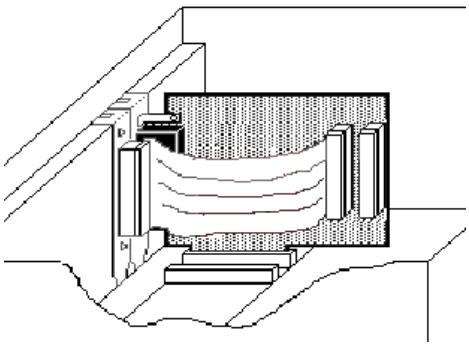


The DB37-end of a CA-G17-ADAC Cable, which includes an Orb for PC Mounting

SIGNAL NAME	P3 PIN or P5 PIN	G17 PIN (37-pin D)	SIGNAL NAME	P3 PIN or P5 PIN	G17 PIN (37-pin D)
DGND	1	1	DGND	21	11
+ 5 V (fused)	2	20	D9	22	30
DGND	3	2	DGND	23	12
D0	4	21	D10	24	31
DGND	5	3	DGND	25	13
D1	6	22	D11	26	32
DGND	7	4	DGND	27	14
D2	8	23	D12	28	33
DGND	9	5	DGND	29	15
D3	10	24	D13	30	34
DGND	11	6	DGND	31	16
D4	12	25	D14	32	35
DGND	13	7	DGND	33	17
D5	14	26	D15	34	36
DGND	15	8	DGND	35	18
D6	16	27	STROBE2 / 3	36	37
DGND	17	9	DGND	37	19
D7	18	28	DGND	38	n/c
DGND	19	10	DGND	39	n/c
D8	20	29	DGND	40	n/c



P3 & P5 Auxiliary Digital I/O Connectors
Standard 40-Pin Male Headers



A CA-G17-ADAC Cable, Installed

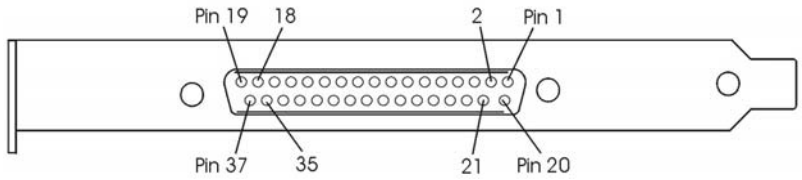
Signal definitions for the P3 and P5 Auxiliary 40-Pin DIO headers and the DB37 connector follow.

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Signal Definitions for P3, P5, and GB17's DB37 Connector

The following descriptions apply to each of the signals that are available at the 40-pin auxiliary DIO headers, designated as P3 and P5. The headers are located on the back of boards: ADAC/5501MF, ADAC/5502MF, ADAC/5503HR, and ADAC/5504HR. In addition, the signals apply to the corresponding pins on GA17's DB37 connector as indicated in the table on the preceding page.

GA17's orb (following figure) mounts at the back of the host PC.



The DB37-end of a CA-G17-ADAC Cable, which includes an Orb for PC Mounting

D0... D15 These signals are the sixteen 5 V CMOS/LSTTL level digital input/output lines of DIO2 on connector P3, and the D103 connector on P5.
On G17's DB37 connector, D0 through D15 correspond to pins 21 through 36, with DB0 assigned to pin 21, DB1 assigned to pin 22, DB2 assigned to pin 23, etc.

DGND This signal is the +5 V power return line. It may also be used as a reference ground for TTL signals. **On G17's DB37 connector**, the DGND lines connect to pins 1 through 19, inclusive.

+5 V This signal is +5 V power voltage signal that is sourced directly from the PC bus. The +5 V lines are fused at 3 amps. See **WARNING**. On G17's DB37 connector, the +5 V power signal corresponds to pin 20.

WARNING

Possible electric shock. Take great care when using the +5 V power as the voltage signal is sourced directly from the PC Bus. The +5 V lines are fused at 3 Amps.

STROBE The Strobe2 signal is provided on the DIO2 37-pin interface and the Strobe3 signal is provided on the DIO3 interface. When either port is configured as an input port, the associated Strobe signal is disabled and placed in a High Impedance state (Z off). When DIO port is configured as an output port, the associated strobe signal will be pulsed low for 1 microsecond following each data output event that occurs.

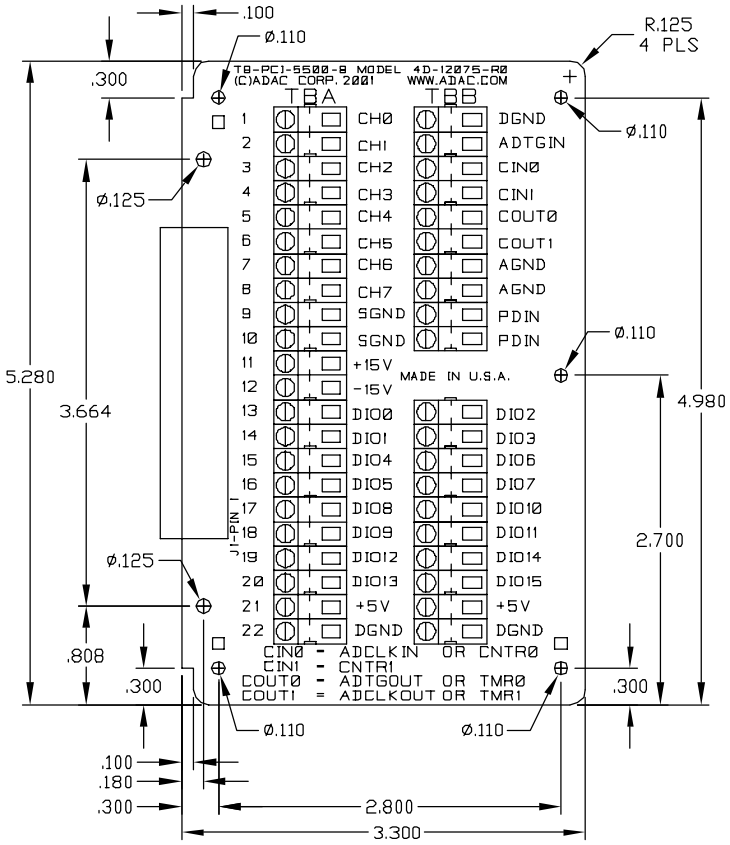
On system power-up the DIO Strobe signals are disabled and placed in a High Impedance state (Z off). 3.3 V CMOS signal.

In regard to the **G17 DB37 connector,** pin-37 is used for the strobe signal.

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ADAC-TB-8 Screw-Terminal Board Connections

The ADAC-TB-8 provides screw-terminal access to all of a ADAC/5500MF board's analog and digital I/O signals. The terminal board connects to the ADAC/5500MF via a 3-foot long 68-pin conductor expansion cable, p/n CA-G55-ADAC. The terminal board accepts wire up to 14 AWG.



ADAC-TB-8

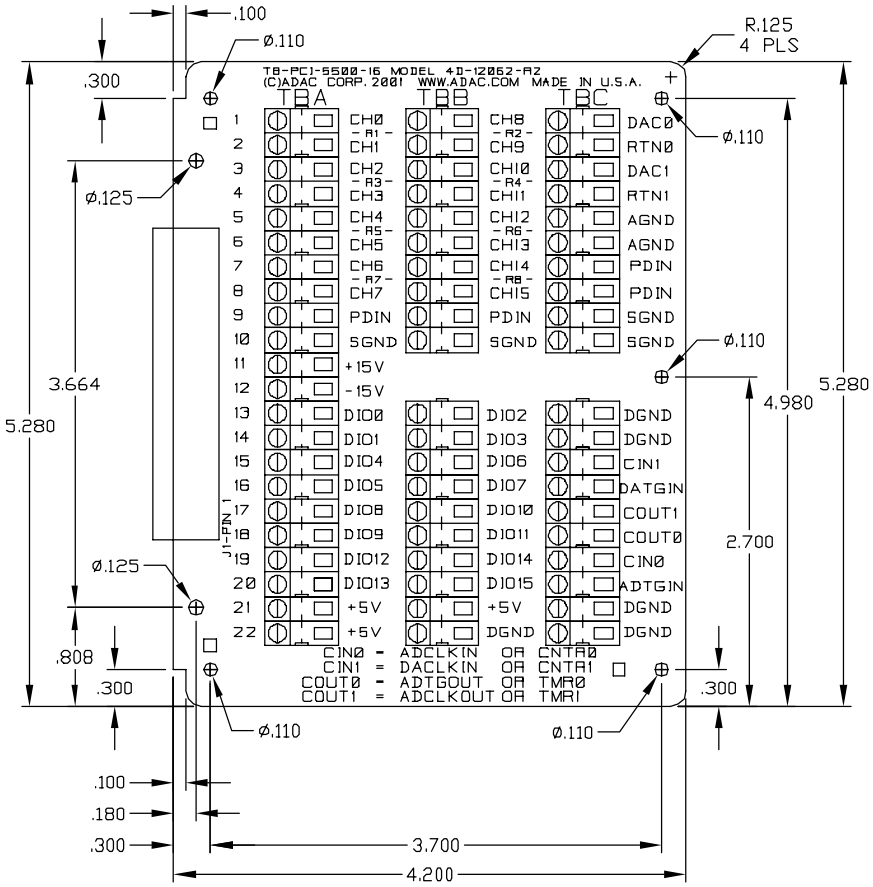
WARNING

Always turn the computer power OFF and unplug it before connecting or disconnecting a screw terminal panel or a cable to the PCI card. Failure to do so could result in electric shock, or equipment damage.

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ADAC-TB-16 Screw-Terminal Board

One ADAC-TB-16 provides screw-terminal access to all analog and digital I/O signals from any one of the following boards: ADAC/5501MF, ADAC/5501MF-V, ADAC/5503HR, and ADAC/5503HR-V. The terminal board connects to the board via a 3-foot long 68-pin conductor expansion cable, p/n CA-G55-ADAC. The terminal board accepts wire up to 14 AWG.



ADAC-TB-16

WARNING

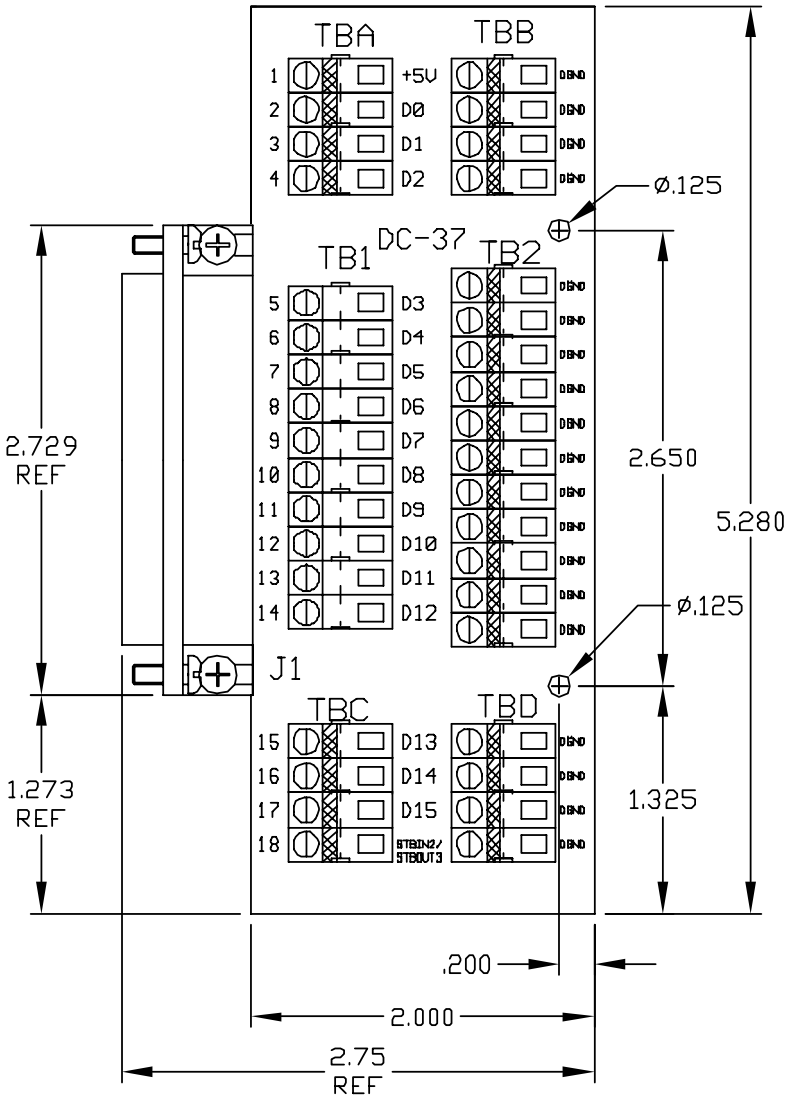
Always turn the computer power OFF and unplug it before connecting or disconnecting a screw terminal panel or a cable to the PCI card. Failure to do so could result in electric shock, or equipment damage.

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ADAC-DC-37 Screw-Terminal Board for Auxiliary Digital I/O

The ADAC-DC-37 provides access to 16 of the 32 available auxiliary digital I/O channels from ADAC/5501MF, ADAC/5501MF-V, ADAC/5503HR, and ADAC/5503HR-V boards. Two ADAC-DC-37 terminal boards are required to access all 32 digital I/O channels.

As depicted on page 4, each DC-37 terminal board can connect to an ADAC/5500 Series Board via a CA-G17-ADAC cable, or to an optional CA-G37-x-ADAC extension cable, which interfaces between a CA-G17 cable's orb and the ADAC-DC-37 board.



ADAC-DC-37

WARNING

Always turn the computer power OFF and unplug it before connecting or disconnecting a screw terminal panel or a cable to the PCI card. Failure to do so could result in electric shock, or equipment damage.

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