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ADAC/5500™ Series

Low-Cost PCI Data Acquisition Boards

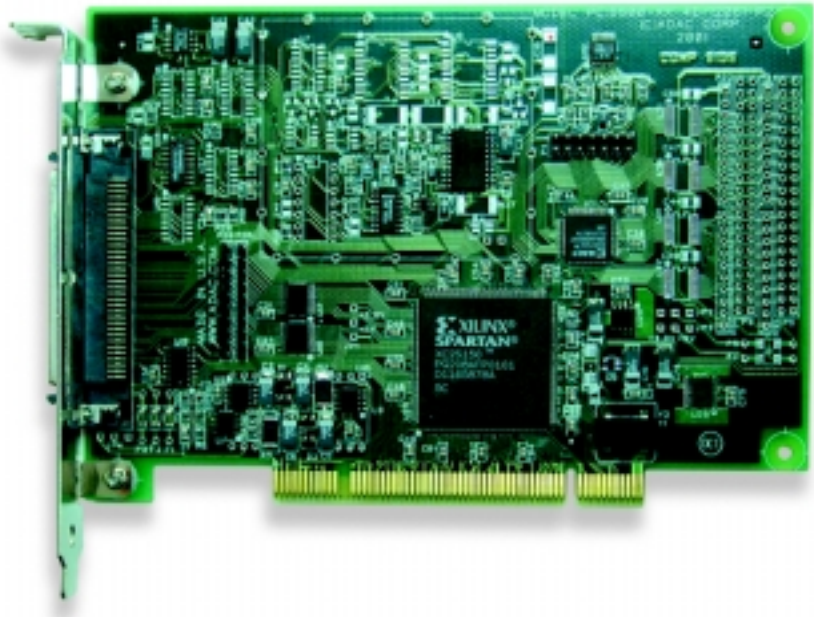


Features

- Low-cost, high-quality, multifunction PCI boards
- 12- or 16-bit, 100- or 200-kHz A/D converters
- 8 differential or 16 single ended analog inputs (software selectable per channel)
- 100% digital calibration
- Two 16-bit analog outputs with waveform capability
- 48 digital I/O lines
- Two counter input channels

Software

- Included drivers for Visual Basic®, C/C++, for Windows®, and LabVIEW® and TestPoint®
- PlotterX™ *Out-of-the-Box*™ software included with all boards for single channel set up and signal verification
- Optional PlotterX Plus™ with full analog input capability, real time display, and ability to save directly to Excel™



The ADAC/5500 series of low-cost, multifunction PCI plug-in boards

The ADAC/5500™ series of PCI data acquisition boards provide a high quality and low-cost alternative to PCI boards from other suppliers. The ADAC/5500 series is ideally suited for OEM applications, and applications where external signal conditioning and expansion options are not required. By targeting these applications, we're able to offer the ADAC/5500 series boards at a very low cost, yet maintain high quality and performance that is comparable to our full-featured DaqBoard/2000 Series boards.

Five boards are available in the ADAC family, ranging from our very low-cost 12-bit/100-kHz ADAC/5500MF, to our

16-bit/200-kHz ADAC/5503HR-V. All boards feature plug-in-play operation (no jumpers or switches), digital calibration (no potentiometers), and DMA operation so that your PC's processor is free to perform other tasks while the ADAC/5500 series is streaming data directly to your memory or hard drive. Unlike other suppliers that require you to purchase drivers for an additional cost-per-board, the ADAC/5500 series includes Windows drivers for popular languages, as well as LabVIEW and TestPoint drivers. For the most current information on supported software, visit www.iotech.com/ADAC.

Software Support

ADAC/5500 series PCI boards are supported by 2 levels of software to suit any application or programming skill level.

PlotterX™ & PlotterX Plus™

Each ADAC board includes PlotterX, an easy to use data acquisition and display package that requires no programming. PlotterX allows you to acquire data from one analog input channel up to the maximum specified rate of the data acquisition board. Data can be displayed in real-time, logged to a file, and saved in Excel format for data manipulation and

ADAC/5500 Series Selection Chart					
Feature	ADAC/5500MF	ADAC/5501MF	ADAC/5501MF-V	ADAC/5503HR	ADAC/5503HR-V
Analog Inputs	8 single-ended	8 differential or 16 single-ended	8 differential or 16 single-ended	8 differential or 16 single-ended	8 differential or 16 single-ended
Analog Input 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
Analog Outputs (16-bit)	0	0	2	0	2
Digital I/O	16	16/48*	16/48*	16/48*	16/48*
Counters (16-bit)	2	2	2	2	2

* 48 Digital I/O lines requires use of (2) CA-G17-ADAC cables

† CE pending

Visit www.iotech.com/ADAC for complete information on new options and software support.



ADAC/5500™ Series

General Information

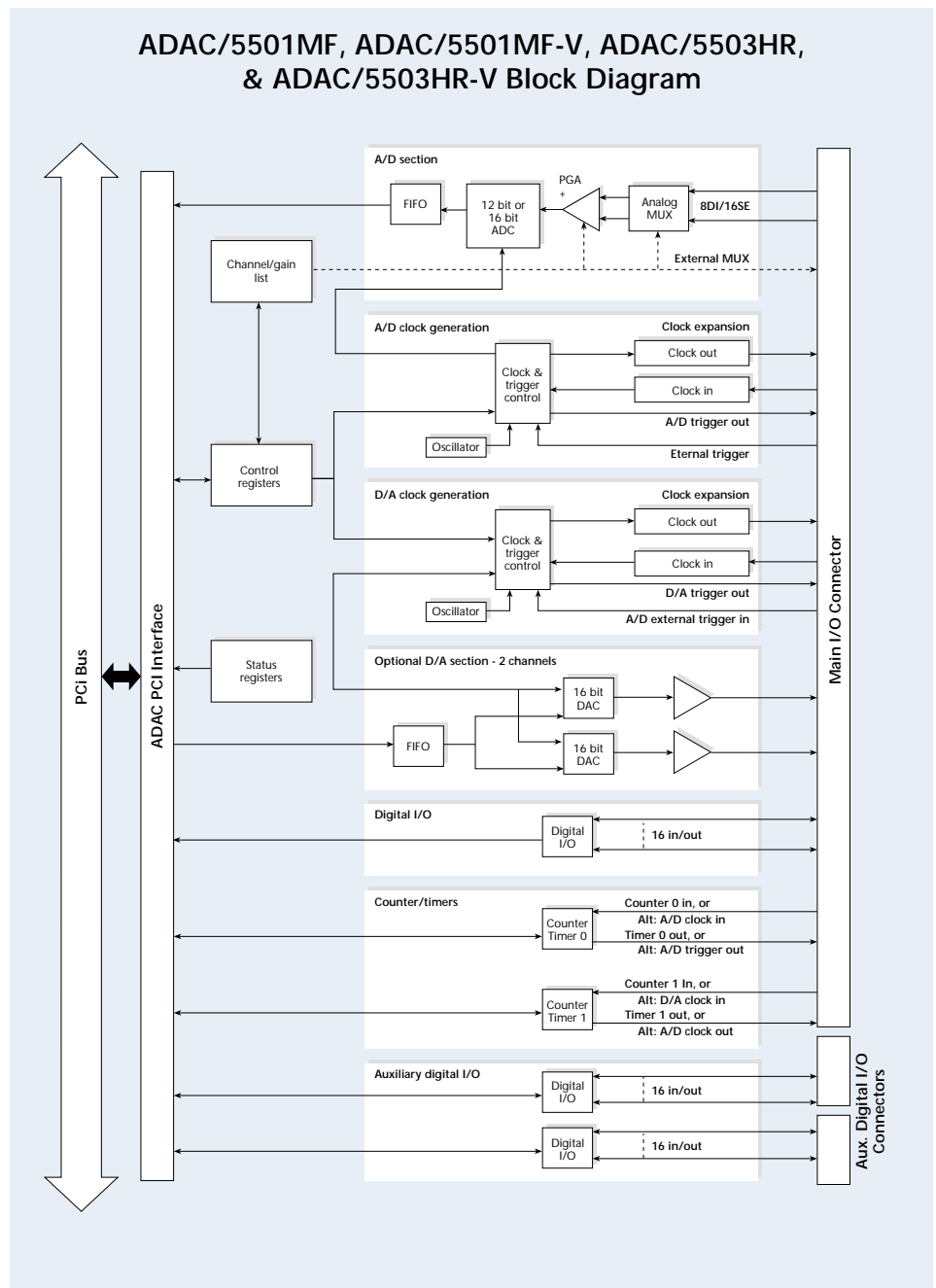
display. For applications that require more than one analog input channel, users can upgrade to PlotterX Plus. PlotterX Plus contains all the features of PlotterX, with the added capability of collecting data from all of the analog inputs on your ADAC/5500 series board.

Multiple PlotterX and PlotterX Plus packages can run simultaneously on a PC, allowing the use of multiple ADAC/5500 data acquisition boards. PlotterX and PlotterX Plus support Windows®.

API Library, LabVIEW® & TestPoint® Drivers

ADLIB-WDM is a complete API library for Windows®, for C/C++ and Visual Basic®, and is included free with each ADAC/5500 series board. ADLIB-WDM includes an extensive user manual and detailed example programs for analog input, analog output, and digital I/O. In addition to the complete API library, drivers for LabVIEW® and TestPoint® are also included with each board.

ADAC/5501MF, ADAC/5501MF-V, ADAC/5503HR, & ADAC/5503HR-V Block Diagram

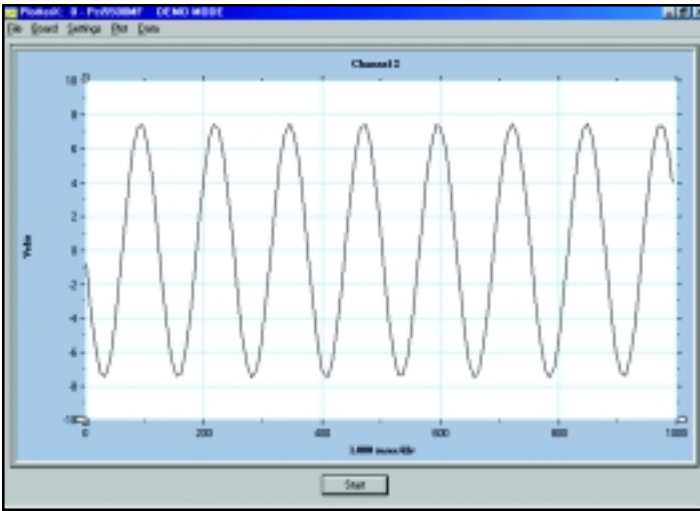


Visit www.iotech.com/ADAC for information on new options and software support for the ADAC series.



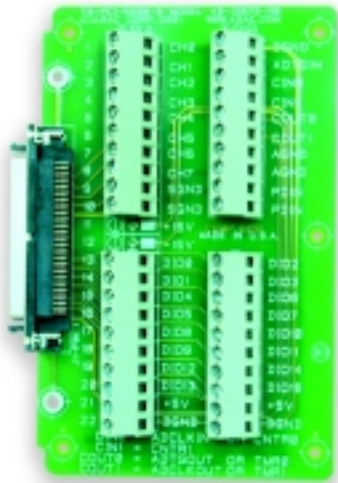
ADAC/5500™ Series

General Information



PlotterX and PlotterX Plus provide real-time display and data collection without programming

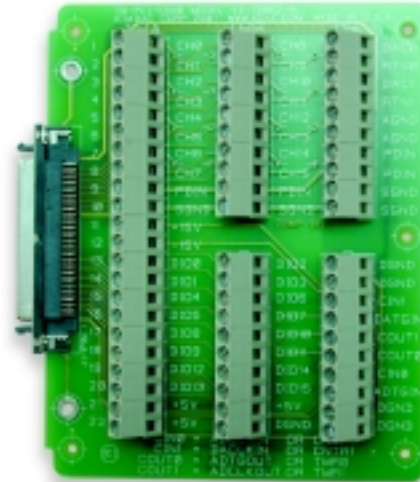
ADAC-TB-8 Screw-Terminal Board



The ADAC-TB-8 provides access to all analog and digital I/O signals from the ADAC/5500MF board via screw-terminals. The board measures 13.41 cm x 8.38 cm (5.28" x 3.30"), accepts up to 14 AWG wire, and connects to /5500MF via CA-G55-ADAC cable.

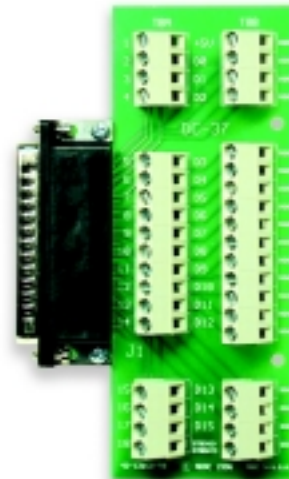
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ADAC-TB-16 Screw-Terminal Board



The ADAC-TB-16 provides access to analog and digital I/O signals from the ADAC/5501MF, /5501MF-V, /5503HR, and /5503HR-V I/O on the main 68-pin connector (8/16 analog inputs, 16 digital I/O, 2 counters, and 2 optional analog outputs) via screw-terminals. The board measures 13.41 cm x 10.16 cm (5.28" x 4.20"), accepts up to 14 AWG wire, and connects to /5500 series via CA-G55-ADAC cable.

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, /5501MF-V, /5503HR, and /5503HR-V boards. Two ADAC-DC-37s are required to access all 32 auxiliary digital I/O channels. The board measures 13.41 cm x 6.35 cm (5.28" x 2.5"), and connects to /5500 series via CA-G17-ADAC (required) and CA-G37-x-ADAC (optional) cable.



ADAC/5500™ Series

Specifications

Specifications

General (all boards)

Operating Temperature: 0°C to 55°C

Signal I/O Connector: 68 pin standard "SCSI Type III" female connector

Dimensions: 141 mm W x 15 mm x 106 mm H (5.57" x 0.6" x 4.2")

A/D Specifications

Type: Successive approximation

Resolution

/5500MF, /5501MF, & /5501MF-V: 12 bit

/5503HR & /5503HR-V: 16 bit

Maximum Sample Rate

/5500MF, /5501MF, & /5501MF-V: 100 kHz

/5503HR & /5503HR-V: 200 kHz

Nonlinearity (Differential)

/5500MF, /5501MF, & /5501MF-V: ± 0.9 LSB, no missing codes

/5503HR & /5503HR-V: ± 3 LSB, no missing codes

Analog Inputs

/5500MF, /5501MF, & /5501MF-V*

Channels

/5500MF: 8 single-ended

/5501MF, /5501MF-V: 16 single-ended or 8 differential, software programmable on a per channel basis as single-ended or differential and unipolar or bipolar

Input Impedance: 10M Ohm

Maximum Input Voltage: ± 12 V relative to analog common

Over-Voltage Protection: ± 25 V

Ranges: Software or sequencer selectable on a per channel basis

/5500MF

Unipolar: 0-10V

Bipolar: ± 10 V

/5501MF & /5501MF-V

Unipolar: 0-10V, 0-5V, 0-2.5V, 0-1.25V

Bipolar: ± 10 V, ± 5 V, ± 2.5 V, ± 1.25 V

/5503HR, /5503HR-V*

Channels

/5503HR & /5503HR-V: 16 single-ended or 8 differential, programmable on a per channel basis as single-ended or differential and unipolar or bipolar

Input Impedance: 10M Ohm

Maximum Input Voltage: ± 12 V relative to analog common

Over-Voltage Protection: ± 25 V

Ranges: Software or sequencer selectable on a per channel basis

/5503HR & /5503HR-V

Unipolar: 0-10V, 0-5V, 0-2.5V, 0-1.25V

Bipolar: ± 10 V, ± 5 V, ± 2.5 V, ± 1.25 V

Triggering

Trigger Sources: Software, onboard pacer, or external TTL

Digital Trigger

Logic Level Range: 0.8V low, 2V high

Software Trigger

Trigger can be initiated under program control

Pre and post triggering

Analog Outputs

/5501MF-V & /5503HR-V

Channels: 2

Resolution: 16 bit

Output Voltage Ranges: ± 10 V or 0 to 10V (software selectable)

Output Current: ± 5 mA

Gain Error: Adjustable to zero

Settling Time: 10 μ s for full-scale step

Clock Sources: 3, programmable; 1. Software pacer, 2. Internal Pacer, 3. External TTL

Digital I/O

/5500MF

Channels: 16

Ports: 2 x 8 bit; each port is software programmable as input or output

I/O Levels: TTL

Maximum Output Current

Low: 24 mA (sinking)

High: 24 mA (sourcing)

/5501MF, /5501MF-V, /5503HR & /5503HR-V

Channels: 16 accessible from main I/O connector, 32 accessible from two auxiliary I/O connectors

Ports: 2 x 8 bit. Each port is software programmable as input or output.

I/O Levels: TTL

Maximum Output Current

Low: 24 mA (sinking)

High: 24 mA (sourcing)

Auxiliary Digital I/O

/5501MF, /5501MF-V, /5503HR & /5503HR-V

Channels: 32 accessible from 2 auxiliary digital I/O connectors

Ports: 4 x 8 bit. Each port is software programmable as input or output.

Maximum Output Current

Low: 4 mA (sinking)

High: 8 mA (sourcing)

Counter

Channels: 2 x 16-bit

Frequency Measurement Rate: 900 kHz

Trigger Level: TTL

* Other ranges are available; contact factory or visit www.iotech.com/ADAC

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software support for the ADAC series.



ADAC/5500™ Series

Ordering Information

Ordering Information

Description

12-bit, 100-kHz PCI data acquisition board with 8 analog inputs, 16 digital I/O, and two counter-timers; includes CD ROM with all documentation, free PlotterX software and ADLIB-WDM API library for Windows® for C/ C++ and Visual Basic, and free drivers for LabVIEW® and TestPoint®

Part No.

ADAC/5500MF

12-bit, 100-kHz PCI data acquisition board with 16 analog inputs, 48 digital I/O, and two counter-timers; includes CD ROM with all documentation, free PlotterX software and ADLIB-WDM API library for Windows for C/ C++ and Visual Basic, and free drivers for LabVIEW and TestPoint

ADAC/5501MF

Same as ADAC/5501MF but with two 16-bit analog outputs

ADAC/5501MF-V

16-bit, 200-kHz PCI data acquisition board with 16 analog inputs, 48 digital I/O, and two counter-timers; includes CD ROM with all documentation, free PlotterX software and ADLIB-WDM API library for Windows for C/ C++ and Visual Basic and free drivers for LabVIEW and TestPoint

ADAC/5503HR

Same as ADAC/5503HR but with two 16-bit analog outputs

ADAC/5503HR-V

Termination board with screw-terminals for access to ADAC/5500MF I/O; connects to ADAC/5500MF via a CA-G55-ADAC cable

ADAC-TB-8

Termination board with screw-terminals for access to ADAC/5501MF, /5501MF-V, /5503HR, & /5503HR-V I/O; connects via a CA-G55-ADAC cable

ADAC-TB-16

Termination board with screw-terminals for access to ADAC/5500 series auxiliary digital I/O; connects via CA-G17-ADAC and CA-G37-x-ADAC (optional) cables

ADAC-DC-37

Software

PlotterX Plus for setup, data acquisition, display, and analysis with ADAC/5500 series boards

PlotterXPlus

Cables

Expansion cable and connector bracket for accessing auxiliary digital I/O channels on ADAC/5501MF, /5501MF-V, /5503HR, and /5503HR-V; connects to auxiliary digital I/O header on /5500 series boards and provides D37connector and PC mounting bracket to be installed on host PC. Provides access to 16 auxiliary digital I/O channels, two CA-G17-ADAC cables are required to access all 32 auxiliary digital I/O channels

CA-G17-ADAC

Expansion cable for connecting ADAC-DC-37 auxiliary digital I/O termination board to CA-G17-ADAC connector bracket; two CA-G37-x-ADAC cables are required to access all 32 auxiliary digital I/O channels;

3 ft. expansion cable

CA-G37-3-ADAC

6 ft. expansion cable

CA-G37-6-ADAC

68-conductor expansion cable, mates with ADAC/5500 series boards and the ADAC-TB-16, or ADAC-TB-8, 3 ft.

CA-G55-ADAC



CA-G17-ADAC expansion cable and connector bracket



CA-G55-ADAC 68-conductor expansion cable

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