

Description

MIDAS Data Acquisition (DA) modules add the ability to capture, digitize and display synchronized analog data from external sensors. Data is displayed as waveforms on the MiDAS screen to show time relationship. Up to 64 data channels can be simultaneously synchronized to 4 video channels. Data can be displayed on one combined graph or in customized individual graphs. A zoom feature magnifies portions of any data graph for precise viewing. Cursors synchronized to video playback move along the waveforms.

Xcitex's revolutionary Waveform per Frame™ technology allows thousands of data points to be accurately captured per video frame, allowing users to capture events that high-speed video alone might miss.

To manipulate the data, you can continuously play or single step the video, single step the data, slide the video scrollbar, or slide the data cursor – forward or reverse. The industry-unique stamping feature creates movies in which each frame has the data stamped on the bottom. Waveform data can be exported to or imported from an Excel spreadsheet for specific analysis and complex graphing.

MIDAS DA modules accept both differential and single ended sensor input types. Differential inputs (DI) measure the difference between the positive and negative terminals of the sensor. Referenced and Non-Referenced Single-Ended (SE) inputs have shared (common) terminals and are used in more intensive data collection environments.

Available Models

MIDAS DA modules include all the hardware and software required to interface to your application and camera.

DA-123M	General purpose model for PCI bus with BNC breakout box
DA-123P	General purpose model with integrated MiDAS PC back panel
DA-132M	High-resolution model with BNC breakout box
DA-160M	General purpose model for ISA bus with BNC breakout box
DA-161M	General purpose, extended analog model for ISA bus with BNC breakout box
DA-170M	High-speed model with BNC breakout box
DA-171M	High-speed, extended analog model for PCI bus with BNC breakout box

Sensor Connection Hardware



The BNC breakout box is included with most modules. It provides general-purpose utility via BNC connectors.



The CB68 screw terminal block allows researchers to connect sensors and gauges that have pigtail ends.



The MiDAS "5B+" rack is compatible with standard 5B signal conditioners. It is widely used in test labs for its low-cost portability.



The MiDAS PC integrated back panel provides the ultimate accuracy, noise suppression, ground isolation and portability.

Common Specifications and Features

Playback:	Forward, Reverse, Single Step, Cursor Control, Jump
Save Formats:	Export to Excel, save data to tab-delimited text (ASCII) file (.au2 MiDAS file), unit-based, volts (raw signal)
Synchronization/Alignment:	Approximately 0.1 μsec (10MHz) single point video/data
Sensor Input types:	Differential (DI), Referenced single ended (RSE), Non-Referenced single ended (NRSE)
Calibration:	Scale (units/volt), offset (volts), unit scale
Display:	Display live, auto-gain, waveform display all channels, signal level
Graphing:	Auto-scaling, auto-labeling, multiple-configuration graphs
Software Compatibility:	LabView, LabWindows/CVI, Virtual Bench, BridgeView, Lookout, Excel

Technical Specifications

Choose the MiDAS-DA module from the following tables that is best suited for your application. The total number of samples per video frame is the *Total Sample Rate* divided by the number of active inputs and the video frame rate. Output lines are used by MiDAS specialty modules. Calibration certificates are provided in each shipment. Preferred modules are highlighted.

MiDAS-DA Module Channel, Speed, Resolution and Architecture Specifications

Part Number	Bus Type	Total Sample Rate (kS/sec)	Analog (or digital) Inputs	Resolution (bits)	Input voltage Range (bipolar)	Accuracy over 24 hrs	Offset (mV)	Noise (mV)	Relative Resolution Accuracy (mV)
MiDAS-DA-123M	PCI	200	8 DI/16 SE	12	±50mV to ±10V	.072%	6.385	3.906	5.892
MiDAS-DA-123P	PCI	200	8 DI/16 SE	12	NA	.072%	6.385	3.906	5.892
MiDAS-DA-132M	PCI	100	8 DI/16 SE	16	±100mV to ±10V	.029%	0.509	0.634	0.723
MiDAS-DA-160M	ISA	500	8 DI/16 SE	12	±50mV to ±10V	.052%	6.380	4.639	6.247
MiDAS-DA-161M	ISA	333	32 DI/64 SE	12	±50mV to ±10V	.052%	6.380	4.639	6.247
MiDAS-DA-170M	PCI	1250	8 DI/16 SE	12	±50mV to ±10V	.052%	6.380	6.104	7.365
MiDAS-DA-171M	PCI	1250	32 SE/64 SE	12	±50mV to ±10V	.052%	6.380	6.104	7.365

Specifications Common to all MiDAS-DA Modules:

Analog Input over-voltage protection: ±25 V powered on, ±15V powered off
 Multiplexer settling time (counter accuracy):..... < 2 μs (12-bit), < 10Ms (16 bit)

MiDAS-DA Module Input Channels

Part Number	Standard Breakout Hardware	Max inputs with BNC Breakout Hardware	Max inputs with Terminal Block(s)	Max inputs with MiDAS 5B+ Rack
MiDAS-DA-123M	8-channel BNC breakout box	8 DI / 8 SE	8 DI / 16 SE	16
MiDAS-DA-123P	Integrated MiDAS PC Back Panel	NA	NA	NA
MiDAS-DA-132M	8-channel BNC breakout box	8 DI / 8 SE	8 DI / 16 SE	16
MiDAS-DA-160M	8-channel BNC breakout box	8 DI / 8 SE	8 DI / 16 SE	16
MiDAS-DA-161M	16-channel BNC breakout box	16 DI / 16 SE	32 DI / 64 SE	16
MiDAS-DA-170M	8-channel BNC breakout box	8 DI / 8 SE	8 DI / 16 SE	16
MiDAS-DA-171M	16-channel BNC breakout box	16 DI / 16 SE	32 DI / 64 SE	16

MiDAS-DA Module Breakout Hardware Specifications

Specification	BNC Breakout Box	CB-68LPR Terminal Block(s)	MiDAS 5B+ Rack
Signal Conditioner Plug-ins	No	No	Yes
Isolated input conditioning (higher accuracy)	No	No	No
Ground-type Switching	Internal	None	None
Connections	BNC jacks	Screw Terminals	Plug-ins
Shielding	Yes	No	No
Built-in Bias Resistors for Floating Sources	Yes	No	No