



## Agilent U1056B

Acqiris High-Speed  
Data Converter Systems





### Main Features

- Turnkey solutions for measurement and analysis of 1 to 80 high-speed signals in a single system
- Mix and match data acquisition modules to build tailor made instrumentation for specific applications
- Synchronization of multiple cards as one single instrument
- Interface to laptop or desktop PC, or operation as a standalone system
- Optional turnkey software for easy control of multiple channels and multiple systems
- Device drivers for Windows®, VxWorks, LabVIEW RT, and Linux, with application code examples for MATLAB®, C/C++, Visual Basic, LabVIEW, and LabWindows/CVI

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MATLAB is a U.S. registered trademark of The Math Works, Inc.



Figure 1. U1056B data converter system linked to display and keyboard



## Acqiris High-Speed Data Converters

The proprietary ADC chipsets in Agilent Technologies Acqiris high-speed digitizers are designed for the specific purpose of optimizing high-speed ADC performance. The analog front-end technology provides signal conditioning, amplification, and interleaving functions essential for achieving high-speed data acquisition at giga-sample per second (GS/s) rates. The digital data handling components provide vital clock and synchronization signals to capture and memorize acquired data with maximum data throughput. Together these ASICs make low-power, high-fidelity data acquisition much more accessible and provide maximum data throughput to the host PC or processor to reduce the time and cost of measurement.

The Acqiris product line provides a range of high-speed digitizer cards<sup>1</sup> with 8-, 10-, and 12-bit resolution, wide bandwidth, and large acquisition memory. These products, in PCI, PXI, cPCI, and VME formats, are used in research, and in ATE and OEM applications in industries such as biotechnology, semiconductors, aerospace, physics, and astronomy.

## Mix and Match Performance and Functionality in to One System

The U1056B configured systems allow you to generate a complete data acquisition system with a combination of PXI and CompactPCI (cPCI) high-speed data converter modules. Each system includes a choice of PC interfaces or embedded single board computers, with crates and software to create a turn-key system with up to 80 digitizer acquisition channels.

The range of cPCI digitizers provide 8-, 10-, and 12-bit resolution, with the one, two, or four channel 8-bit resolution digitizers providing bandwidths up to 1 GHz and sampling rates to 4 GS/s. The 10-bit digitizers provide up to 8 GS/s sampling rates and an ultra-wide analog bandwidth up to 3 GHz, while the 12-bit units offer two channels and sampling rates to 400 MS/s, with an analog bandwidth to 300MHz.

The high-speed cPCI analyzers (digitizers with on-board FPGA technology) provide up to 2 GS/s sampling rates. The analyzer can be ordered with either a real time FFT processing firmware, or a firmware development kit (FDK) that opens the FPGA to custom algorithms for real time processing, and/or data streaming with the modules optional fiber optic data ports.

The time-to-digital converters (TDC) provide precise timing measurements between up to 12 input channels per card, and with 50 ps timing resolution.

Full product descriptions and brochures for the system components are available at [www.agilent.com/find/acqiris](http://www.agilent.com/find/acqiris).

1) 500 MS/s, 1 GS/s, 2 GS/s, 4 GS/s and 8 GS/s high-speed digitizer cards

## High-Speed Data Converters

### Digitizers

Choose from the selection of cPCI (6U) or PXI (3U) digitizers with 8-, 10-, and 12-bit resolution. Thanks to its modularity, the U1056B system not only allows you to mix different digitizer types in the same system, but also offers the possibility to acquire just the hardware you need. If you want to add more channels, simply insert another digitizer. This scalability means that you can even build up larger systems over time.




	Size	Channels	Bandwidth	Max Sample Rate	Max Memory	
<b>12-bit High-Speed Digitizers</b>						
	<b>U1066A</b>					
	U1066A-001	6U	2 ch	100/300 MHz	420 MS/s	8 MS
	U1066A-002	6U	2 ch	100 MHz	200 MS/s	8 MS
<b>10-bit High-Speed Digitizers</b>						
	<b>U1065A</b>					
	U1065A-001	6U	1 ch	2-3 GHz	8 GS/s	1 GS
	U1065A-002	6U	2 ch	2-3 GHz	4-8 GS/s	0.5-1 GS
	U1065A-004	6U	4 ch	1-2 GHz	2-8 GS/s	0.25-1 GS
	<b>U1062A</b>					
	U1062A-001	3U	1 ch	2 GHz	4 GS/s	256 MS
U1062A-002	3U	2 ch	2 GHz	2-4 GS/s	128-256 MS	
<b>8-bit High-Speed Digitizers</b>						
	<b>U1064A</b>					
	U1064A-001	6U	1 ch	1 GHz	4 GS/s	32 MS
	U1064A-002	6U	2 ch	1 GHz	2-4 GS/s	16-32 MS
	U1064A-004	6U	4 ch	1 GHz	1-4 GS/s	8-32 MS
	<b>U1063A</b>					
	U1063A-001	6U	4 ch	150 MHz	500 MS/s	2 MS
	U1063A-002	6U	4 ch	250 MHz	1 GS/s	8 MS
	<b>U1061A</b>					
	U1061A-001	3U	2 ch	500 MHz	0.5-1 GS/s	8-16 MS
U1061A-002	3U	2 ch	1 GHz	1-2 GS/s	8-16 MS	

Table 1. Supported cPCI/PXI digitizers

### Analizers

The cPCI (6U) analyzer is a high-speed digitizer with on-board FPGA processing. Sampling at up to 2 GS/s and with 1 GHz analog bandwidth it features signal processing capabilities ideal for radar, electronic warfare and ELINT. The U1080A-002 also provides real-time data streaming through front panel optical links, for data recording applications.


	Size	Channels	Bandwidth	Max Sample Rate	Max Memory	
<b>8-bit High-Speed Digitizers with On-Board Signal Processing</b>						
	<b>U1080A</b>					
	U1080A-001	6U	2 ch	1 GHz	1-2 GS/s	512 MB
	U1080A-002	6U	2 ch	1 GHz	1-2 GS/s	512 MB

Table 2. Supported cPCI analyzers

### Time-to-digital converters

The time-to-digital converters provide precise timing measurements from a common start event to single or multiple stop events with high timing resolution. These products provide timing measurements from 6 or 12 input channels in single-hit or multi-hit mode.

The U1050A can be viewed as a free-running, high-resolution 50 ps counter with each individual channel capable of recording the time of arrival of trigger signals and storing this data in the local memory. The time base contains a stable, high-accuracy 10 MHz reference. This time base can also be referenced to an external 10 MHz source through an auxiliary input.

The U1051A module records multiple events or hits on each of its six input channels, with a timing resolution of 50 ps and a mean dead time between sequential pulses on the same input (double pulse resolution) of less than 15 ns. Running at full speed, the U1051A offers a massive 25 million events-per-second data-throughput rate. The U1051A enables event counting or histogram creation for easy data and spectra comparison.


	Size	Channels	Time Resolution	TDC function	
<b>Time-to-Digital Converters</b>					
	<b>U1050A</b>				
	U1050A-001	6U	12 ch	50 ps	Single hit, wide range 20 sec
	<b>U1051A</b> U1051A	6U	6 ch	50 ps	Multi hit, to 4 million events

Table 3. Supported cPCI time-to-digital converters

## System Crates

The 6U cPCI crates of the U1056B use the highest quality components, high output power supplies, and cooling in order to maximize system performance reliability. These universally applicable cPCI crates are carefully designed to yield high performance test systems for bench, lab, and manufacturing test applications.

The crates come in 3-, 5-, 8-, and 21-slot versions. They can be used free standing on the bench or rack-mounted in standard 19" inch instrumentation racks. As any system will require an associated interface or embedded PC, these crates provide the necessary slots for 2, 4, 7, and 20 data converter cards respectively.





	<i>Size (w x d x h)</i>	<i>Required Rackmount space</i>	<i>Slots</i>	<i>Free slots for data converters</i>	<i>Power supply</i>
<b>U1091AC30</b> 	342 mm x 346 mm x 106 mm 13.47" x 13.62" x 4.17"	3U	3	2	400 W
<b>U1091AC50</b> 	342 mm x 346 mm x 146 mm 13.47" x 13.62" x 5.75"	4U	5	4	400 W
<b>U1091AC83</b> 	342 mm x 346 mm x 212 mm 13.47" x 13.62" x 8.35"	5U	8	7	800 W
<b>U1091AC21</b> 	483 mm x 440 mm x 399 mm 19.02" x 17.32" x 15.71"	9U	21	20	1260 W

Table 4. Choice of cPCI crates

## PC Interfaces and Embedded Processors

Data acquired with a U1056B system can be processed with the latest, high-speed processors. Select from an embedded single-board computer, or a choice of interfaces that will link the system to a laptop or desktop PC. Choose from PCI or PCI Express interface modules for desktop, or CardBus or ExpressCard interfaces for laptop PCs.

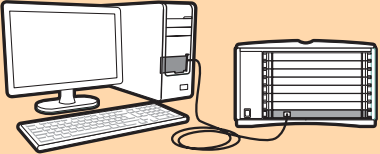


Interface to Desktop PC		Interface to Laptop PC		Embedded Processor
			<b>CompactPCI single-board computer</b>	
<b>to PCI</b>	<b>to PCIe</b>	<b>to PCMCIA Cardbus</b>	<b>U1091AK09</b> 1.6 GHz Pentium M, high display performance with 120 GB HDD, 1 GB RAM	
<b>U1091AK01</b> includes 10 m fiber optic cable <i>Up to 80 MB/s</i>	<b>U1091AK03</b> includes 3 m copper cable <i>Up to 110 MB/s</i>	<b>U1091AK05</b> includes 3 m copper cable <i>Up to 50 MB/s</i>	<b>U1091AK11</b> 2 GHz Intel dual-core, high data rate with 160 GB, 2 GB RAM	
<b>U1091AK02</b> includes 5 m copper cable <i>Up to 250 MB/s</i>	<b>U1091AK04</b> includes 3 m copper cable <i>Up to 110 MB/s</i>			

Table 5. Choice of cPCI interfaces and processors

## Accessories

### Synchronizing multiple modules

Autosynchronous bus (AS bus) bridges cover the various setup needs in order to allow the connection from 2 up to 7 digitizers together (up to 28 channels). The system takes care of the distribution of all necessary trigger and clock signals.

AS bus allows all the digitizers to be clocked at precisely the same time. The position of a card into the crate is automatically detected therefore enabling the system to calibrate the channel timing information. Synchronous digitizing improves the accuracy of cross-channel measurements and is essential for accurate time correlation. The AS bus system can be used to phase-synchronize all digitizers to an external standard (such as a 10 MHz reference),

or to improve trigger flexibility, by allowing any trigger input (channel or external trigger input) to be used as the trigger source for all the other digitizers in the system.

For the U1056B systems, two versions of the AS bus can be used. Up to 7 units of U1063A, U1064A, U1066A, or U1080A data converters can be synchronized using the original AS bus connectors. AS bus 2 is designed for use with the 10-bit products U1062A and U1065A and can synchronize up to 5 units, each with sampling rates of up to 8 GS/s.

A simple software function allows the combination of the digitizers connected by the hardware connector, so that they appear as a single instrument with more channels.


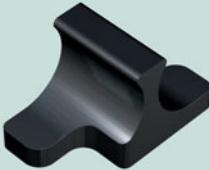
Number of Modules	AS bus	Compatible Modules: U1063A U1064A U1066A U1080A	AS bus 2	Compatible Modules: U1062A U1065A
	2			
2	1x <b>U1093A-AS4</b> , double termination, XB103		1x <b>U1093A-AS5</b> , AS bus 2 connector, XB200	
3	1x <b>U1093A-AS2</b> , left termination, XB101 1x <b>U1093A-AS3</b> , right termination, XB102		2x <b>U1093A-AS5</b> , AS bus 2 connector, XB200	
4	1x <b>U1093A-AS2</b> , left termination, XB101 1x <b>U1093A-AS3</b> , right termination, XB102 1x <b>U1093A-AS1</b> , simple bridge, XB100		3x <b>U1093A-AS5</b> , AS bus 2 connector, XB200	
5	1x <b>U1093A-AS2</b> , left termination, XB101 1x <b>U1093A-AS3</b> , right termination, XB102 2x <b>U1093A-AS1</b> , simple bridge, XB100		4x <b>U1093A-AS5</b> , AS bus 2 connector, XB200	
6	1x <b>U1093A-AS2</b> , left termination, XB101 1x <b>U1093A-AS3</b> , right termination, XB102 3x <b>U1093A-AS1</b> , simple bridge, XB100		N/A	
7	1x <b>U1093A-AS2</b> , left termination, XB101 1x <b>U1093A-AS3</b> , right termination, XB102 4x <b>U1093A-AS1</b> , simple bridge, XB100		N/A	

Table 6. Autosynchronous bus connector configurations

### Crate accessories

The 3-, 5- and 8-slot crates can be configured with accessories for specific applications. Ergonomically designed handles and feet allow systems to be easily moved from one location to another, providing a truly portable digitizer solution. They are ideal for applications where data acquisition is required at multiple site locations, in the field, outside of the lab, and off of the bench. The lateral handle system can be used with the crates rack-mount kit. The basic kit contains all that is required to mount a crate in a standard 19" instrumentation rack. Complemented with two lateral handles, the systems are easily moved allowing trouble-free organization of rack space.

	Handle and Feet Kit	Rack-Mount Kit	Rack-Mount Kit with Lateral Handles
<b>3-Slot Systems</b>	<b>U1092A-C32</b>	<b>U1092A-C31</b>	<b>U1092A-C33</b>
<b>5-Slot Systems</b>	<b>U1092A-C52</b>	<b>U1092A-C51</b>	<b>U1092A-C53</b>
<b>8-Slot Systems</b>	<b>U1092A-C82</b>	<b>U1092A-C81</b>	<b>U1092A-C83</b>

Table 7. Choice of cPCI crate accessories

### Finishing touches

A number of accessories make the system fully operational and ready for turn-key measurement. These accessories include high-voltage protection, and blanking panels that are designed for the closing of empty slots, while maintaining the operating environment for the selected data converter cards.

	System Accessories
<b>U1092A-C01</b>	6U to 3U cPCI slot adapter (for U1061A and U1062A)
<b>U1092A-C02</b>	6U cPCI blanking panel
<b>U1092A-HVB</b>	High-voltage protection for data converter BNC connectors
<b>U1092A-HVS</b>	High-voltage protection for data converter SMA connectors

Table 8. System accessories

## Software

Agilent's high-speed Acqiris data converter systems are supplied with a demo application, software drivers for Windows, Linux, LabVIEW RT and VxWorks, and application code examples for MATLAB, C/C++, VisualBasic, LabVIEW, and LabWindows/CVI.

These code examples provide digitizer setup and basic acquisition functionality, and are easily modified, so that the card can be quickly integrated into a measurement system. The flexibility of the driver means that, with minimum software adjustments, any Acqiris digitizer can be swapped out, replaced, or upgraded with the latest high-speed Acqiris digitizer.

Alternatively a system containing digitizer or TDC cards can be driven using the turnkey multichannel acquisition software AcqirisMAQS. This powerful software was designed and developed specifically for control and monitoring of advanced data acquisition systems. It allows remote Ethernet operation of multiple systems at various networked locations. The user-friendly interface provides drag & drop functions and a familiar multiple-window workspace, for multiple waveform display, and cursors for simple and rapid measurement. AcqirisMAQS does not support the U1051A nor the full functionality of U1080A products.

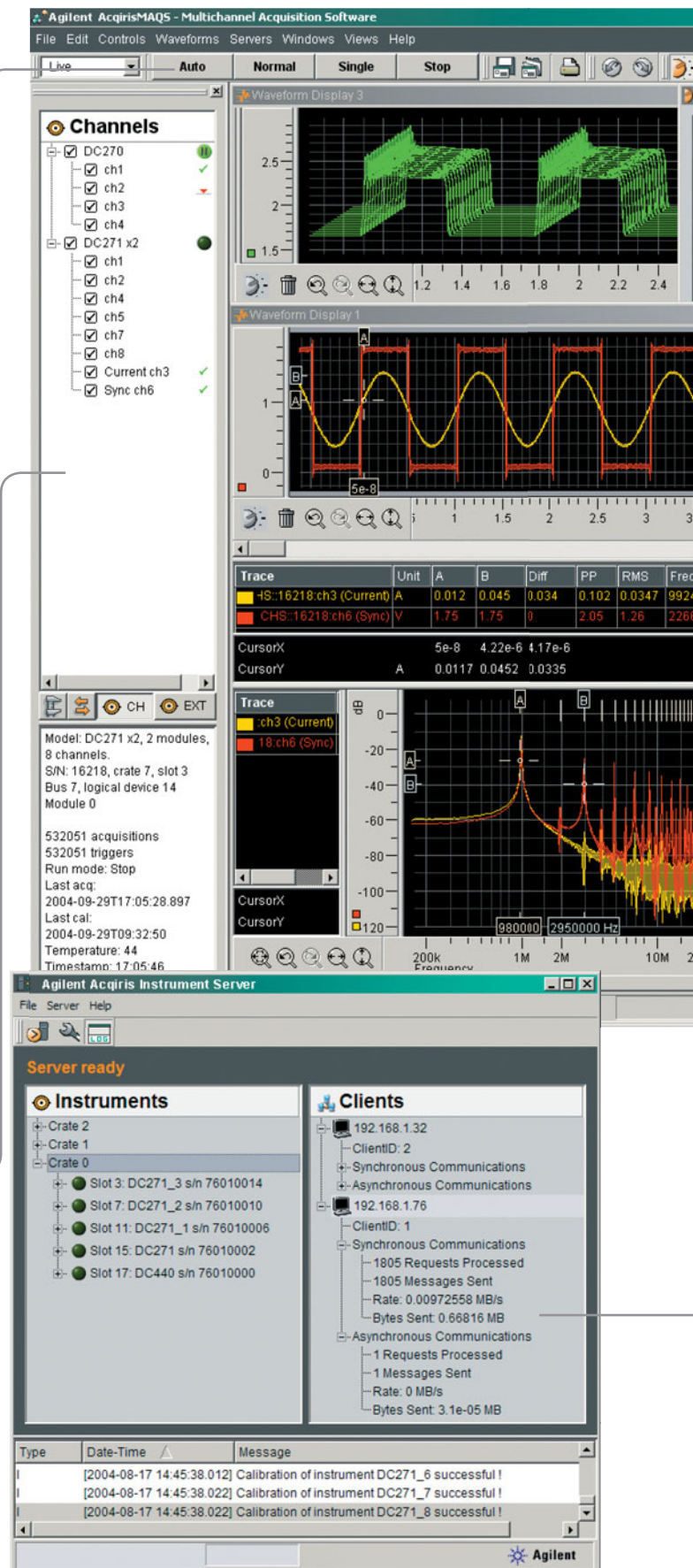
### Run control and toolbar buttons

Acquisition modes are changed using the Run Control buttons: From automatic, normal (triggered) to single acquisition on an individual device or group basis, as selected in the Channel View tree.

Save and recall configurations, layout, and display windows. Search and connect to networked acquisition systems, in a few mouse clicks.

### Channel view

The Channel View tree provides a simple way to visualize and organize all the connected digitizer channels. It presents a tree of all the connected devices, showing a live display of their operational states, along with a device description including serial number and location in the acquisition system. From the presented collection of devices, individual channels to whole groups of digitizers can be chosen for use. The user can then perform specific operations on the chosen channels, change digitizer acquisition states using Run Control, or individual channel parameters and settings using the Instrument Settings panel.



1) An instrument server is a PC or processor that is linked directly to one or more Acqiris digitizer modules. This server can then communicate to one or more client PC or processors, and vice-versa

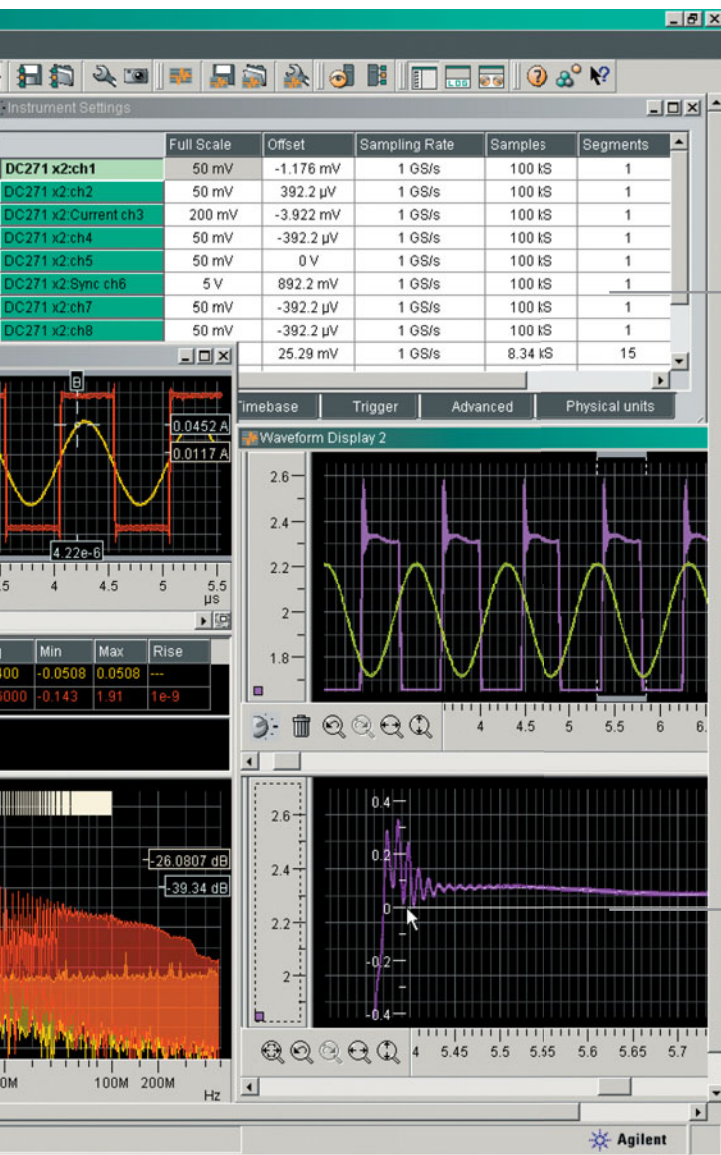


Figure 2. AcqirisMAQS software

### Instrument settings

The easy-to-use table structure of the Instrument Settings window is designed specifically for the organization of the acquisition parameters of a large number of channels in a data acquisition system.

Split into several tabulated pages, each concerned with specific groups of attributes of the acquisition system, the channels are shown as rows with individual parameters as columns on each page. The tables are fully customizable, the visible columns chosen from a selection presented as tear-off menus, the channels chosen from the Channel View tree.

Settings can be changed on an individual or group basis. Valid parameter values, corresponding to the selected channels are indicated in the appropriate cell.

### Waveform display

These scalable windows show the acquired data from selected channels as a function of time. Both time- and Y-axis (scalable to the physical units of the acquisition) are easily defined and resized, and gridlines can be added and removed. Offsets and magnification of particular areas of interest can be achieved with simple mouse movements.

Individual Waveform Display windows can also be divided into separate plot areas. This can include additional acquisition data traces, persistence traces, or display the frequency spectrum using a choice of FFT windowing routines. Within the visualization, cursors allow simple and accurate measurement of signal amplitudes and timing. A selection of signal measurements, including rise time, duty cycle, amplitude, and overshoot can also be made, with the measurements displayed as a function of the displayed traces.

### Distributed control and acquisition

AcqirisMAQS integrates a remote control module to allow client-server<sup>1</sup> control and monitoring of data acquisition systems from multiple locations simultaneously, and to access test systems located at dispersed sites (depending on licence option chosen).

With AcqirisMAQS, any PC or laptop can be set up as a client to control multiple digitizer channels connected to an instrument server, via an Ethernet connection, simple crossover cable, or in any networked environment over the Ethernet, on-site, or from a remote location. A single client can set up connections to one or more instrument servers. However only the master client, as defined by the system setup, has power to change parameters; other non-master clients have only monitoring rights.

### AcqirisMAQS Software

<b>U1092A-S01</b>	AcqirisMAQS single-station, master licence
<b>U1092A-S02</b>	AcqirisMAQS single-station, master and monitoring licence
<b>U1092A-S03</b>	AcqirisMAQS multi-station, single shot, master and monitoring licence

Table 9. Supported AcqirisMAQS license options

## Example Configurations

### Portable high-resolution system



- 1x U1091AC30 3-slot crate
- 1x U1091AK04 ExpressCard interface to laptop PC, with 3m copper cable
- 2x U1066A-001 Acqiris dual-channel, 400 MS/s DC440 high-speed digitizer
- 1x U1093A-AS4 AS bus, double termination, XB103
- 1x U1092A-C32 Handle and feet kit

This low power, 3-slot portable system provides 4 synchronized input channels with 12-bit resolution and a high-speed interface to a laptop PC with ExpressCard slot. Ideal for Telecom testing or Ultrasound systems.

### High-speed data acquisition



- 1x U1091AC50 5-slot crate
- 1x U1091AK11 Intel dual-core, high data rate embedded PC
- 4x U1065A-004 Acqiris quad-channel, 2-8 GS/s DC282 high-speed digitizer
- 3x U1093A-AS5 AS bus 2 connector
- 1x U1092A-S01 AcqirisMAQS single-station, master license

The 5-slot crate provides four vacant slots to be used by Agilent data converter modules. By including 4 U1065A modules, synchronized using the AS bus 2 connectors, this system offers 16 high-speed (2 GS/s) data acquisition channels that to the embedded high-performance host processor look to be one single instrument.

## Ready for anything



- 1x U1091AC83 8-slot crate
- 1x U1091AK01 PCI interface to desktop PC, with 10m fiber optic cable
- 1x U1066A-001 Acqiris dual-channel, 400 MS/s DC440 high-speed digitizer
- 2x U1065A-002 Acqiris single-channel, 8 GS/s DC222 high-speed digitizer
- 2x U1080A-001 Acqiris dual-channel, 1-2 GS/s AC240 high-speed digitizer with on-board signal processing
- 1x U1050A-001 Acqiris wide-range, single-stop, TC840 time-to-digital converter
- 1x U1093A-AS5 AS bus 2 connector
- 1x U1092A-C82 Handle and feet kit
- 1x U1092A-C02 Blanking panel

This system has everything, four synchronized channels each offering 10-bit sampling at 4 GS/s, two 12-bit channels sampling at 400 MS/s, 2 8-bit 1 GS/s channels in the analyzer board, plus a 12 channel TDC for precise timing measurement. The system is electrically isolated, interfaced through fiber optic cables, and there is even a spare slot available for a future upgrade or to add an additional cPCI unit.

## Rack mountable 80-channel system



- 1x U1091AC21 21-slot crate
- 1x U1091AK02 cPCI to PCI interface to desktop PC, with 5 m copper cable
- 20x U1064A-004 Acqiris quad-channel, 1-4 GS/s DC271A high-speed digitizer
- 1x U1092A-S01 AcqirisMAQS single-station, master license

Held in a 21-slot 9U crate, this example system with 80 acquisition channels each running with a real-time sampling rate of 1 GS/s, has a power consumption of less than 900W. The whole system can sit on a desk or be mounted into a 19" rack. The AcqirisMAQS software allows easy control of the system and visualization of the acquired data through a desktop PC interfaced through the PCI bus. With 80 input channels, large scale experiments as in radio astronomy or particle physics, can be integrated and controlled in a single desktop solution.

## Configure your system

### 1. Choose the system size

<b>U1091AC30</b>	3-slot cPCI crate
<b>U1091AC50</b>	5-slot cPCI crate
<b>U1091AC83</b>	8-slot cPCI crate
<b>U1091AC21</b>	21-slot cPCI crate

### 2. Choose an interface or single board PC

<b>U1091AK01</b>	cPCI to PCI interface, with 10 m fiber optic cable
<b>U1091AK02</b>	cPCI to PCI interface, with 5 m cable
<b>U1091AK03</b>	cPCI to PCIe interface, with 3 m cable
<b>U1091AK04</b>	cPCI to ExpressCard interface, with 3 m cable
<b>U1091AK05</b>	cPCI to CardBus interface, with 3 m cable
<b>U1091AK09</b>	Embedded cPCI Processor 1.6 GHz Pentium M, 120 GB HDD, 1 GB RAM
<b>U1091AK11</b>	Embedded cPCI Processor 2 GHz Intel dual-core, 160 GB HDD, 2 GB RAM

### 3. Choose and configure the required data converters\*

<b>U1061A</b>	8-bit PXI digitizers, 2 ch, up to 2 GS/s, up to 1 GHz bandwidth
<b>U1062A</b>	10-bit PXI digitizers, 1-2 ch, up to 4 GS/s, up to 3 GHz bandwidth
<b>U1063A</b>	8-bit cPCI digitizers, 4 ch, up to 1 GS/s, up to 250 MHz bandwidth
<b>U1064A</b>	8-bit cPCI digitizers, 1-4 ch, up to 4 GS/s, up to 1 GHz bandwidth
<b>U1065A</b>	10-bit cPCI digitizers, 1-4 ch, up to 8 GS/s, up to 3 GHz bandwidth
<b>U1066A</b>	12-bit cPCI digitizers, 2 ch, up to 400 MS/s, up to 300 MHz bandwidth
<b>U1080A</b>	8-bit cPCI analyzers, 2 ch, up to 2 GS/s, up to 1 GHz bandwidth with FPGA processing.
<b>U1050A</b>	Twelve-channel cPCI Time-to-Digital Converter
<b>U1051A</b>	Six-channel cPCI Time-to-Digital Converter

### 4. Choose optional software

<b>U1092A-S01</b>	AcqirisMAQS single-station, master licence
<b>U1092A-S02</b>	AcqirisMAQS single-station, master and monitoring licence
<b>U1092A-S03</b>	AcqirisMAQS multi-station, single-shot, master and monitoring licence

\* Refer to individual data converter brochures for configuration details.

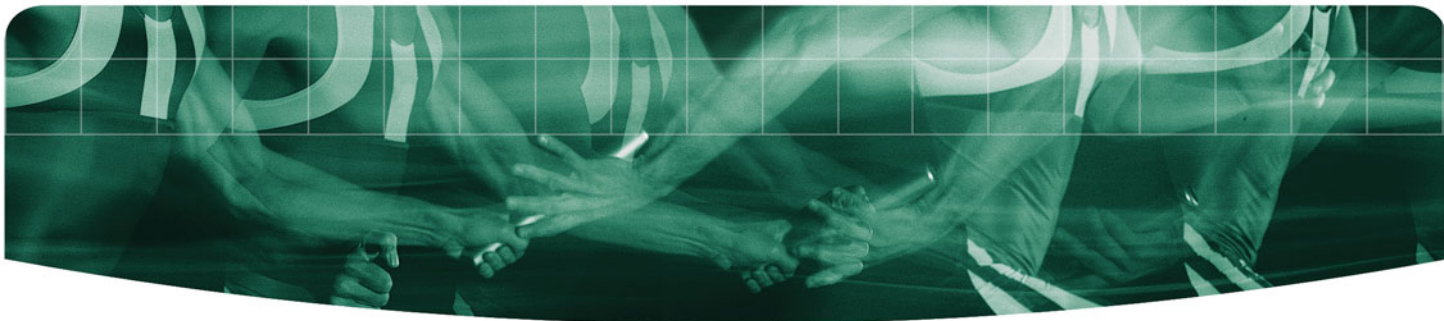
## 5. Choose optional synchronization connectors

<b>U1093A-AS1</b>	AS bus connector, simple bridge, XB100, for U1063A, U1064A and U1066A
<b>U1093A-AS2</b>	AS bus connector, left termination, XB101, for U1063A, U1064A and U1066A
<b>U1093A-AS3</b>	AS bus connector, right termination, XB102, for U1063A, U1064A and U1066A
<b>U1093A-AS4</b>	AS bus connector, double termination, XB103, for U1063A, U1064A and U1066A
<b>U1093A-AS5</b>	AS bus 2 connector, XB200, for U1062A and U1065A

## 6. Choose optional accessories

<b>U1092A-C31</b>	Rack-mount kit for 3 slot crate
<b>U1092A-C32</b>	Handle and feet kit for 3 slot crate
<b>U1092A-C33</b>	Rack-mount kit with lateral handles for 3 slot crate
<b>U1092A-C51</b>	Rack-mount kit for 5 slot crate
<b>U1092A-C52</b>	Handle and feet kit for 5 slot crate
<b>U1092A-C53</b>	Rack-mount kit with lateral handles for 5 slot crate
<b>U1092A-C81</b>	Rack-mount kit for 8 slot crate
<b>U1092A-C82</b>	Handle and feet kit for 8 slot crate
<b>U1092A-C83</b>	Rack-mount kit with lateral handles for 8 slot crate
<b>U1092A-C01</b>	6U to 3U cPCI slot adapter
<b>U1092A-C02</b>	6U cPCI blanking panel
<b>U1092A-HVB</b>	High-voltage protection for data converter BNC connectors
<b>U1092A-HVS</b>	High-voltage protection for data converter SMA connectors

Warranty extensions: Standard 1 year warranty on Agilent high-speed data converter systems can be extended to 3 or 5 years for both data converter modules and the system crates.



## Contacts

### Agilent Acqiris Product Information

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Australia	1 800 629 485
China	800 810 0189
Hong Kong	800 938 693
India	1 800 112 929
Japan	0120 (421) 345
Korea	080 769 0800
Malaysia	1 800 888 848
Singapore	1 800 375 8100
Taiwan	0800 047 866
Thailand	1 800 226 008

#### **Europe and Middle East**

Austria	0820 87 44 11
Belgium	32 (0) 2404 93 40
Denmark	45 70 13 15 15
Finland	358 (0) 10 855 2100
France	0825 010 700*
	*0.125 €/minute
Germany	01805 24 6333**
	**0.14 €/minute
Ireland	1890 924 204
Israel	972-3-9288-504/544
Italy	39 02 92 60 8484
Netherlands	31 (0) 20 547 2111
Spain	34 (91) 631 3300
Sweden	0200-88 22 55
Switzerland	0800 80 53 53
United Kingdom	44 (0) 118 9276201
Other European Countries:	<b><a href="http://www.agilent.com/find/contactus">www.agilent.com/find/contactus</a></b>

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