

Making measurements that would otherwise be impossible



ITC-1600: 16 Bit Multi-Channel Data Acquisition System

The ITC-1600 uses the newest fiber optic and digital signal processing technologies. It consists of a PCI-1600 computer interface card or USB 2.0 interface, one or two I-1600 analog rack units connected by the InstruLINK fiber optic data cables. The fiber optics provide superb optical isolation, virtually eliminating ground loops, while increasing the distance between the computer and the recording setup to at least five meters. Fiber optic cables are small, flexible, and, unlike conventional electrical cables do not emit electromagnetic radiation.

The ITC-1600's eight analog input channels are separated into two banks of four. Each bank is multiplexed into one 16-bit 200 kHz A/D converter. Both A/D converters sample simultaneously and synchronously at the maximum conversion rate resulting in a total throughput of 400 kHz. This unique arrangement allows pairs of channels to be digitized without phase-shift. If the bandwidth of the experiment calls for lower sampling rates, the DSP decimates and/or filters the data. An added benefit of filtering is the reduction of noise.

ITC-1600

High performance 16-bit expandable data acquisition system with 8 A/D inputs, 4 D/A outputs, 20 digital inputs, 36 digital outputs and 4x "telegraphing" 12-bit asynchronous ADC inputs. Includes one I-1600 rack unit, one PCI-1600 and one pair InstruLINK fiber optic cables. 3.3 Volt PCI bus version available.

ITC-1600/2

High performance 16-bit expandable data acquisition system with 16 A/D inputs, 8 D/A outputs, 40 digital inputs, 72 digital outputs and 8x 12-bit asynchronous ADC inputs. Includes two I-1600 rack units, one PCI-1600 and two pairs InstruLINK fiber optic cables.

PCI-16



5 Volt PCI Bus card for interfacing the ITC-16/EPC-9 to 5 Volt PCI bus computers (Includes RC-16 cable). 3.3 Volt PCI bus version available.

USB-16

USB 2.0 host interface for connecting the ITC-16/EPC-9 to a USB 2.0 Hi speed port (Includes cables).



ITC-18/PCI

16-bit electrically isolated data acquisition interface with 4 D/A outputs, 8 simultaneous sampling A/D inputs with individual programmable gain, 16 digital inputs, 32 digital outputs, 14 with current sink capabilities and one Mega sample FIFO. Includes PCI-18 host interface card and SC-18 cable. 3.3 Volt PCI bus version available.

ITC-18/USB

16-bit electrically isolated data acquisition interface with 4 D/A outputs, 8 simultaneous sampling A/D inputs with individual programmable gain, 16 digital inputs, 32 digital outputs, 14 with current sink capabilities and one Mega sample FIFO. Includes USB-18 host interface, SC-12 and USB cable.

PCI-18

5 Volt PCI Bus card for interfacing the ITC-16/EPC-9 to 5 Volt PCI bus computers (Includes RC-16 cable). 3.3 Volt PCI bus version available.

USB-18

USB 2.0 host interface for connecting the ITC-18/EPC-10Plus to a USB 2.0 Hi speed port (Includes cables).

The USB-16 host interface is a USB 2.0 interface for Apple and PC-compatible computers. The USB-16 provides the necessary interfacing to connect from the computer to all InstruTECH Corporation's ITC-16 interfaces and Heka Elektronik EPC-9 amplifiers ever produced and adds sixteen asynchronous digital input and output lines. Please note, this interface requires a computer with a USB 2.0 Hi-speed port (480 Mbps).

**ITC-18: 16-bit Data Acquisition Interface**

- All synchronous analog and digital channels are optically isolated
- Eight simultaneously sampling differential analog input channels
- Eight 18-bit 200 kHz A/D converters
- 200 kHz to 12 Hz sampling in 1.25 ms steps (200 kHz max aggregate)
- Programmable input gain: 1x, 2x, 5x, 10x
- Analog input & output range: ± 10.24 Volts
- Four pseudo differential analog output channels
- Four 18-bit instrumentation grade D/A converters
- Sixteen synchronous digital input channels
- Thirty-two synchronous digital output channels, fourteen with current sink
- Sixteen asynchronous digital output channels
- Large 1024 kilosample FIFO now included at no additional cost
- PCI and USB 2.0 host interfaces available
- Easy installation, no IRQ or DMA channel settings
- Compatible with Windows 9x, ME, NT, 2000, XP, MacOS Classic, MacOS X, LabView for Windows, MatLab and Linux

The ITC-18 is an external rack-mountable data acquisition unit that is attached to the computer using a dedicated host interface. This configuration offers major advantages over traditional data acquisition designs including noise performance and the capability to use the analog front end (ITC-18 rack unit) with a variety of host interfaces. Moving the ITC-18 from one computer platform to another is a simple matter of using the appropriate host interface, and installing compatible software.

The analog electronics of the ITC-18 are optically isolated from the digital circuitry of the computer. This provides complete electrical isolation between the computer and the measuring equipment -- essential if low-noise analog outputs are desired. Also, since the analog inputs and outputs of the ITC-18 float with respect to power ground, the ITC-18 and the computer are not a source of ground loop problems.

A unique design characteristic of the ITC-18 is the synchronization of all analog and digital signals. All inputs and outputs are updated simultaneously. Most data acquisition devices on the market do not do this. They sample multiple channels by using a multiplexer. This means that there is a time delay between the samples from each channel. This makes timing correlation measurements difficult.

The USB-18 host interface is a USB 2.0 interface for Apple and PC compatible computers. The USB-18 provides the necessary interfacing to connect from the computer to all Instrutech Corporation's ITC-18 interfaces and Heka Elektronik EPC-10Plus amplifiers ever produced. Please note, this interface requires a computer with a USB 2.0 Hi-speed port.

ITC-1600 Ordering Information

Part No.	Product Description	Price
ITC-1600	ITC-1600 data acquisition system - I-1600, PCI-1600 and cables	\$ 5,100
ITC-1600/2	ITC-1600 dual data acquisition system	\$ 9,180
I-1600	Analog / Digital rack unit for the ITC-1600	\$ 4,250
PCI-16	PCI host interface card for the ITC-16/EPC-9	\$ 950
USB-16	USB 2.0 interface for the ITC-16 or EPC-9	\$ 950

Email or visit web store for latest prices.

ITC-18 Ordering Information

Part No.	Product Description	Price
ITC-18/PCI	ITC-18/PCI 16 bit data acquisition interface- with PCI-18 host card & cable	\$ 5,100
PCI-18	PCI host interface card for the ITC-18/EPC-10Plus	\$ 950
USB-18	USB 2.0 interface for the ITC-18 or EPC-10Plus	\$ 950

Email or visit web store for latest prices.

