DaqBoard/2000 16-Bit, 200-kHz PCI Data Acquisition

£495.00

The new PCI multifunction DaqBoard/2000 from IOtech offers 16bit performance for a 12bit price. No other board packs so many features into one product - 16bit 200kHz A/D, 16bit 100kHz D/A, 40 digital I/O, 6 counter timers, 100% digital calibration, and bus mastering for synchronous A/D, D/A, digital I/O and counter inputs.

DaqBoard/2000 is supported by a family of over 30 signal conditioning and expansion options for thermocouples, accelerometers, isolation, high voltage, strain gauges and many more application specific extras. Up to 470 channels of analogue and digital I/O can be accessed using one DaqBoard/2000, while maintaining the 5 micro second per channel update rate.

Software support is the most comprehensive of any board which includes drivers and programming tools for Visual Basic, C++, Delphi for Windows 95/98/2000/NT, DASYlab, TestPoint and LabVIEW. For "Out-of-the-Box" set up, acquisition, analysis and display of acquired data with no programming required, IOtech's DaqView/2000 is also available.

In short, the DaqBoard/2000 sets a new industry standard for Plug-and-Play PCI data acquisition - at a budget price. **Ref: 901**

New Stand-Alone Data Acquisition System Offers Internal Signal Conditioning Plus Modem Support

IOtech have introduced the newest addition to its family of high-speed, portable, PC-based data acquisition systems — the LogBook/360™. This stand-alone system is designed to be a self-contained measurement solution by including three internal slots for signal conditioning cards. Moreover, optional modem support provides the LogBook/360 freedom to operate in remote and mobile applications.

The 16-bit, 100-kHz system offers multiple channels in a compact package. The basic unit includes 16 single-ended or 8 differential analog input channels, 24 general-purpose digital I/O lines, plus 16 dedicated digital inputs, 4 frequency/pulse counters, 2 frequency/pulse generator outputs, and 4 optional analog outputs.

While most portable data acquisition systems require the purchase of a separate enclosure for signal conditioning, the LogBook/360 system internally accommodates up to three signal conditioning options that allow channel capacity to be expanded to up to 61 channels of analogue input. Channels attach to signals via interchangeable termination panels selected from 7 available styles, offering a choice of connector types including BNC, safety jack, miniature thermocouple, and removable screw-terminal. If an application requires more channel capacity, one or more DBK60 expansion enclosures can be added to create a system of up to 256 analogue and 208 digital channels.

Containing a highly integrated, embedded 486 processor, the LogBook/360 is more intelligent than typical data loggers, and is capable of executing programs and storing acquired data using off-the-shelf, low-cost, removable PC-Card memory. It also supports a variety of sophisticated triggering features, allowing users to collect data coincident to external events. **Ref:902**

New LogBook/360 data acquisition system is a self-contained measurement instrument with modem support

☎

www.scensys.co.uk

PORTABLE DATA ACQUISITION SYSTEM INCORPORATES SIGNAL CONDITIONING OPTIONS

SCENSYS Ltd. has introduced IOtech's latest addition to their family of portable data acquisition products for both desktop and notebook PCs - the DaqBook/260. The new model combines measurement and control I/O with user configurable signal connection and conditioning in one compact package. The DaqBook/260 has three internal expansion slots which will accommodate any combination of signal conditioning and expansion options. These can be selected from a wide range of over twenty modules allowing the user to customise the system to exact requirements.

Available signal conditioning and expansion options encompass modules for almost any signal type including thermocouple, RTD, strain, high-voltage, current, frequency, acceleration and pressure. Performing functions such as isolation, low-pass filtering and simultaneous sample-and-hold.

The basic system comprises 16 single ended analogue inputs and has room internally to expand up to 64 channels using optional expansion cards. If more channel capacity is required, DBK60 expansion enclosures can be attached. Each DBK60 can accommodate a further 48 channels of input. The total system capacity is 256 channels of analogue input and 195 lines of digital I/O.

The basic system configuration consists of 16 analogue inputs, 24 digital I/O lines, 16 high speed digital input lines, 5 programmable 16 bit counter timers and two 12 -bit analogue outputs.

The DaqBook/260 data acquisition system offers easy expansion and your choice of connectivity all housed in a rugged metal chassis (shown here with optional DBK605, DBK606, and DBK604 termination panels)

Ref:903

VXI 16 or 32-channel Sigma-Delta ADC

The V200 is a single-width, C-size, register-based, VXIbus module that provides 16 or 32-channels of 16-bit resolution analog-to-digital conversion at sample rates up to 200 ksamples/s per channel. The sigma-delta architecture provides inherent filtering and synchronous sampling without the need for sample/hold amplifiers or sophisticated analog filters. A simple, 3-pole pre-filter assures no frequency aliasing. The module is divided into two channel groups, allowing half of the channels to be operated at one clock rate, while the remainder operate at another clock rate. The groups can also be combined, operating the entire module at one clock rate.

Each channel has independently programmable input spans from +/-10 mV to +/-10 V provided by an instrumentation amplifier front end. AC/DC coupling can also be programmed on a channel-by-channel basis. Channel calibration and self-test are performed automatically on command by the embedded DSPs. These DSPs also allow programmable level and slope limit checking.

Ref:904

NASA's International Space Station

The superior performance of Frequency Device's signal-conditioning solutions has earned a place on NASA's International Space Station.

Boeing is developing a number of active-rack isolation systems (ARISs) for the space station. An ARIS will carry micro-gravity experiments that must be isolated from natural vibrations in the normal space stations environment. It floats the experiments on a 2,000-pound rack (weightless in space), while push-rod servo mechanisms and acceleration-and-position feedback sensors indicate the motion and location of the rack in space.

Incorporated into the ARIS's remote-unit electronics will be Frequency Devices' fixed-frequency, low-power, 8-pole, 6-zero, elliptic filters along with a custom 2-pole programmable Chebychev filter. the remote unit will read accelerometer and position data from the ARIS rack and send that data to the central controller. The filters will condition the accelerometer output, eliminating unwanted high frequencies and other noise that may infiltrate the system. The programmable filters will also assist in optimizing system responses from the ground while the unit is in place.

This application represents only one example from the myriad of alternatives that Frequency Devices offers to enhance the processing accuracy of analog, digital, and mixed-signal systems. Other applications include data acquisition, dynamic testing, medical electronics, process control, and communications.

For more information on the extensive range of Frequency Devices products please send for their catalogue.

Ref:905

New PCI Board has High Speed On-Board Processing

The new DAP5200A is a top-of-the-line PCI board optimized for real-time data acquisition and control. The new 14-bit resolution board has a 300 MHz onboard processor: an AMD K6-2, that the user controls from any Windows (95, 98, NT) system containing the board. Real-time functions in data acquisition include 1024-point FFT (0.8 milliseconds per block) and high performance FIR filters.

Ref:906

New Scopeboards from PC Instruments have 10bit resolution at 50M samples/sec

The PC Instruments PCI-441 & 442 Digital Ocsilloscopes occupy one PC expansion slot and provide wide bandwidth measurements.

The single channel 441 and the dual channel 442 feature a 15MHz bandwidth and seven voltage ranges from 20mV/div to 2V/div.

For fast pulse measurements, three ranges can be utilised with a band width of 30MHz. Baseband sampling of I/F signals is supported with an upper bandwidth of 80MHz.

Test and production engineers will benefit from the small size, excellent measurement characteristics, fast system throughput and extensive software support.

A lifetime software upgrade policy at no additional cost is now a feature of these products.

Ref:907

Analogic Corporation Announces New 2.6 GSamples/second VXI Waveform Generator

Analogic Corporation announces the DBS 2050, the fastest, highest peformance VXI arbitrary waveform generator on the market today. The DBS 2050, which follows the innovative arb models 2020, 2030, 2040/45, and the DBS 875X Series from Analogic, is a 2.6 GS/s, 2 Slot, C-sized, VXI Arbitrary Waveform Generator that can be easily configured to address many applications through its accompanying Plug & Play drivers. Its remarkable speed makes it ideal for disk drive/mass storage, 100 Base T and avionics testing, as well as for network analysis, radar and telecommunications simulation.

Ref:908

Embedded PowerPC Slot-0 Controller

The V151 is a single-width, C-size, VXIbus module that combines the performance of a PowerPC-based computer with the functionality of a VXI Slot-0 controller. On-board strap options enable this module to be used as a VXI-based processor in non-Slot-0 applications.

Using the VxWorks run-time kernel, the V151 provides an extremely powerful real-time computing environment. In most applications this controller is connected to a host computer via an Ethernet link and uses TCP/IP protocol and VxWorks to communicate with a host computer. The V151 is an ideal real-time embedded controller for Automatic Test Equipment (ATE) applications.

Ref:909

NEW LABORATORY INSTRUMENT COMBINES ANALOGUE/DSP TECHNOLOGY TO PROVIDE SIGNAL CONDITIONING SOLUTIONS

Frequency Devices' "NEW" ASC-50 is a single-channel bench-top instrument that combines familiar analogue signal input/output with the power and flexibility of DSP. The ASC-50 provides the user with fingertip control of 1,000's of signal conditioning configurations. Included are pre/post gain, filter type (low-pass, high-pass, band-pass and band-reject), over 200 filter functions from 4 to 10 poles, "Q's" up to 20, corner frequency to 30 kHz, DC offset, single or differential input and signal bypass for calibration, all accessible at the touch of a button.

With an operating frequency range from 0.1 Hz to 30.0 kHz combined with amplitude response of Butterworth, Chebychev, elliptic and 40, 60 and 80 dB finite-impulse response (FIR) filter functions, the ASC-50 provides the user with precise stable signal performance and wide application versatility to solve a variety of data acquisition problems. From noise measure and biomedical/biophysical research to micro-vibration analysis, the ASC-50 offers a multitude of signal conditioning and signal processing solutions. All with precise, stable filter performance.

Ref:910

Data Acquisition at 1.2 M samples/sec with 16bit resolution

The iDSC1816 from Microstar is a new specialized PCI DAP board with 16-bit resolution and 1.2M samples/sec throughput for Windows (NT, 98, 95) systems. The board applies 8 onboard first-stage analog filters to its 8 simultaneous inputs, followed by digital filtering on two DSP chips, and this provides 96dB (sixteenth bit) stopband rejection within one quarter-octave. Performance like this really matters in sonar and in other spectral analysis applications: monitoring vibrating and rotating assemblies in the automotive, aerospace, and power generation industries, for example.

Ref:911

Vibration Sensors

Immersion Proof Triaxial

Model 3063A

This 100 mV/g accelerometer measures vibration in three orthogonal axes. An Immersion Proof boot is available to seal the cable connection. Mounts with a centrally located captive 1/4-28 socket head cap screw for 360 degree connector orientation. Readily magnetic mounted with model 6187 high pull rare earth magnet.

Immersion Proof Technology for Permanent Location Monitoring

Model 3185B

This extremely small 100 mV/g sensor features a top-mounted TNC connector and is contoured to accept the innovative Dytran Immersion Proof boot to seal the cable connection from moisture penetration. Model 3185B can be used in any "total immersion" environment, including under water, when the Immersion Proof boot is in place. TNC connector simplifies cable preparation for those terminating their own cables.

**High Sensitivity Seismic Accelerometer**

Model 3191A

This high output model produces 5 Volts/g and is intended to monitor highway bridges, buildings, foundation and other large structures under seismic study. The low noise amplifier allows outstanding signal quality for low-level, low frequency measurements. Accepts Model 6197 Immersion Proof boot and is designed for portable or permanent all-weather installation.

For further information on Dytran sensors for industry send for their full catalogue.

Ref:912

1MHz at 16bit Portable Logger
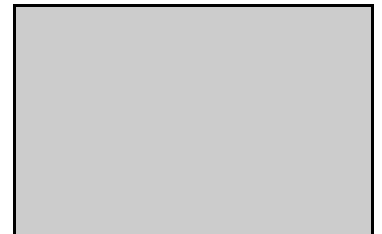
The WaveBook/516 is an instrument specifically designed for applications that require high-resolution and high-speed signal capture, such as engine strain testing, multi-channel acoustical testing, mechanical integrity testing, and destructive testing. The unit is expandable up to 72 analogue channels via the optional 8-channel expansion module. The unit also provides 8 digital inputs, readable at up to 1Mbyte/sec.

Ref:913

A leading original equipment manufacturer (OEM) of automobile and truck air-bag systems required an in-vehicle data acquisition system to verify crash test results. Crash testing is critical to developing reliable air-bag systems that conform to federal transportation specifications.

Application Summary When attached to fereromagnetic material, the magneto-strictive sensor emits a signal with an amplitude in the millivolt range. When the ferromagnetic material experiences a stress, as it would during a vehicle crash, the material's magnetization changes and the output of the sensor changes. Because shock waves travel well through the vehicle's metal frame, the sensor can detect impacts from any direction that occur at a distance from the sensor.

To test the reaction time of the sensor, the OEM installs air-bag systems into vehicles and subjects them to simulated crash tests. Engineers perform many crash tests at different speeds and angles to acquire test data.

Because the beginning of the crash contains the most critical events, the engineers look to discover the precise time at which the crash occurred (time zero), and how long it took for the sensor to detect the crash. Data is collected in the 0.5s to 1s interval immediately following impact, an acquisition period which produces approximately 50,000 to 100,000 data points.

Potential Solution The air-bag manufacturer evaluated several data acquisition systems that would quickly and easily collect the data from a high-speed vehicle crash; however, these systems were not able to withstand the g forces involved in a crash and did not meet the OEM's sampling requirement.

IOtech's Solution Ultimately, the air-bag manufacturer selected IOtech's stand-alone data acquisition system, which provided the convenience of a PC-based system without exposing the PC to potentially damaging forces. The LogBook/300's removable PC-Card (PCMCIA) permitted the data to be transferred to a benchtop PC. The card's non-volatile storage of up to 250 million samples was adequate for the sizable files of data, acquired at a rate of 100K samples/s with a resolution of 16 bits.

Two essential requirements for the data acquisition system were portability and ability to withstand the g forces encountered in a high-speed crash test. To perform a test, company technicians mounted the compact LogBook/300 chassis in the test vehicle, using twisted pair cable to connect the system to a terminal board located four to six feet away. The terminal board, in turn, was connected to the air-bag system's magnetostrictive sensor and an impact trigger switch.

The air-bag manufacturer was impressed by the LogBook/300 system's trigger pro-gramability. Contact switches or tapes placed in the test vehicle's impact area supplied the trigger signal. When the trigger signal came from a simple switch, the company's engineers easily programmed the LogBook/300 to trigger on the switch closure signal — often a TTL compatible signal. IOtech's LogBook/300™ was configured to sample the magnetostrictive sensor at 100 kHz for 1 second after it was triggered by the impact trigger switch.
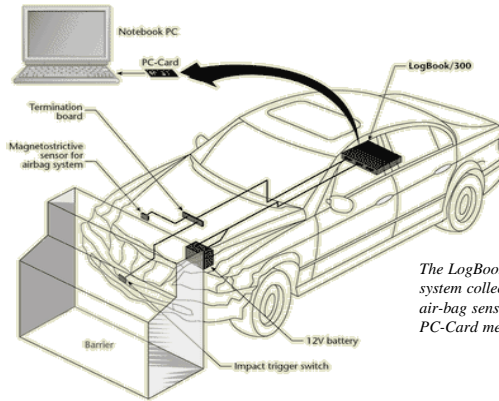
Ref:914

The LogBook/300 stand-alone data acquisition system collected data from an impact switch and air-bag sensor, storing the data on removable PC-Card memory

For further applications send for the free applications book below

---
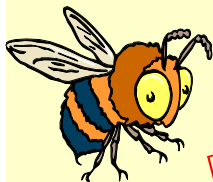
FREE-bees

Free LogBook Talking CD

This novel CD uses sound and animation to explain the LogBook/300 stand-alone data acquisition system! It features voice-over narration, movie-like software demonstrations, and slide-show style presentations to demonstrate features and operation of LogBook/300 hardware and included LogView *Out-of-the-Box*™ software. **A multimedia PC is required.**

The LogBook/300 is ideal for high-speed, multi-channel, data logging applications.
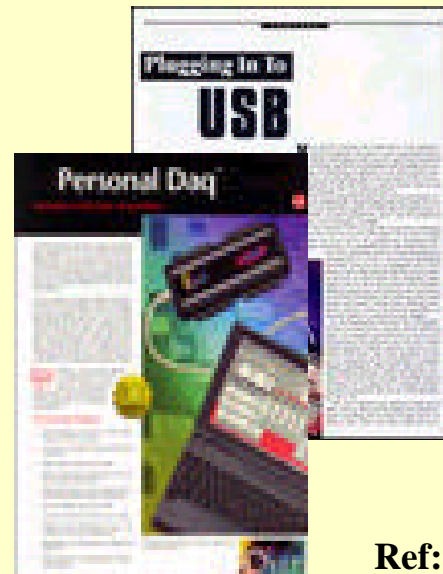
Ref:915

FREE APPLICATIONS BOOK

Learn how some top companies and institutions saved valuable engineering time and money by configuring ideal solutions for high-speed, portable data acquisition. This free booklet examines 17 real-world applications including test objectives, system choices, and includes illustrations of test setups. The *Solutions SourceBook* covers the following fields:

- ·Power quality testing
- ·High current generator testing
- ·Surface grinder monitoring
- ·Brake system testing
- ·Injection molding testing
- ·Process control field service
- ·Explosive ordinance testing
- ·Appliance testing and design
- **·And more!**

Ref:916

FREE USB data and PersonalDAQ specification brochure

Ref:917

FAXBACKFAXBACKFAXBACKFAXBACKFAXBACKFAXBACKFAX

NAME
_____

POSITION
_____

COMPANY
_____

ADDRESS
_____
_____
_____

PHONE
_____

FAX
_____

Please send me a full line catalogue ( )

Please send me the following information from the Newsletter

(REF.)   (REF.)

(REF.)   (REF.)

(REF.)   (REF.)

(REF.)   (REF.)

(REF.)   (REF.)

☎

www.scensys.co.uk