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New Multifunction 8-Channel Counter/Encoder Module for Portable Data Acquisition Systems

CLEVELAND, June 21, 2001 — IOtech announces the release of the new WBK17™, an 8-channel multifunction counter/encoder module for the high-speed portable WaveBook/516™ data acquisition system. Only the WBK17-based system features the performance and versatility required to meet the needs of laboratory, test and measurement, and industrial automation applications.

“In the past, either PC-plug-in boards with limited functionality or more dedicated instruments were the only options available for counter-oriented lab applications. And, industrial automation applications have had to rely on costly and relatively inflexible PLC-based solutions,” said Ron Chapek, Product Manager. “Now, the portable WBK17, WaveBook/516 system bridges the gap between these two markets by combining instrument-level performance with automation-level versatility and robustness.”

Each of the WBK17's 8 high-speed 32-bit counter channels can be independently configured for one of five modes: counter, period, pulse width, time between edges, or encoder. These channels are also capable of measuring analog inputs, which are digitized by the WaveBook/516 at up to 1MHz. With this unmatched versatility, the WBK17-based system can concurrently monitor time periods, frequencies, pulses, and other incremental event-driven occurrences read directly from encoders, pulse generators, limit/proximity switches, and magnetic pick-ups. The WBK17 also features 16 digital inputs (read synchronously with counter and analog inputs), and 8 fully programmable digital outputs capable of directly driving relays.

Unique Features of the WBK17, WaveBook/516 System

Waveform Measurements: Each channel is capable of reading an analog input (from 500 mVpp to 100 Vpp) which is sampled by the WaveBook/516 at up to 1 MHz with 16-bit resolution. AC/DC coupling and low-pass filtering are programmable per channel. Each channel input has a comparator with a programmable threshold (-12.5V to +12.5V in 100 mV steps) to reject input noise and ringing. Programmable debounce times (from 500 ns to 25.5 ms) and glitch detection are also programmable per channel to eliminate transients typically associated with electromechanical devices (e.g. relays and proximity sensors).

Pattern Detection with Real-Time Output(s): The 16 programmable digital outputs can be updated instantaneously, without PC/software intervention, based on related input channel conditions. Input values are compared in real-time with conditions (greater than value, less than value, inside window, outside window) which when true, update any or all of the digital I/O. Additionally, any channel's pattern detection output can be used to gate, increment, or clear a counter as well as latch an output value. The ability to feed the pattern detection output into any channel input supports sophisticated combinatorial logic schemes required to meet demanding, multi-conditional applications (e.g. multi-axes motion control).

Encoder Mode for Position, Direction, and Velocity Measurements: Either single-ended (TTL, CMOS, 12V, 24V, or 30V) or differential (RS-422) inputs directly interface to encoders via removable screw terminals located on the WBK17's front panel. Quadrature encoders with up to 32,768 ppr or frequencies up to 5 MHz are supported along with x1, x2, and x4 count modes for applications that require higher accuracy. When only A (phase) and B (phase) signals are read, the WBK17 supports 4 encoder channels. 2 channels are supported when A (phase), B (phase) and Z (index) signals are read. Additionally, the WBK17 provides +5V @1000 mA and +15V @ 500 mA output to power encoders.

Expansion and Optional Signal Conditioning: Up to 8 WBK17 modules can be added to the base Wavebook/516 providing up to 64 counter inputs or 32 quadrature encoder inputs. Additionally, any module in the WBK signal conditioning series can be added to the system to make a wide variety of measurements including temperature (isolated), vibration, and strain.

Software Options: In addition to the free *Out-of-the-Box*[™] software that supports immediate setup and operation, a complete API library is included for developing custom applications written in Visual Basic[®], C/C++, and Delphi[™] for Windows[®] 98/2000/Me/NT. LabVIEW[®] drivers are also included along with a driver for the optional DASyLab[®] data display and post-acquisition analysis software.

Pricing

Product	Description	US List Price
WBK17	8-channel multifunction counter signal conditioning module including AC adapter, fastener panels, digital expansion cable, WaveBook/516 expansion-control cable and a BNC expansion	\$2495

About IOtech

IOtech produces data acquisition hardware and software for use in PC-based test & measurement and industrial automation systems. Its products are used in research and manufacturing facilities and are sold throughout the world. IOtech, Inc. is located at 25971 Cannon Road, Cleveland, Ohio, 44146; telephone: (440) 439-4091; fax: (440) 439-4093; E-mail: sales@iotech.com; World Wide Web: www.iotech.com.

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