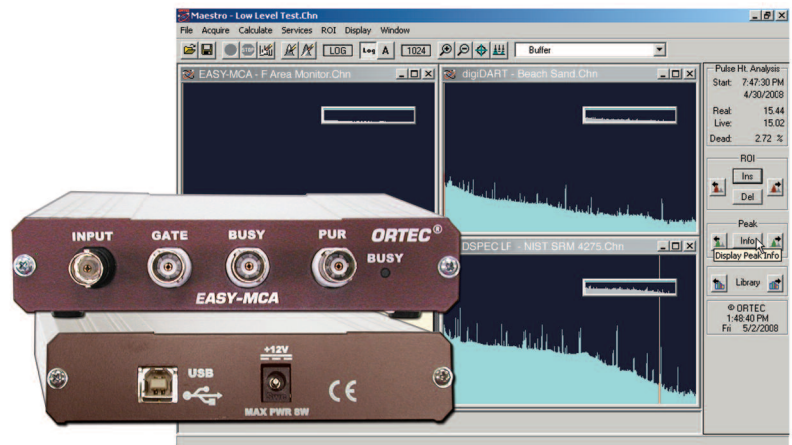## "Does Your New PC No Longer Support Plug-in MCA Cards?"
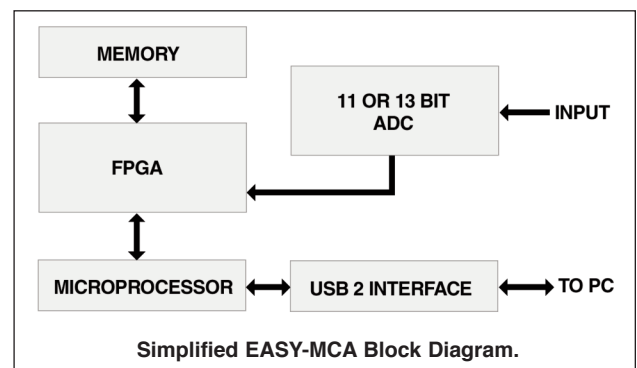
Now an Inexpensive Solution Using the Latest USB Technology!

- Compact stand-alone MCA
- Two available versions in 2k or 8k resolution
- Fast (<2 µs) conversion time
- Includes Dead-Time Correction Logic Inputs (Busy and PUR)
- Gate Input Provided
- The easy to use and powerful MAESTRO software is included
- Fast, convenient USB2 connectivity
- Advanced Analysis Software Options

EASY-MCA interfaces to a PC via a USB2 cable. This compact MCA is stackable and portable, and no PC option slots are needed. Each EASY-MCA has memory capable of holding the complete spectrum. You have the option of 2k channels of resolution which can be switched to 1k or 0.5k channels or 8k channels of resolution which can be switched to 4k, 2k, 1k, or 0.5k channels.

EASY-MCA will accept inputs from a shaping amplifier for Pulse Height Analysis (PHA). In addition to the Input signal, EASY-MCA accepts an ADC GATE input, a (Pile-Up Rejection input (PUR), and a BUSY input used by the live-time correction circuits. A single computer subject to USB-2.0 speed of data transfer can control multiple units using USB ports or a powered USB hub.

Simplified EASY-MCA Block Diagram.

MAESTRO MCA Emulation Software

EASY-MCA operates with ORTEC MAESTRO software.

MAESTRO is Windows 7 (32-bit and 64-bit) and Windows XP (32-bit) compatible and offers online and context-sensitive help.

It uses the common Windows Explorer dialogs for importing and exporting files. No advanced training or programming skills are required.

MAESTRO is an ORTEC CONNECTIONS product, providing industry leading advanced connectivity features within the Windows Network environment. You can control any networked ORTEC instrument from a single PC over your existing Ethernet.

- Real-Time Emulation for Gamma and Alpha Spectroscopy
- Multi-Detector Interface
- Seamless Networking for Remote Detectors Systems
- Secure Data with Personal Password Protection
- Advance Peak Analysis Features
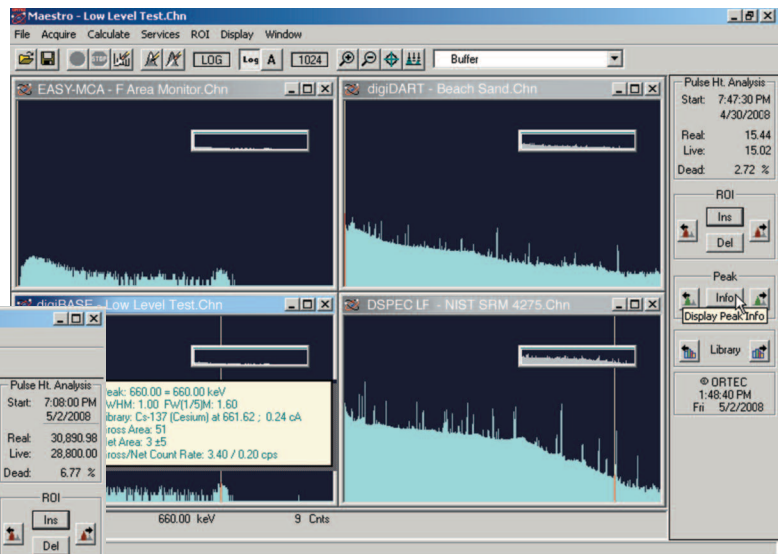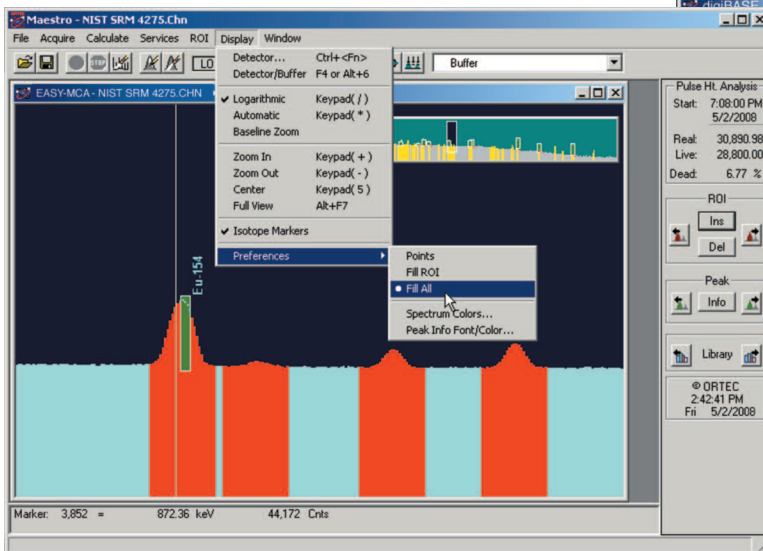- Complete Interactive Control of all MCB Hardware Features

EASY-MCA-2k/8k™

2k or 8k Channel MultiChannel Analyzer
with MAESTRO® Software

Experience the MAESTRO advantage for yourself. This time tested software gives full control of the data to the user with the latest features. The new Multiple Detector Interface allows viewing up to 8 detectors and 8 buffer windows simultaneously for a total of 16 interactive windows. Controlling multiple detectors, visually comparing spectra, and viewing multiple MCB properties is now easier than ever. This new interface also allows maximizing sample throughput in your lab. You can begin acquisitions of multiple samples or select one detector at a time. Synchronizing data acquisition on multiple detectors simultaneously is now achievable.

• Microsoft Windows GUI (Graphic User Interface) for control and spectrum manipulation using the mouse or keyboard

• Multi-Detector Interface (MDI)

• Single key or mouse button for:

  • Setting/deleting ROIs

  • Indexing to next ROI

  • Indexing to next peak

  • Indexing to next library energy

• Logarithmic and auto-scaling-linear vertical display

• True live display on any mix of MCBs

• Identical operation for local MCBs and remote MCBs

Advanced Features of MAESTRO Add Real Value

• Mariscotti fast peak search, with nuclide identification by library lookup

• Activity, net and gross areas (with uncertainty), centroid and shape for peaks

• Data protection with "detector locking" by name, not by workstation

• Comprehensive JOB STREAMING

• Integrated Local Area Network (LAN) support

2

EASY-MCA-2k/8k™
2k or 8k Channel MultiChannel Analyzer
with MAESTRO® Software

Specifications

PERFORMANCE

ADC: The ADC includes sliding scale linearization and <2 μs dead time including memory transfer.

INTEGRAL NONLINEARITY: ≤±0.025% over the top 99% of the dynamic range.

DIFFERENTIAL NONLINEARITY: <±1% over the top 99% of the dynamic range.

GAIN INSTABILITY: ≤±50 ppm/°C.

DEAD TIME CORRECTION: Extended Live-Time correction according to the Gedcke-Hale method.

USB INTERFACE: The USB 2.0 to PC as data transfer speeds up to a maximum of 480 Mbps.

INPUTS AND OUTPUTS

INPUT: Accepts positive unipolar, positive gated integrator, or positive leading bipolar analog pulses in the dynamic range from 0 to +10 V; +12 V maximum; semi-Gaussian-shaped time constants from 0.25 to 30 μs, gated-integrator-shaped time constants from 3 to 30 μs, or delay-line-shaped with widths >0.25 μs. Z_{in} = 1 kΩ, dc-coupled. No internal delay, BNC connector.

ADC GATE: Optional TTL input with computer selectable Coincidence mode, Anti-coincidence mode, or Off. Signal must occur prior to and extend 0.5-μs beyond the peak of the pulse; Z_{in} = 1 kΩ. BNC connector.

PUR: Pile-up rejection input; accepts TTL signal; signal must occur prior to peak detect. Z_{in} = 1 kΩ. BNC connector.

BUSY: Busy input used by live-time correction circuits. Accepts TTL signal; signal must occur prior to peak detect. Z_{in} = 1 kΩ. BNC connector.

POWER: Positive 12 V with up to 8 W power capacity. Mains supply with cable is supplied with the EASY-MCA.

INDICATOR

ADC: Indicates activity for the ADC

SOFTWARE CONTROLS

(Operates with included MAESTRO – see MAESTRO data sheet for details.)

ADC LLD: Computer controlled from 0 to 100% full scale.

ADC ULD: Computer controlled from 0 to 100% full scale.

PRESETS

REAL TIME/LIVE TIME: Multiples of 20 ms.

REGION OF INTEREST: Peak count/Integral count.

DATA OVERFLOW: Terminates data collection when any channel exceeds 2^{31}–1.

PEAK UNCERTAINTY: Stops acquisition when the statistical or counting uncertainty of a user-selected net peak reaches the specified value.

NUCLIDE MDA: Stops data collection when the value of the Minimum Detectable Activity (MDA) for a user-specified MCA reaches the specified value.

LIVE TIME CORRECTION: Gedcke-Hale method.

GATE: Coincidence, Anti-Coincidence, Off.

ELECTRICAL AND MECHANICAL

POWER REQUIRED: +12 V at 0.4 amps is supplied via a power cord and wall mounted dc supply (mains power 110–230 V / 50–60 Hz) included with the product.

WEIGHT

Net: 0.6 kg (1.3 lbs.)

Shipping: 2.3 kg (5 lbs.)

DIMENSIONS

Width: 134 mm (5.25 in.)

Depth: 205 mm. (8.1 in.) [Includes 28.6 mm (1.13 in.) BNC connectors]

Height: 34.9 mm (1.38 in.)

Operating Environment: 0 to 50°C at 0 to 80% relative humidity, non-condensing.

ORDERING INFORMATION

Model	Description
EASY-MCA-2K	Compact stand-alone 2k-channel MCA. Includes MAESTRO, 10-ft. USB interface cable, and 6-ft power cord with mains supply.
EASY-MCA-8K	Compact stand-alone 8k-channel MCA. Includes MAESTRO, 10-ft. USB interface cable, and 6-ft power cord with mains supply.

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AMETEK®
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