



Features (depends on model - see page 2)

Complete MCA data acquisition system on a full length PCI-bus compatible board

- Three alternative operating modes:
 - PHA (pulse height analysis),
 - MCS (multichannel scaling) using 1 or 2 inputs and
 - PHA with SVA (Sampled Voltage Analysis)
- On board ultra fast pulse height analyzing 8k ADC with 500 ns conversion time for Pulse-Height Analysis
- ADC-port, 16 bit, throughput up to 50,000,000 converted events/s
- Digital Stabilizer for Gain and Zero stabilization
- Capability to store PHA data from ADC in list-mode format in addition to normal histogramming mode
- On-board 512k channels SRAM memory, 32 bit capacity
- Memory segmentation for sequential spectra acquisition
- Multiscaling mode offers two inputs with programmable discriminators, Count rates in excess of 350 MHz (400 MHz typical)
- No deadtime between channels, no end-of-sweep deadtime
- Dwell time from 100 ns to 50s (200ns to 50s using two inputs), manual and external
- Mossbauer Spectroscopy control lines are available on a mounting bracket connector:

Applications

- Nuclear- and X-ray spectroscopy
- LIDAR
- Two channel Mössbauer Spectroscopy
- Dynamic Desorption Studies
- Cross-correlation measurements
- Scanning Mass Spectrometers
- One or two input, time-correlated single-photon and ion counting
- Fluorescence lifetime studies

- Laser induced chemical reactions
- Portable Spectrum Analysis
- Setup of experiments in High Energy Physics
- OEM-applications
- Remote Spectrum Acquisition

Description

The MCA-3 Series is a family of PC-based, software controlled PCI-bus Multichannel Analyzers. The design is capable of converting incoming signals at up-to 1,000,000 events/s or collect data at rates of up-to 5 Megaevents/s.

The large data memory can be segmented to enable to accumulate successive measurements. Spectra accumulated in sequential PHA mode can be displayed in a two-dimensional array. For use in remote locations an autostore function can be selected that will store both spectra and setup parameters at regular intervals.

The MCA-3-Series boards can be remotely controlled by a host computer. „GO“-line compatibility enables the MCA's to start and stop accumulation synchronously with other FAST ComTec products such as the MS-12 Timer/ Scaler, the **MPA-3** Multiparameter System etc. The MCA-3-Series Multichannel Analyzers are available in five versions:

MCA-3FADC - is an advanced Multi Channel Analyzer with a built-in ultra-fast ADC with 500 ns conversion time and 8k conversion range. The throughput capability is in excess of 1,000,000 events/s depending on the shape and duration of the input pulses. In addition an MCS mode is available with one or two inputs for fast multiscaling are provided - a time resolution of 100 ns sets the MCA-3- FADC apart from standard MCA's.

MCA-3A - this unit is identical to the MCA-3FADC but without the multiscaling facility

MCA-3 - this model offers an external ADC port and a dual input multiscaler. Such a combination is preferred by scientists doing Mossbauer work as it can be operated in PHA mode for setup and testing while one or both multiscalers are used for data acquisition.

MCA-3S - is a dual-input Multiscaler. For details see the P7882 datasheet.

