

Model SPA-3, PC-card Multi-Input Multichannel Analyzer System

FEATURES

- Ultra fast Multi-Input Multichannel Analyzer System based on the proven hardware of the FAST ComTec MPA-3 Multiparameter System
- ADC-port modules allow the flexible configuration of 4, 8, 12 or 16 independent Multichannel Analyzers
- ADC ports for up- to 64k (16 bit) ADCs (and/or other compatible frontends like Multiscalers, Position Analyzers, Time-of-Flight devices etc.)
- Ultra high data throughput:
>4.000.000 events/s (number of total ADC conversions) using 16 ADCs
- Livetime correction and presets on all ADC inputs
- Independent Start/Stop for each input
- PCI-bus interface card
- Extended data storage facility on Hard-Disk Array for on-line list data recording of up to 15×10^{10} ADC events
- Modular construction for providing the user the essential flexibility in configuring the system to any specific application
- Fully remote-controllable by host computer (RS232C, experiment control line or Ethernet)

- Excellent reliability by extensive use of a high density gate-array
- Easy to use operating software MPA-NT
- High resolution graphics display.
- MPA-NT software updates can be downloaded from our INTERNET FTP-server - no charge for the first 12 months

APPLICATIONS

- Ultra fast list mode data acquisition with up to 16 ADCs, multiscalers or Time-of-Flight front-ends
- Pulse Height Analysis with up to 16 independent MCS's
- Ultra fast spectrum acquisition with multi-element detectors



SPA-3 Rev. 011299 Specifications are subject to change without prior notice

DESCRIPTION

The SPA-3 Multi-Input Multichannel Analyzer System is designed as an ultra fast list mode system with input ports for 4, 8, 12 or 16 ADCs, multiscalers or time-of-flight devices. The open system technology concept is capable of accomodating future system expansion. The SPA-3 is derived from the high-performance MPA-3 Multiparameter System by combining the proven hardware with a new efficient multi-MCA version of the MPA-NT operating software. While the SPA-3 Base unit has been specifically designed for its intended use, the expansion units such as the quad ADC ports are being taken from the MPA-3 system.

A monitoring mode is available to view the spectrum accumulation on-line during active data acquisition. List data can be stored on the local hard disk device or any other directly addressable storage device.

PHA mode will enable to accumulate and histogram multiple spectra in the RAM memory of the PC. Multiple

windows with spectra from any or all MCAs can be simultaneously displayed.

The MPA-NT software is a true 32-bit operating program and operates under Microsoft WINDOWS (98/NT/2000/XP/Vista 32 bit).

LIST-MODE (event by event storage):

Max. Throughput: List-Mode data stored in RAM or on hard disk array:

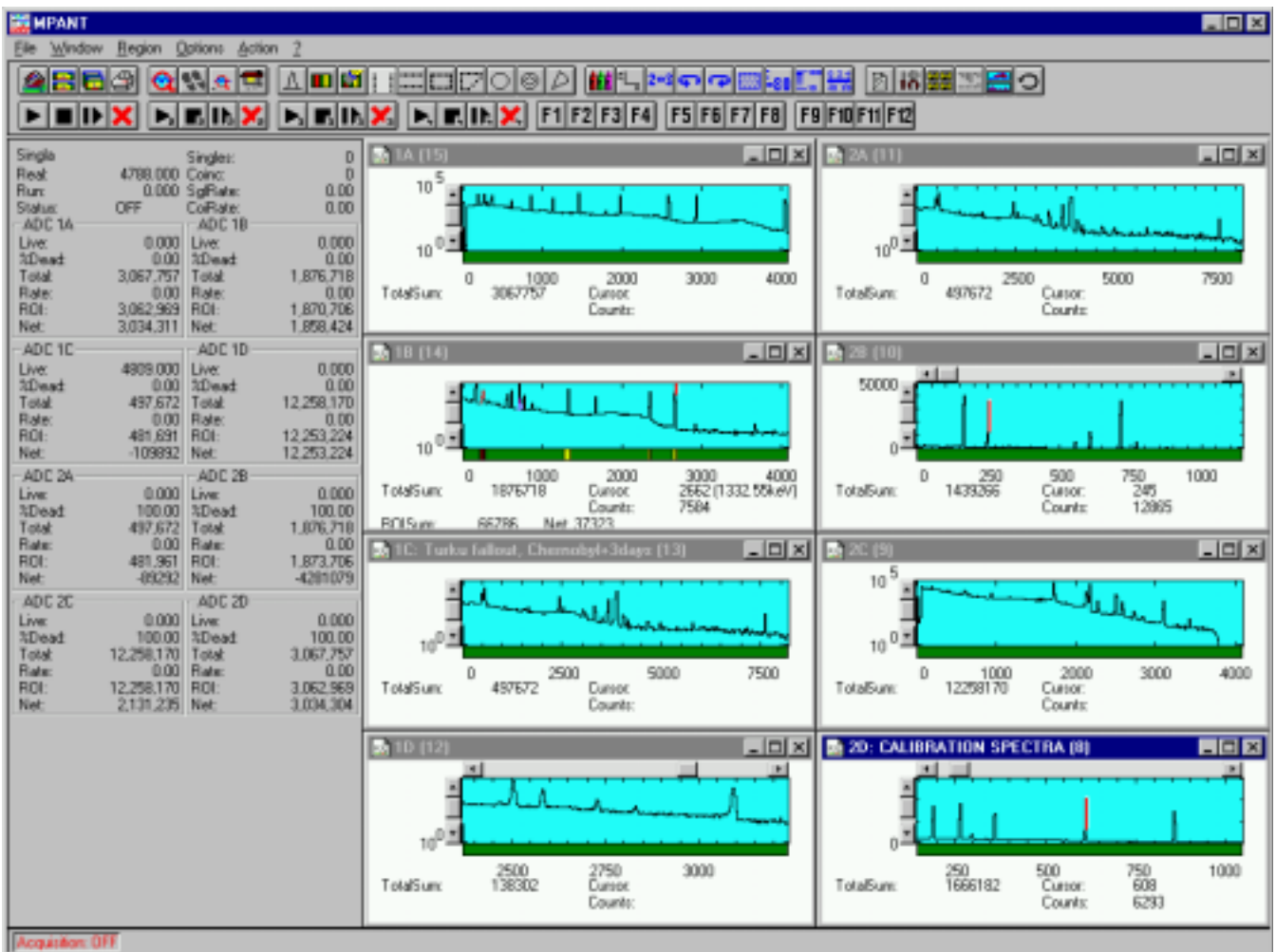
>4.000.000 events/s (converted ADC data) integral using 16 ADCs

PHA-MODE (on-line histogramming):

Single parameter acquisition mode: Spectrum acquisition and histogramming in up to 16 MCA's

Combined List-MODE and PHA MODE data stored in RAM and on hard disk array:

Simultaneous storage on hard-disk array and spectrum acquisition in the computer memory with real-time display of up to 16 spectra on PC monitor.



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Model MPA-3 Quad ADC Port Module

FEATURES

- Quad ADC-port extension module to allow the flexible configuration of 8, 12 or 16 MCA systems
- ADC ports for up to 64k (16 bit) ADCs (and/or other compatible frontends like Multiscalers, Position Analyzers, Time-of-Flight devices etc.

CONNECTORS:

ADC port: four 25 pin D-SUB (female) for data input and control lines for external ADC

FAST MP Bus (FMP- Bus): 50-pin Centronics (female) for module interconnection



APPLICATIONS

- Ultra fast single- and list mode data acquisition system expansion to 8, 12 or 16 ports for external ADCs, multiscalers or TOFs

DESCRIPTION

The Quad ADC Port Module extends the SPA-3 Multi-Input MCA System inputs to 12 or 16 MCAs, provides input ports for ADCs, multiscalers or time-of-flight devices in increments of four ports.

SPECIFICATIONS

Quad ADC Port Module

ADC-port: four 16 bit ADC ports, data (64k) and control lines. Each ADC port can be software configured to be compatible to practically every existing model of nuclear ADC (Canberra, ND, Ortec, Silena, Laben, TN etc.)

DISPLAYS:

Seven segment display indicates module address for easy identification of port number

Ordering Information:

Order No. MP3PORT
shipment includes MPA-3 Quad ADC Port Module with Module Bus cable and X-TRA power cable



Rear Panel

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Model SPA-3 Base Module

Features

The Base Module contains all control circuitry of the SPA-3 System and interfaces to the Quad ADC Port Modules and the PCI-Bus card. Up to 16 independent MCAs can be configured. Three front panel LEDs indicate the system status.



PERFORMANCE:

BASIC OPERATING MODE: List-Mode, PHA (Pulse Height Analysis) performed by MP-NT software

LIST-MODE:

Max. Throughput: List-Mode data stored in RAM or on optional hard disk array:

<4.000.000 events/s (number of total ADC conversions) using 16 ADCs, single parameter mode

SPECIFICATIONS:

ADC-port: four 16 bit ADC ports, data (64k) and control lines. Each ADC port can be software configured to be compatible to practically every existing model of nuclear ADC (Canberra, ND, Ortec, Silena, Laben, TN, Eurisys, etc.)

Live/True Time: resolution 1 ms

Preset Range: 1 ms to ∞

Digital Stabilizer: Multipoint Gain and Zero stabilization

DISPLAYS:

Power Good LED, Active LED, Busy LED

CONNECTORS:

ADC port: four 25 pin D-SUB (female) for data input and control lines for external ADC

FAST High Speed Link (FHS): 37-pin D-SUB (male) for SPA-3/PC communication

FAST MP Bus (FMP-Bus): 50-pin Centronics (female)

X-TRA POWER-In: 9-pin D-SUB (male) for supplementary power

POWER-Out: 9-pin D-SUB (female) for powering ADC Port modules

PCI-Card:

FAST High Speed Link (FHS) 37-pin D-SUB (f) for SPA-3/PC communication

I/O Port: connector cable with PC-mounting bracket with 15-pin D-SUB connector

ORDERING INFORMATION:

Example for a four-MCA System:

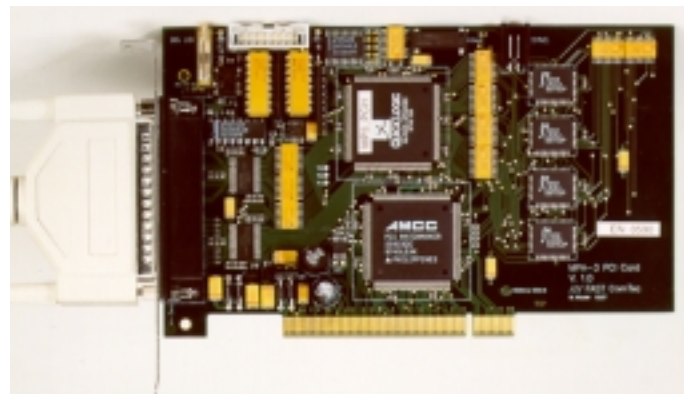
Order No. **SP3Y02** -SPA-3 System includes: SPA-3 Base Module, PCI Card with FHS-cable, SPA-NT Multiparameter Software for WIN-NT

Options:

Order No. **MP3PORT** - MPA-3 Quad ADC Port Module - extends SPA-3 system by four ADC ports (max. two additional Quad ADC Port modules per system)

Other system configurations on request

Shipping Weight: **approx. 2.5 kg**



PCI Interface Card

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