Model MPA-3DP, Dual-Parameter Multichannel Analyzer System

III FAST

FEATURES

- Ultra fast Dual-Parameter Multichannel Analyzer
- Two ADC ports for 64k (16 bit) ADCs (and/or other compatible frontends like Multiscalers, Position Analyzers, Time-of-Flight devices etc.)
- Ultra high data throughput ro RAM or HDD:
  >1.300.000 events/s (converted ADC data) integral, single parameter mode
  >1.040.000 events integral for list mode recording coincident ADCs. (not adjusted for coincidence time settings)
  >650.000 events/s for a single ADC
- Livetime correction on both ADC inputs
- PCI-bus interface card
- Extended data storage facility on Hard-Disk Array (RAID) for on-line list data recording of up to 15 x 10^{10} ADC events
- Options:
  48-bit Realtime-Clock with a time resolution of 50ns for time tagging of events, spectrum multiscaling and sequential access to the data memory
- Parameters completely under software control
- Fully remote-controllable by host computer through experiment control line and optional by External Control software (RS232C or Ethernet)

- Remote control with LAPLINK for WINDOWS via LAN (Novell, WIN 3.11, WIN 95 and WIN-NT and TCP/IP), Modem, ISDN, serial or parallel cable, INTERNET and airshare wireless connection (option)
- Excellent reliability by extensive use of a high density gate-array
- Easy to use multiparameter operating software MPA-NT
- 8-bit digital I/O port, DAC outp. and GO-line synchronization (start/stop sync for ext. scalers etc.)
- Software updates can be downloaded from our INTERNET FTP-server- no charge for the first 12 months
- Three year limited warranty

APPLICATIONS

- ☐ Ultra fast single- and dual-parameter list mode data acquisition with two external ADCs, multiscalers or Time-of-Flight front-ends
- ☐ Positron Anihilation studies
- ☐ Ultra fast multi-spectrum acquisition and display using X-Y detectors (imaging) etc.

MPA-3DP Dual-Parameter System Rev. 230401 Specifications are subject to change without prior notice

DESCRIPTION

The MPA-3DP Dual-Parameter Multichannel Analyzer System is an ultra-fast list mode/PHA system with input ports for two ADCs, multiscalers or time-of-flight devices and optional time tagging with 50 ns time resolution.

For dependent single- and dual-parameter acquisitions, coincidence resolving times from approx. 150 ns to more than 3 ms can be selected in 50 ns steps.

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

Using a RAID IDE hard disk array, data can be stored on-line at full throughput for many hours depending on the configuration.

PHA mode enables the user to accumulate and histogram dual-parameter spectra in the memory of the PC. Multiple windows of single- and dual-parameter spectra can be simultaneously displayed.

The MPA-NT software is a true 32-bit operating program and operates under Microsoft WINDOWS NT, WIN98 and WIN2000.

For customers requiring more than two inputs, other versions of the MPA-3 with up to 16 inputs are available.

LIST-MODE (event by event storage):

Max. Throughput: List-Mode data stored in RAM or on RAID IDE disk array (two IDE HDDs):

> **>1.300.000 events/s (converted ADC data) integral using single parameter mode**
> **>1.040.000 events/s integral for list mode recording of coincident ADCs, (shortest coincidence time settings)**
> **Optional time tagging with 48 bit Realtime Clock**

On-line histogramming mode (PHA-MODE):

Single parameter mode: Spectrum acquisition and histogramming from two ADCs

Dual-Parameter mode: Spectrum acquisition and histogramming, with display of dual parameter spectrum.

Simultaneous single- and dual-parameter acquisition and histogramming, display of single- and dual-parameter spectra

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 any combination of single and dual-parameter spectra on the PC monitor.

SPECIFICATIONS:

ADC-port: two 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.)

Coincidence resolution: 150 ns to 3,2 ms, programm–able in 50 ns steps

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

FAST High Speed Link (FHS): 37-pin D-SUB for MPA-3/PCI card communication

I/O Port: connector cable with PC-mounting bracket with 15-pin D-SUB connector for 8-bit digital I/O, DAC output and GO-line synchronisation

ORDERING INFORMATION:

Order No. **MP3Y09 -** MPA-3 Dual-Parameter System includes: MPA-3DP Base Module, PCI Card with FHS-cable and MPA-NT Multiparameter Software for WIN-NT

OPTIONS:

MPA-3RTC 48 bit Realtime ClockMPA-3

MPA-3Fifo 16k fifo option on PCI card

MPA-3RPlay MPA-3 Replay program for off-line reconstruction of spectra from listmode data

MPA-3RPlay_Ex MPA-3 Replay program, runs on computer without the MPA-3 system

MPA-3EXTCTRL MPA-3 external control software

MPA-3NTDLL32 MPA3 DLL for Labview, "C" and Visual Basic incl. VI's

Shipping Weight: **approx. 2.5 kg**

PCI Interface Card