

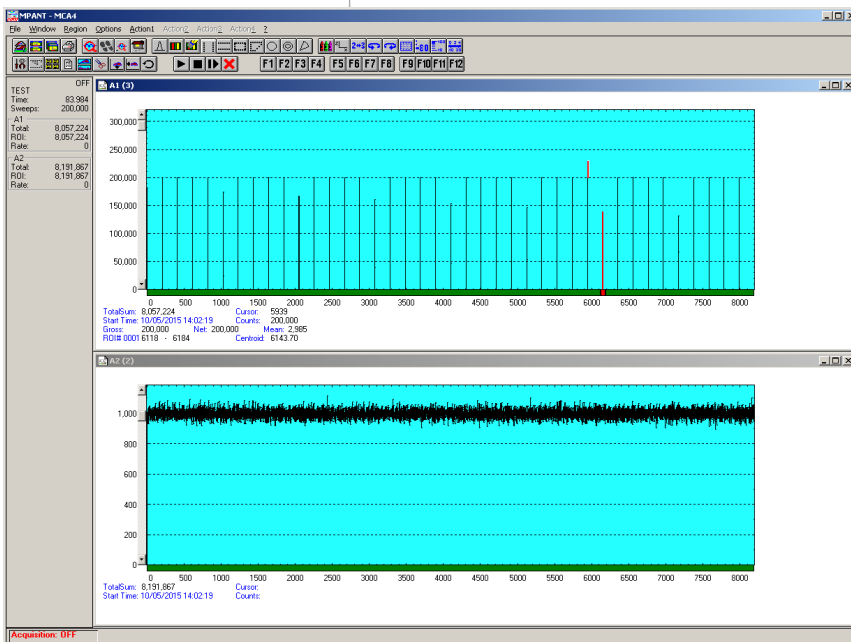
1 MCS with 30ns resolution /
2 MCS with 50 ns resolution.

400 MHz countrate on each input



1 - or 2 - input MCS with 30 ns (50 ns) time resolution, up to 400 MHz events/sec on each channel.

Test spectra @ 50 ns time resolution.

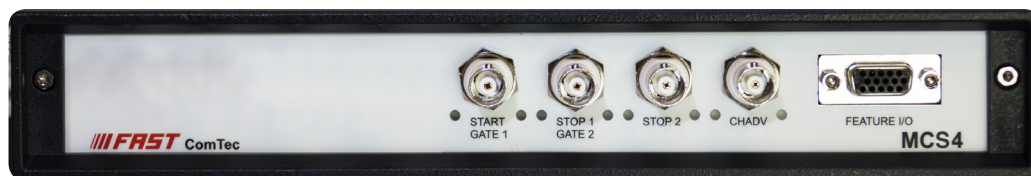


Description:

The MCS4 is a USB-connected, software controlled Multichannel Scaler. The internal memory is used to accumulate spectra of up to 16M bins. An automatic sequential mode allows to acquire up to 65536 sequential spectra – each with a presettable number of sweeps – with no dead-time between each cycle or synchronized with external signal. The maximum count rate is 400 MHz, dwelltime is ≥ 30 ns for one STOP input or ≥ 50 ns for two STOP inputs. An 8 bit digital I/O port provides controlling external devices or to react on additional external signals. The "GO-LINE" compatibility allows to synchronize start and stop of the experiment across many measurement devices. The 32 bit or 64 bit MPANT Windows Software is able to handle 6 MCS4 providing up to 12 MCS channels.

Features

- Complete versatile Multiscaler system
- MCS mode offers two inputs with programmable (fast/slow NIM, rising/falling edge) discriminators
 - Maximum MCS count rates of 400MHz
 - Dwell time from 30 ns for 1 input and 50 ns for 2 inputs up to 761h in steps of 10 ns or external
 - No dead-time between channels, no double counting, no end-of-sweep dead-time
- Automatic sequential mode for up to 65536 sequential MCS spectra
- On board MCS memory (16M x 32bit)
- 8 bit digital I/O lines: external control / sample changer / status
- 4 monitoring outputs for START / STOP1 / STOP2 / CHADV discriminators
- GO-LINE compatible with other FAST products
- Firmware in-the-field upgradable



| BNC1 | BNC2 | BNC3 | BNC4 | Description |
|-------|--------|--------|-------|----------------------|
| START | STOP 1 | STOP 2 | CHADV | multichannel scaling |



Specifications

MCS inputs: START, STOP 1 & 2, Channel Advance
MCS inputs: 4x BNC, $Z_{IN} = 50\Omega$ or $Z_{IN} = 4.7k\Omega$ pull-up (+3.3V) or pull-down, fast NIM (-300mV) or slow NIM / TTL (+1.3V) thresholds, 400 MHz max

On board histogramming memory: 16M x 32bit

Dwell time modes: software selectable internal, or external channel advance

Dwell time / bin: 30 ns for 1 and 50 ns for 2 inputs...781h settable in steps of 10 ns. ($2^{48} \times 10$ ns)

Dead-time between time bins: zero

End-of-sweep dead-time: 10ns

Spectrum length: up to 16M time bins

Sweep Counter: 48 bit, presettable

Sequential mode: 1...65536 spectra with no dead-time between each cycle or synchronized with external signal

8 bit digital I/O lines: for external control / sample- changer, status

Connectors:

GATE / MCS inputs: 4x BNC

FEATURE I/O: 15 pin high density, female D- SUB (Analog Ground, 8 bit Digital I/O, GO-Line, 4x SCA)

12V Supply: 2.1mm center pin (rear panel)

USB 2.0: rear panel) Type A

Power Requirements:

+11...+14V / 12W power supply enclosed

Physical: aluminum case, 260mm x 48mm x 275mm, 1.7 kg

Shipping case:

420mm x 320mm x 290mm, 4 kg

Applications

- Nuclear- and X-ray spectroscopy
- LIDAR
- Dynamic Desorption Studies
- Cross-correlation measurements
- Scanning Mass Spectroscopy
- Fluorescence Lifetime Studies
- Time-correlated Single Photon and Ion Counting
- Laser induced chemical reactions
- Portable Spectrum Analysis
- High-Energy Physics Acquisition

Order Information

| Model | Description | Order No. |
|---------|--|-----------|
| MCS4 | 2ch fast MCS, 30 ns dwell time, MPANT Software | MCS4 |
| MCA4S1 | DLL for LabVIEW, "C", Visual Basic | MCA4S1 |
| MCA4S2 | LINUX Driver for MCA4 family | MCA4S2 |
| MCA4MCS | 2ch fast MCS, 30 ns (50 ns) dwelltime, option for MCA4-x | MCA4MCS |