PMS-400A

800 MHz Gated Photon Counter / Multiscaler

- 2 Counter Channels
- 800 MHz Count Rate, 32 bit Resolution
- Direct Interfacing to most Detectors
- Multiscaler Mode: Up to 64k Time Channels, min. 250ns / Channel
- Gated Photon Counting: 1.5 ns min. Gate Pulse Width
- Event Recording Mode: Up to 32k Events

- 32 bit Accumulation Counter for ultra-fast Accumulation
- On-Board Discriminators, Timing and Control Logics

- PCI Board with fast DMA (Bus Master),
- Software for Windows 98, NT, 2k and XP, Parallel Operation of Several Modules Supported
Optical Transient Waveform Recording

The waveform of the light is measured with a resolution down to 250ns. Two signals can be recorded simultaneously. Applicable to luminescence decay of inorganic samples, phosphorescence, delayed fluorescence, chemiluminescence, LIDAR.

**New:** The PMS-400A provides a 32 bit accumulation counter which enables accumulation with virtually no dead time between sweeps ( < 100 ns ).

Recording of Luminescence Spectra

The luminescence and the excitation light are recorded simultaneously. Corrected excitation spectra are obtained by calculating B/A.

Single Molecule Detection

Recording of photon bursts. If the count rate inside a programmed time interval exceeds a programmed value, the number of photons and the time of the event is stored.

Gated Detection

The gate is opened during the laser pulse only. Events outside the laser pulses are suppressed. Exceptionally low background count rate.

Gating off Scattering Pulses

The gate is closed during the laser pulses. Scattered photons during the laser pulses are suppressed, the luminescence photons outside the laser pulses are recorded.

Specification (Typical Values)

- Counter Channels: 2
- Count Rate (Input Amplitude 50mV, peak-peak): 800 MHz
- min. Count Pulse Width: 800 ps
- min. Gate Width (Input Amplitude 200mV, peak-peak): 1 ns
- min Trigger Pulse Width: 1 ns
- Discriminator Threshold (Count Inputs): -1 V to +1 V in steps of 4 mV
- Discriminator Threshold (Gate Inputs): -2 V to +2 V in steps of 16 mV
- Discriminator Threshold (Trigger Input): -2 V to +2 V in steps of 16 mV
- Input Connectors: MCX, 50 Ω
- Counter Width: 32 bit
- Accumulation Counter: 32 bit
- Dead time between sweeps: < 100ns
- No. of Time Bins: 64 k for each counter channel
- Time / Bin: 250 ns to 100 000 s
- Hardware Environment: Pentium PC
- Software Environment: Windows 95, 98, 2000 or NT
- Dimensions: 180 mm x 108 mm x 15 mm