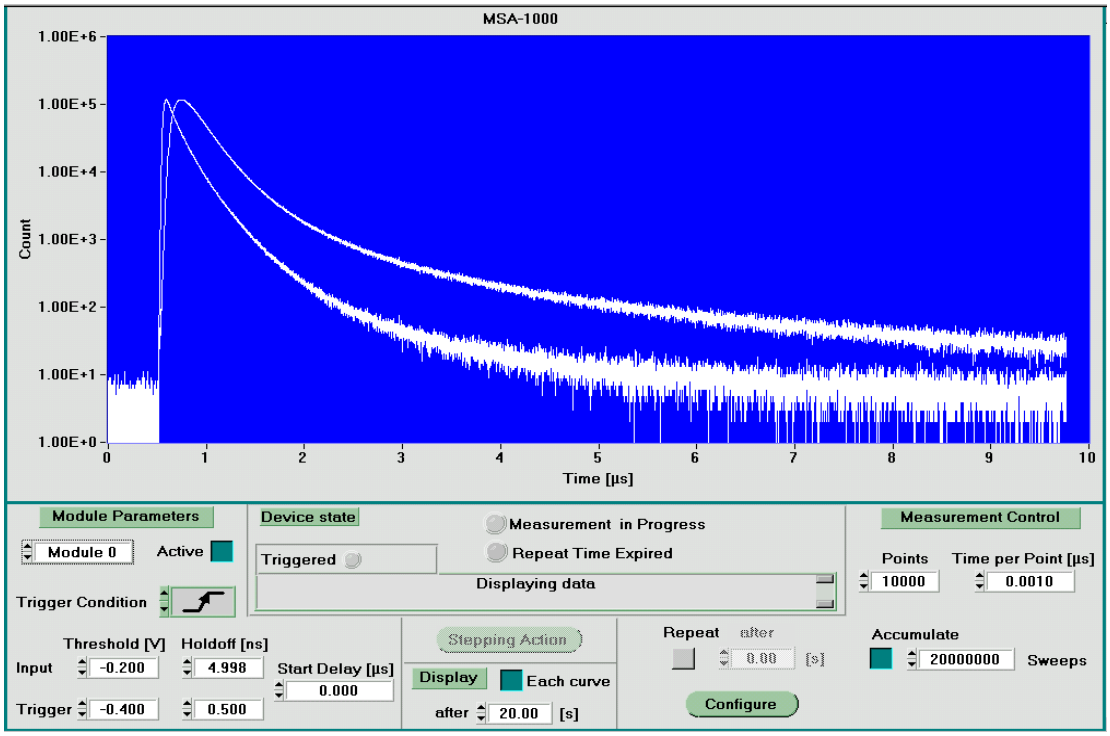
MSA-1000

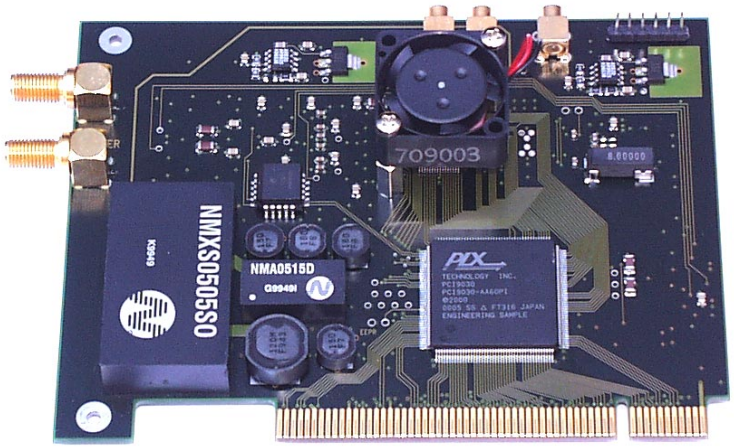
1ns Photon Counter / Multiscaler

Ultra-fast accumulation
High repetition rate
No dead time between sweeps
No dead time between channels
Fast on-board discriminators

Input pulse width down to 800 ps
Time / channel 1 ns
Count rate up to 1000 MHz
Up to 128 k points / curve
Software for Windows 95 / 98 / 2000 / NT

The MSA-1000 is an ultra-fast multiscaler for photon counting, Lidar measurements or other fast particle detection applications. By using a 128 bit memory structure a dead-time-free accumulation of subsequent sweeps is achieved. This makes the MSA-1000 exceptionally useful for a wide variety of high-repetition rate signal recording applications.





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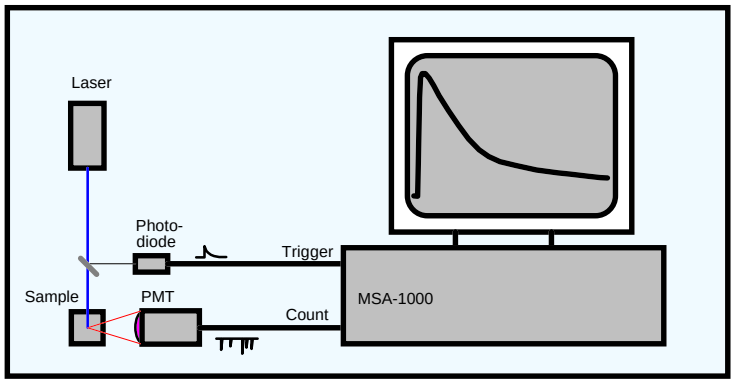
MSA-1000

Specification

Time per Channel	min. 1 ns
Count Rate	up to 1000 MHz
No of Points / Curve	up to 128 k
Overall Recording Length	up to 131 µs
Accumulation (up to 256 events/point)	Hardware, no dead time between recording cycles
Accumulation (> 256 events/point)	Software
Count Input Impedance	50 Ω
Count Input Amplitude	±20 mV to ±1 V
Count Input Threshold	0 to ± 200 mV, ± 8 bit resolution
Min.Count Input Pulse Width	800 ps
Trigger Input Impedance	50 Ω
Count and Trigger Input Connectors	SMA
Trigger Input Amplitude	±20 mV to ±1 V
Trigger Input Threshold	0 to ±1 V, ± 8 bit resolution
Min. Trigger Pulse Width	800 ps
Data Readout	subsequent data points are read by subsequent input instructions
Typical readout rate (Pentium 166 MHz)	1us/point (C^{++}, read 1 point and store into a data array)

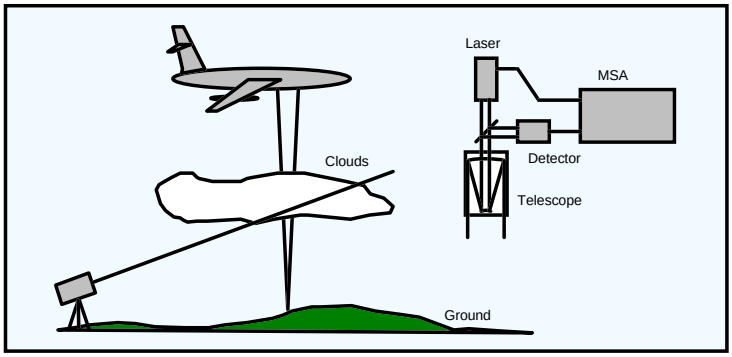
Luminescence Decay Measurements

The sample is excited by laser pulses and the luminescence signal is detected by a PMT in the photon counting mode. Due to the deep memory a time scale from ns to ms can be covered in one measurement.



Lidar Measurements

Laser pulses are sent through a telescope and backscattered light from distant objects is detected. Due to the high accumulation speed of the MSA-1000 very high repetion rates and short overall measurement times are achieved.



Accessories: PMTs, PMT detector heads with internal HV supply, preamplifiers, diode lasers, pulse generators for experiment control, step motor controllers. Please see individual data sheets.

Please visit our web site to download the manual, the device software and application notes.

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