PMT/PhotoDiode Controller with Digital Gated Boxcar Integrator and Averager

Direct interface to Photon Systems Deep UV laser

Applications:

✓ Laser Induced Native Fluorescence (LINF)
  ➢ CE
  ➢ HPLC

✓ Direct laser induced resonance fluorescence and/or Raman analyzer for:
  ➢ Targeted chemical sensing
  ➢ Surface contamination profiling
  ➢ Municipal and Industrial waste water contamination
  ➢ Soil contamination profiling
  ➢ Aerosol detection

✓ Direct laser induced Photoluminescence probe for:
  ➢ Wide Band Gap Semiconductors

✓ Any Other Applications Using Pulsed Sources

Features:

• Up to 1000X better signal to noise than CW detectors
• Dual Serial port, RS488 Full Duplex
• 32Bit, 75Mips Processor with 256K RAM and 256K Flash
• Hamamatsu PMT Module or Photo Diode (Photo-Voltaic mode) input
• 24 Bit Delta-Sigma Data Converter, 16bit data resolution
• Digital PMT gain control, 4 decades, to 4X10^6 total gain.
• On board temperature sensor
• On board Digital addressable Self Test circuit for integration calibration
• 4 switchable feedback elements, ie. 4 decade integration capacitors or 3 capacitors and 1 resistor for real time data acquisition
• Fully adjustable start/finish integration parameters, 2us- seconds
• LabView or equivalent controllable
• Daisy Chain multi boards controls, samples and digitizes up to ‘n’ simultaneous PMT/detector outputs
• Directly interfaces with PSI 224nm or 248nm deep UV lasers for excitation and detection of resonance fluorescence or Raman scattering in multiple wavebands
• PMT’s—Hamamatsu #H6779, H6780, H5784 @ www.Hamamatsu.com
Single Channel Detector Board

Gated Box Car integrator with variable Gain, integration windows, 24 bit A-D conversion, Ganged RS422

- 32bit, 72mps Processor
- Temperature sensor
- Variable Integration Time
- Switch selectable 4 decade integrating capacitors
- PMT, photodiode, etc. Source
- Self Test Calibration injection source
- Offset setup Calibration Ref. LabView set

24 bit Delta Sigma Converter (AD)

RS 422 Full duplex

Ganged RS422

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