PMT/PhotoDiode Controller with
Digital Gated Boxcar Integrator and Averager

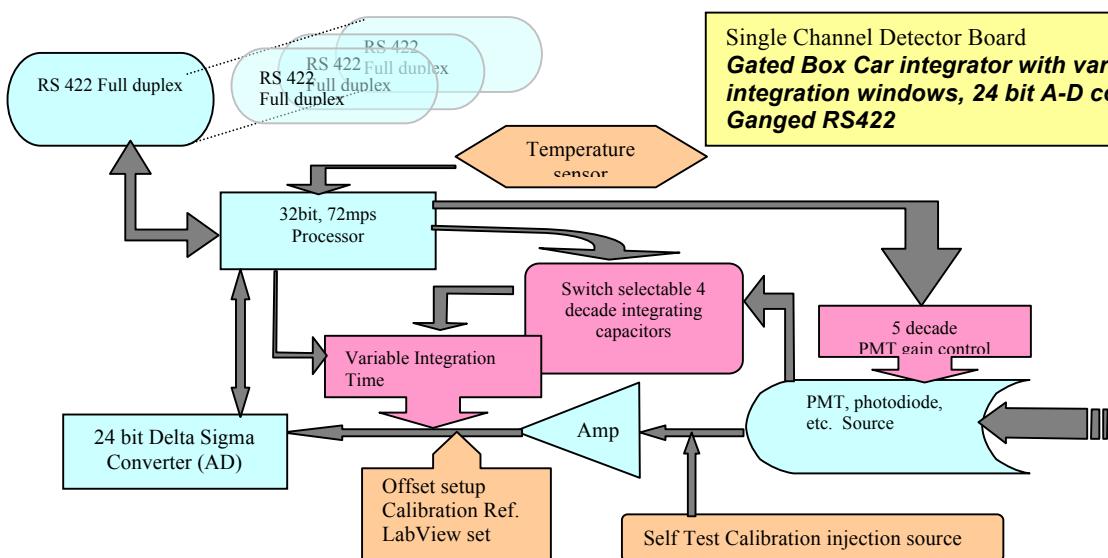## Direct interface to Photon Systems Deep UV laser

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 4×10^6 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

RS 422 Full duplex

RS 422 Full duplex

RS 422 Full duplex

RS 422 Full duplex

Temperature sensor

32bit, 72mps Processor

Switch selectable 4 decade integrating capacitors

5 decade PMT gain control

Variable Integration Time

PMT, photodiode, etc. Source

Amp

24 bit Delta Sigma Converter (AD)

Offset setup Calibration Ref. LabView set

Self Test Calibration injection source

PHOTON
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