

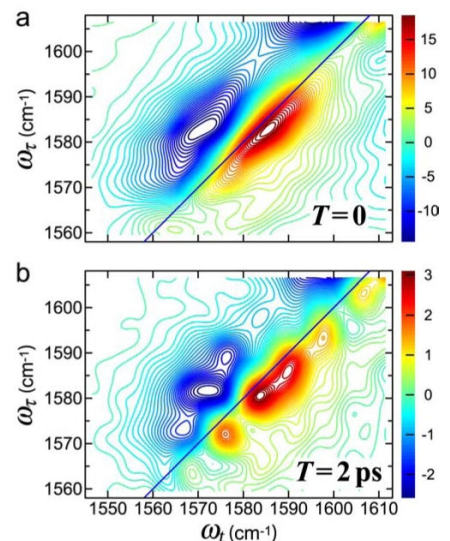
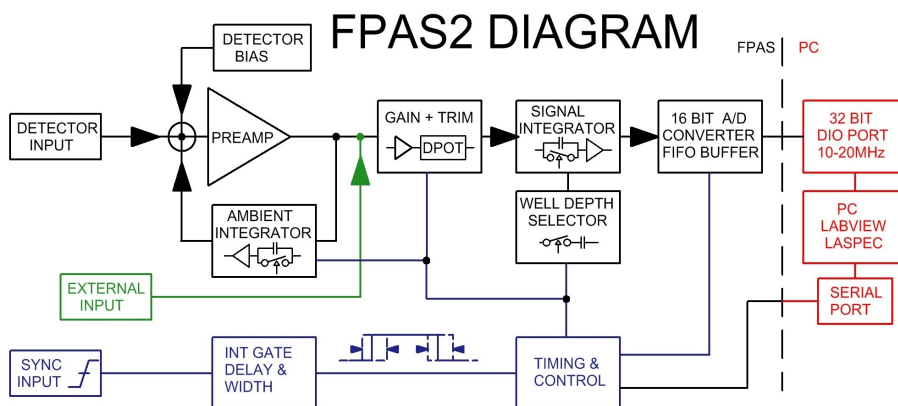
# $\Phi$ INFRARED SYSTEMS DEVELOPMENT CORPORATION

- $\Phi$  Low Noise Box Car Type Integrator
- $\Phi$  2 Counts Min p-p Noise 250,000:1 Dynamic Range (100 Samples RMS)
- $\Phi$  Pump-Probe 2D & 3D Infrared Spectroscopy
- $\Phi$  Time Resolved Vibrational Spectroscopy
- $\Phi$  Single Shot to 125 KHz Ultrafast Laser Pulse Spectroscopy



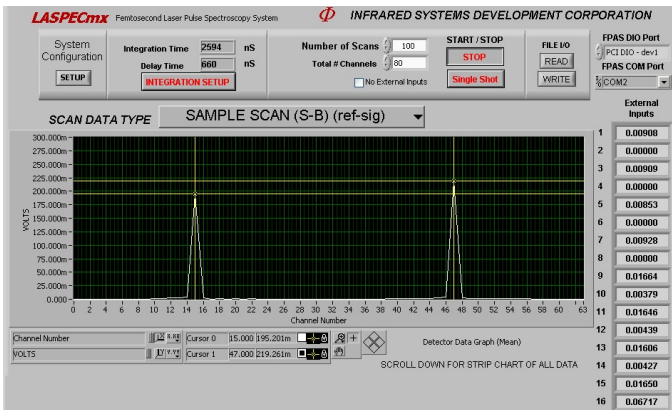
- $\Phi$  2-10 and 2-20  $\mu\text{m}$  Infrared Ranges
- $\Phi$  High Rep Rate 0 to 50KHz, 125KHz
- $\Phi$  Detector Noise Limited
- $\Phi$  Selectable GAIN
- $\Phi$  Individual Channel Gain Trim
- $\Phi$  Includes Array, Spectrometer, Electronics and Computer with LabView™ Software
- $\Phi$  Min Dark Noise +/- 1 Count peak to peak, 0.4 Counts RMS Single Sample
- $\Phi$  5V Range 20  $\mu\text{V}$  Noise 250,000:1 Dynamic Range 100 Samples 1000nS Integration T
- $\Phi$  Dynamic Range 32,000:1 peak to peak Single Sample
- $\Phi$  Full 16 Bit Resolution
- $\Phi$  Shot to Shot Compensation
- $\Phi$  External Inputs
- $\Phi$  Adjustable Delay and Gate Width
- $\Phi$  Ambient/BKG Discrimination

The New FPAS2 system allows complete control of each channel's gain and Integrator Charge Well depth to allow for varying dynamic ranges and gain for each pixel. Box Car Integration reduces noise. Each Pixel is adjustable to compensate for non-uniform detectors, spectrometer efficiency and sample absorption. Low Noise precision circuitry ensures detector noise limited operation.

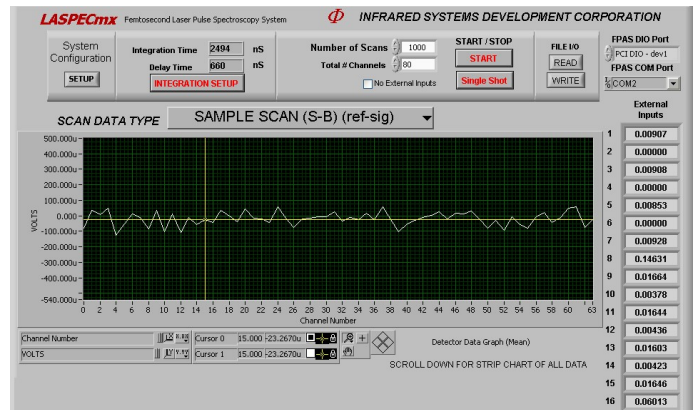


## Specifications:

<b>Input Sync Pulse:</b>	0.5 to 20V TTL >7 ns Rise	<b>Gain Trim Range:</b>	256:1 Each Channel
<b>Repetition Rate:</b>	0 to 50KHz Std., 0 to 125KHz Opt.	<b>Charge Well Selections:</b>	250pf to 4000 pf in 8 steps per channel
<b>Integrator Delay:</b>	50 to 1200 ns Std., >20 us Opt.	<b>Integrator Type:</b>	Synchronous Boxcar with Clear
<b>Integrator Gate:</b>	50 to 5100 ns Std., >1ms Opt.	<b>DC Stabilization:</b>	Synchronous Integrator Feedback Hi-Pass
<b>Detector Types:</b>	MCT (HgCdTe) Std, InSb, Si, Ge Opt.	<b>A/D Converter:</b>	16-Bit, 0-5V, each channel
<b>Max Channels:</b>	256 Std, 1024 Opt.	<b>Buffer:</b>	Local FIFO
<b>External Channels:</b>	16 Std	<b>Data Transfer:</b>	10 Mhz 32-Bit Std., 20 MHz 32-bit Opt.
<b>Equiv. Input Noise:</b>	< 0.9 nv/Hz <sup>1/2</sup> < 0.01 pa/Hz <sup>1/2</sup>	<b>Max number of Sequential Scans:</b>	>10E6 limited by PC memory
<b>Preamp Fixed Gain:</b>	20 V/V typ.	<b>Power Requirements:</b>	100 to 240 VAC 200 Watts



Dual Row Detector Zero Order Response

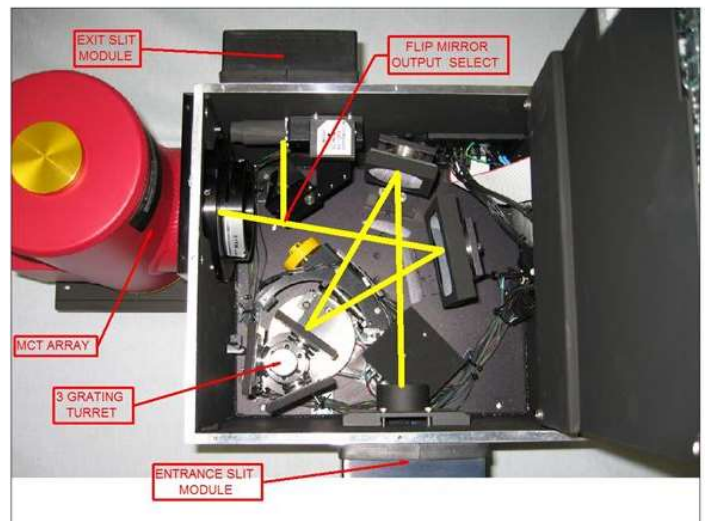


Dual Row Detector Baseline Noise

## Spectrometer:

<b>Focal Length:</b>	190 or 320 mm focal Length
<b>Gratings:</b>	3 Std, 150, 75 and 50 l/mm 20-600 l/mm Opt.
<b>Spectral Resolution:</b>	7, 14, 22 nm/pixel Std. With 0.2 x 0.5mm Elements
<b>Input Slit:</b>	0-2mm Motorized
<b>Output Slit:</b>	0-2mm Motorized
<b>Array Port:</b>	12 x 32 mm Flat Field

Model	Array Configuration	External Inputs
FPAS-3216	32 x 1	16
FPAS-6400	64 x 1 or 32 x 2	0
FPAS-6416	64 x 1 or 32 x 2	16
FPAS-0128	128 x 1 or 64 x 2	0
FPAS-0144	128 x 1 or 64 x 2	16



FPAS Spectrometer System Configuration

Standard Detector Element Size 0.2 x 0.5 mm, 0.25mm Pitch.  
Other sizes available.

Contact us to discuss your application.  
**WE HAVE A SOLUTION FOR YOU.**

**INFRARED SYSTEMS DEVELOPMENT CORPORATION**  
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