



 Φ Integrated Labview Software Control

The New FPAS spectrograph provides a turn-key, drop-in solution for femto-second Pump-Probe 2D Vibrational Spectroscopy. All required components are provided, including a host computer and LabView based LASPEC software. Simply focus the laser energy into the entrance slit and start acquiring data. Infrared Systems Development Corporation has teamed with the J.Y. Horiba Company to integrate a high resolution spectrometer with detector and acquisition electronics to provide an easy to use system for complete spectral acquisition. Interchangeable grating turrets allow complete coverage of the mid and long wave infrared bands. The supplied LASPEC software controls all components of the spectrometer and data acquisition system. The open architecture and supplied source code provide the user with unlimited ability to integrate all computer-controlled assets with one application.

The FPAS Spectrometer is the most compact imaging spectrometer available. Offering interchangeable triple grating turrets, automated dual exit port selection and motorized slit and grating positioning. A motorized flip mirror selects array and detector exit ports. Many users have collected data with their single element detectors and need a method to correlate the previous data with new data acquired with the Array.

Our Femto-Second Laser Pulse Acquisition System is the heart of the data acquisition system, providing simultaneous sampling of all array elements and external user-provided inputs. The FPAS integrates and captures detector signals from short pulse, high-energy laser systems with excellent linearity and 16-Bit resolution from single pulses or up to 1×10^6 pulses in sequence, with no lost data.

Coupled with a high performance Infrared Associates Linear MCT Array, the system provides unmatched spectral performance. Dual row detector arrays can be used to provide isolated reference and sample paths through the spectrometer to compensate for variations in amplitude and energy distribution typically associates with ultra-short pulse lasers.

A complete offering of gratings and detectors can meet any application for high-speed pulse acquisition spectrometry. Our customer support team has experience with many techniques and is ready to assist with hardware and software support and modifications to suit your need.

Contact us to discuss your application. We HAVE A SOLUTION FOR YOU. INFRARED SYSTEMS DEVELOPMENT CORPORATION 7319 Sandscove Court #4 Winter Park, FL 32792 Phone: (407) 679-5101 Fax: (407) 679-5520 Email: <u>Sales@infraredsystems.com</u> www.infraredsystems.com

Specifications:

Laser Pulse Repetition Rate:	Single Shot to 1.9 Khz	
Standard Detector:	LN2 cooled MCT Array 64 Element 0.2mm W x 0.5 mm H 16 mm Total Array Length (128 element available)	
Spectrometer Type:	Corrected Cross Czerny Turner with On Axis Grating	
Focal Length:	0.19 meters	
Entrance Aperture:	F/3.9 15 Degrees	
Entrance Slit:	Motorized 0 – 2 mm in 2 um steps (0.25 mm nominal)	
Exit Slit:	Motorized 0 – 2 mm in 2 um steps	
Exit Ports:	Array and Single element – Selected by Flip Mirror	
Flat Image Field:	30 mm H x 12 mm V – Array port	
Standard Gratings:	150 g/mm @ 5 um, 75 g/mm @ 5 um and 50 g/mm @ 6 um. (50 to 1200 g/mm available) 50 x 50 mm	
Standard Spectral Range and Dispersion:	3-9 um with 150 g/mm 0.40 um BW, 6.2 nm per pixel 4-10 um with 75 g/mm 0.80 um BW, 12.4 nm per pixel 3-9 um with 50 g/mm 1.2 um BW, 18.6 nm per pixel	
Maximum Resolution:	0.35 nm with 1200 g/mm grating	
Spectral Acquisition Rate:	Single to 1900 Spectra/sec	
Maximum Sequential Spectra:	Typically 1 x 10 ⁶ Limited by computer memory.	
Communications Interfaces:	Data read out by a 10 MHz digital communications port. Spectrometer controlled by RS-232/USB port	

Model	Array	External Inputs
FPAS-3216	Single Row of 32	16
FPAS-6400	Single Row of 64	
FPAS-6400-D	Dual Rows of 32	0
FPAS-6416	Single Row of 64	
FPAS-6416-D	Dual Rows of 32	16
FPAS-0128	Single Row of 128	
FPAS-0128-D	Dual Rows of 64	0
FPAS-0144	Single Row of 128	
FPAS-0144-D	Dual Rows of 64	16



FPAS Spectrometer System Configuration

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