FTS 7000e

A fully upgradable FTIR spectrometer offering high optical throughput, sensitivity and functionality, the FTS 7000e provides an exciting entry into the powerful line of research stepscan spectrometers. Field upgradability gives you access to a complete suite of experiments, including chemical depth profiling, dynamic infrared linear dichroism, and time resolved spectroscopy.

Applications for the FTS 7000e include gas analysis, infrared emission studies, Kinetics, low energy experiments, hyphenated techniques - FTIR microscopy, FT-Raman, GC-IR, TGA-IR - and UV/Visible measurements.

Benefits

Highest optical through in a commercial FTIR spectrometer, delivers superior signal-to-noise performance for low energy applications and enhanced sensitivity.

Full field upgradability offers a cost-effective entry to step-scan spectroscopy.

Powerful, user-friendly Win-IR Pro software

The ability to oversample the He-Ne laser, in combination with available sources, beamsplitters and detectors, results in spectral coverage from the far-IR to the UV without aliasing.

Ease of use and upgradability result in increased versatility, greatly expanding the value of your instrument.

High speed kinetic scan rates permit direct recording of fast kinetic events taking place within a fraction of a second.

General Standard Features

Source	125 W Ceramic Mid-IR; water cooled*
Interferometer	60° Michelson air bearing**
Clear Aperture	50 mm (2 in)
Dynamic Alignment	Piezoelectric actuators phase locking on reference laser
IR Power at Sample Focus	>160 mW
Signal to Noise Ratio[1]	30,000:1 p-p with 25% beam throughput
Resolution	0.25 cm^{-1} optical 0.18 cm^{-1} unapodized
Spectrometer Interface	PCI interface card
Software	Win-IR Pro with DSP1™, DSP2™, DSP3™
Operating System	Windows 2000
Spectral Range (without aliasing)[2]	10 cm^{-1} to 50,000 cm^{-1}
Kinetic Scan Rates	90 spectra/second at 16 cm^{-1} spectral resolution (8 cm^{-1} data point resolution)

Dimensions

Sample Compartment W x D x H	22.9 x 25.4 x 19.1 cm 9 x 10 x 7-1/2 in
Spectrometer W x D x H	80.6 x 67.0 x 32.8 cm 31-3/4 x 26-3/8 x 12-15/16 in
Weight	93 Kg 205 pounds

Software Capabilities

Digital Signal Processing	Application

Step Scan Upgradability *Field Upgrade

Sources

Standard		
	Ceramic	50 cm^{-1} to 9,600 cm^{-1}
Options		
	Mercury Arc	10 cm^{-1} to 600 cm^{-1}
	Tungsten Halogen	2,800 cm^{-1} to 25,000 cm^{-1}
	Xenon	10,000 cm^{-1} to 40,000 cm^{-1}
	Deuterium	25,000 cm^{-1} to 50,000 cm^{-1}

Beamsplitters

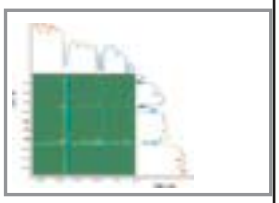
Set of 5 Mylar (6, 12.5, 25, 50 and 125 micron)	10 cm^{-1} to 600 cm^{-1}
Metal mesh	10 cm^{-1} to 600 cm^{-1}
Cesium Iodide (CsI)	200 cm^{-1} to 4,000 cm^{-1}
Potassium Bromide (KBr)	400 cm^{-1} to 6,000 cm^{-1}
Extended Range KBR	400 cm^{-1} to 7,500 cm^{-1}
Calcium Fluoride (CaF_2)	1,200 cm^{-1} to 10,000 cm^{-1}
Near-IR Quartz	2,800 cm^{-1} to 20,000 cm^{-1}
UV Quartz	10,000 cm^{-1} to 50,000 cm^{-1}

*requires 1 liter/min flow at 20°C
**requires 13 liters/min dry, CO_2-free air

Detectors	
Far-IR DTGS	20 cm^{-1} to 600 cm^{-1}
Liquid helium-cooled Si Bolometer	10 cm^{-1} to 600 cm^{-1}
Peltier-cooled DTGS	150 cm^{-1} to 10,000 cm^{-1}
Ambient DTGS	150 cm^{-1} to 10,000 cm^{-1}
Liquid nitrogen-cooled Broad-band MCT	450 cm^{-1} to 8,000 cm^{-1}
Liquid nitrogen-cooled High Sensitivity MCT	700 cm^{-1} to 10,000 cm^{-1}
Linearized liquid nitrogen-cooled Broad-band MCT	450 cm^{-1} to 8,000 cm^{-1}
Linearized liquid nitrogen-cooled High Sensitivity MCT	700 cm^{-1} to 10,000 cm^{-1}
DC-coupled liquid nitrogen-cooled Broad-band MCT	450 cm^{-1} to 8,000 cm^{-1}
DC-coupled liquid nitrogen-cooled High Sensitivity MCT	700 cm^{-1} to 10,000 cm^{-1}
Liquid nitrogen-cooled Indium Antimonide (InSb)	1,800 cm^{-1} to 10,000 cm^{-1}
Lead Selenide (PbSe)	2,000 cm^{-1} to 11,000 cm^{-1}
Silicon (Si)	8,600 cm^{-1} to 25,000 cm^{-1}
Photomultiplier Tubes (PMT)	
R446	11,500 cm^{-1} to 54,000 cm^{-1}
IP28	15,400 cm^{-1} to 54,000 cm^{-1}
R166	31,250 cm^{-1} to 62,500 cm^{-1}

1 Computed from an open beam scan using two metal mesh filters to attenuate the beam to 25% of total beam energy, for a 1 minute measurement time at 4 cm^{-1} resolution, with a Peltier-cooled DTGS detector, measured between 2,200 and 2,000 cm^{-1}.

2 Spectral range coverage is achieved with proper selection of sources, beamsplitters and detectors.



* Digilab® Service Feature — Step Scan Upgradability

Not ready yet for the full step scan capabilities of a Digilab FTS 7000 — but you don't want to end up with an obsolete instrument? No problem. For our customers' convenience, the Digilab FTS 7000e system is easily upgradable to an FTS 7000. No downtime either — you don't even need to send your instrument to our factory and miss out on using it. With the support of our technical staff, the step scan upgrade can be performed in your own lab.

The upgrade from FTS 7000e to the full FTS 7000 specifications includes the following:

- Interferometer exchange, replacing the FTS 7000e interferometer with the 896 step scan interferometer.
- Installation of electronic components on the FTS 7000e optical bench electronics.

The price of the upgrade is equivalent to the price difference between the FTS 7000e and the FTS 7000, plus the cost of a service call and travel expenses. For more information on this convenient option, please contact your local sales representative.

FTS 7000e

FTIR Research Stepscan Spectrometer

Digilab®

Digilab®

Digilab is an ISO 9001 registered manufacturing, service and engineering facility. We adhere to these procedures to maintain the highest standards in the design, support and manufacture of our products, to assure you the highest levels of customer satisfaction.

USA 68 Mazzeo Drive, Randolph, MA 02368
Telephone (781) 794-6400

Domestic Sales (800) 944-0033, **Fax** (781) 986-5013
International Sales (781) 794-6400, **Fax** (781) 794-6600

E-mail sales@digilabglobal.com
Website www.digilabglobal.com

United Kingdom 222 Maylands Avenue
Hemel Hempstead, Hertfordshire HP2 7TD
Telephone (44) 208-328-2400 **Fax** (44) 144-239-1321

Japan 7-18, Higashi-Nippori, 5-Chome, Arakawa-Ku, Tokyo 116-0014
Telephone 81-3-5811-6277, **Fax** 81-3-5811-6273
E-mail salesasia@digilabglobal.com

Germany Bischofstrasse 86, 47809 Krefeld
Telephone (49) 2151-51590 **Fax** (49) 2151-51591
E-mail saleseurope@digilabglobal.com

Website www.digilabglobal.com