PRODUCT NOTE

FT-IR Spectroscopy





Spectrum Two for Academia

Smart Investment for Today's Laboratories

With Spectrum Two[™] from PerkinElmer, students and researchers alike can collect accurate IR spectra with confidence. Breaking new ground in operational

simplicity without compromising performance, Spectrum Two is robust enough for everyday analyses in teaching laboratories and delivers the quality of data required for research applications. PerkinElmer's dedicated Educational Resource Pack brings the latest FT-IR teaching experiments to new students whilst innovative IR engineering allows the spectrometer to be used wherever experiments demand. Its low cost of ownership and

the flexibility to be used by everybody, no matter what their level of experience, makes it an ideal investment.

" This pack is well thought out and contains a range of highly relevant material with associated references. The ability to edit the files allows learning aids to be customized for institutes' individual requirements, saving teachers a substantial amount of time in developing experimental practicals for a range of different courses."

Prof. Povey, Professor of Computer-Aided Chemistry *Division of Chemical Sciences, University of Surrey*



Contemporary IR Teaching

The Educational Resource Pack provides comprehensive experimental documentation, which saves valuable experimental design time for course developers and helps to create a high quality, modern teaching curriculum that is attractive to students.

- A comprehensive suite of 15 FT-IR-based teaching experiments includes both traditional and modern subjects, such as recycling, biofuels and environmental analysis.
- Introduces concepts from physical, analytical, inorganic and organic chemistry, plus a broad range of up-to-date FT-IR sampling techniques.
- Modular design and flexible implementation is ideally suited to teaching courses.
- Each experimental module links to specific learning objectives to enable the identification and integration of the most relevant practical.
- Electronic formats allow each experiment to be customized, significantly reducing the time to develop course materials.
- Clear step-by-step instructions, including troubleshooting, ensure experiments run smoothly.
- Detailed timing information in protocols allows more precise planning to maximize instrument use and minimize waiting times.

IR Tutor

IR tutor helps teachers convey the fundamental concepts, basic instrumentation principles and functional group interpretation techniques of IR Spectroscopy. Its interactive design makes it equally suitable for students and those new to FT-IR to learn at their own pace.





Get the Most Out of Your Resources

Spectrum Two's intelligent design minimizes cost of ownership and allows you to get the most out of your investment. Its compact size, WiFi connectivity and battery power option enables Spectrum Two to go wherever measurements are needed. From fume cupboards to other departments or sites, the true cable-free operation increases flexibility of use and maximizes teaching and research capabilities.

Designed to withstand the rigors of demanding academic teaching environments everywhere, Spectrum Two is packed with innovative technologies that reduce the time and effort needed for maintenance and efficient running. The patented OpticsGuard[™] technology – a unique humidity shield – dramatically extends the desiccant lifetime, whilst the Dynascan[™] interferometer, our solid-state laser, and user replaceable source assembly ensure reliable operation.

Combined wireless connectivity and multi-user site licenses mean students can connect their own PC to Spectrum Two, eliminating the need for data transfer by USB and the potential for virus infections on laboratory computers.

Energy Saving Operation

Featuring a power-save mode with fast start-up, Spectrum Two can be switched in and out of standby mode as required, and with PerkinElmer's OpticsGuard technology there is no risk to sensitive optical components. This highly efficient power management system allows the instrument to be switched off overnight and during vacations, significantly reducing long term energy use and cost of ownership.

Research Grade Performance

Spectrum Two also delivers the quality of data required for research applications:

- Patented Automatic Vapor Compensation (AVC[™]) eliminates atmospheric interferences, ensuring accurate results, day in, day out.
- Unique Absolute Virtual Instrument (AVI™) standardization consistently delivers the best accuracy and line shape of any IR spectrometer.
- Fixed mirror-paired interferometer is unaffected by the effects of tilt and shear.
- Downward-facing source design eliminates signal variations that can arise from temperature fluctuations.
- Kinematically mounted optics ensures perfect optical alignment.

Optical Specifications

Wavelength Range	8,300 – 350cm ⁻¹ optimized, proprietary KBr beamsplitter
Spectral Resolution	0.5cm ⁻¹ standard
Wavelength Precision	Better than 0.1cm ⁻¹ at 3000cm ⁻¹
Wavelength Accuracy	0.1cm ⁻¹ at 3000cm ⁻¹
Signal-to-noise	14,500:1 peak-peak, 5 seconds
	50,000:1 peak-peak, 1 minute

For more information, visit www.perkinelmer.com/spectrumtwoacademia

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For a complete listing of our global offices, visit www.perkinelmer.com/ContactUs

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