

# M530 Quick-Scan

# INFRARED SPECTROPHOTOMETER



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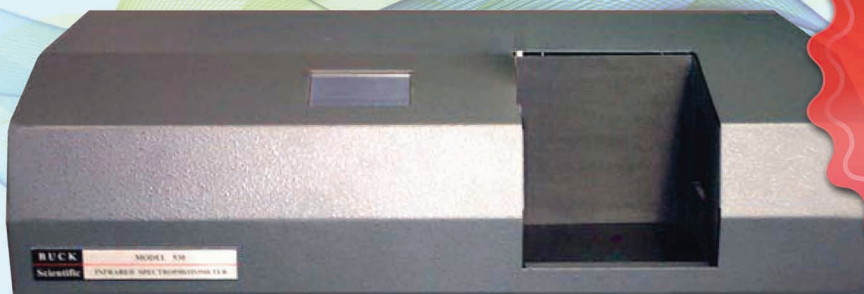
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# M530 QUICK-SCAN INFRARED SPECTROPHOTOMETER



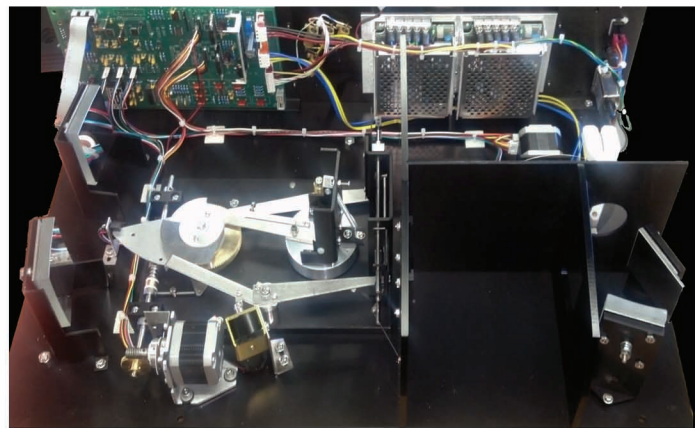
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The Buck Scientific Model 530 IR Spectrometer is a dispersive infrared spectrophotometer which scans like a UV/Vis Spectrophotometer in the mid Infrared region (4000 - 600cm<sup>-1</sup>, or 2500.00 nm - 16666.67 nm). With a resolution of <3cm<sup>-1</sup> from 4000cm<sup>-1</sup> - 2000cm<sup>-1</sup> and <2cm<sup>-1</sup> from 2000cm<sup>-1</sup> - 600cm<sup>-1</sup>. We use aircraft grade aluminum for all Buck instruments and powder coated textured finish for corrosion resistance. The M530 is an accurate, and simple IR Spectrophotometer which is built to last and easy to maintain.

The new design uses stronger stepping motors providing faster completion of "Go-To" commands. The Model M530 display is a touch screen. There are no buttons or switches on the face of the instrument. Touching the display screen accesses all of the instruments standalone functions. Spectra can be viewed on the instruments display screen during scans. This allows running survey scans without using a companion computer. Simplified standalone reporting provides tools for presenting measurement values as ratios in either Percent Transmission or Absorbance scales.

Our IR instrument uses a high energy optical design and a sensitive DLATGS detector for excellent resolution over the full infrared range. Maximum performance is achieved with a fast scanning mechanism that is completely microprocessor driven. Every unit is built by hand - in the USA - to meet the highest quality standards. The straight forward mechanical and optical design has a reputation for low maintenance and is easily serviceable with quality affordable parts. The system is intrinsically rugged and performs well in even the harshest environments.



The M530 is the easiest IR spectrophotometer to operate and maintain. Touchscreen controls set all instrument parameters for operation and rapid data collection. Advanced self-help menus are user friendly even on complex applications. The unit does not require purge of moisture and CO<sub>2</sub> prior to use, allowing for fast and easy sample analysis.

Turn-key systems start at under \$10K, half the cost of any other equivalent systems! The rugged design and quick serviceability result in long term cost savings for your laboratory. You will find that the M530 is the most cost effective infrared system available anywhere.

Rating: ★★★★★

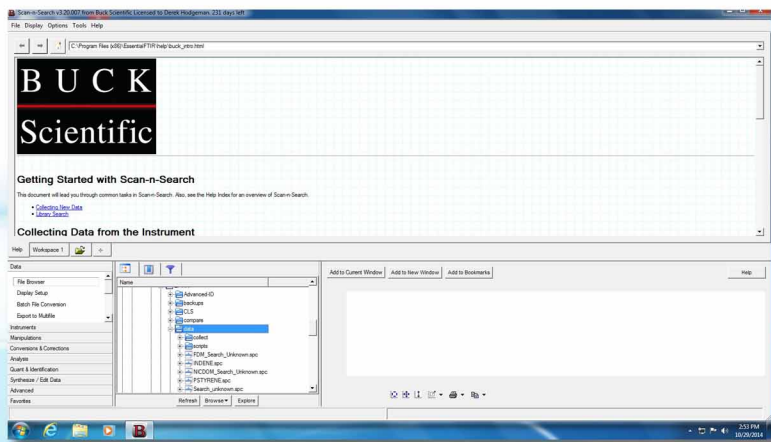
*"My review is for the wonderful tech support that comes along with Buck Scientific Instruments. We purchased the IR 12 years ago. In spite of its age, Derek H, the product manager for the IR, provided a great deal of technical support when we encountered some problems this year. Through numerous phone calls and e-mails, we were able to diagnose and fix the problem. In these times of lean budgets, I am grateful that Derek and Buck Scientific still provide wonderful service and support for a 12 year old instrument." April 2nd, 2012*



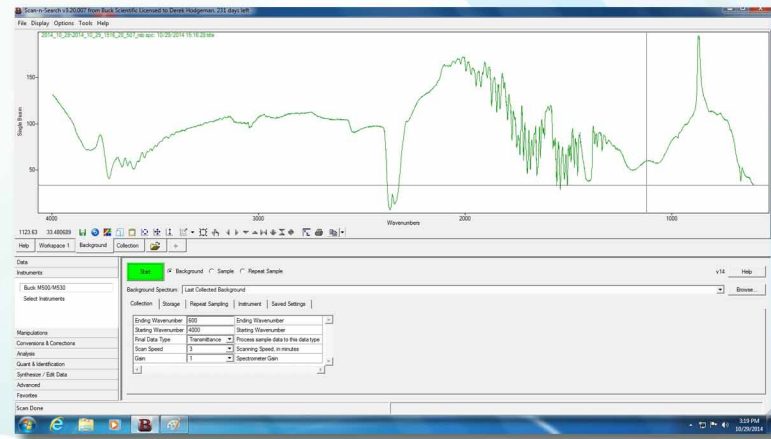
# SOFTWARE CAPABILITIES



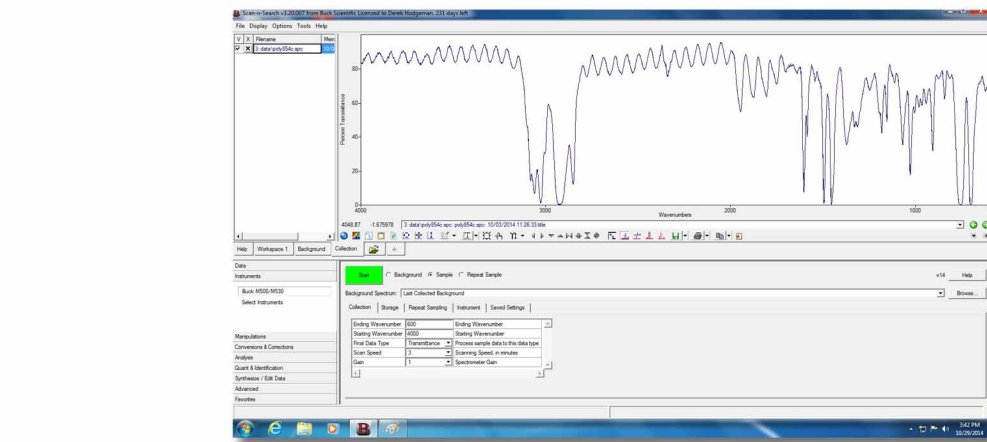
M500/M530 Compatible | Ease of Use | Free Support  
Try Scan-n-Search Free for 30 Days



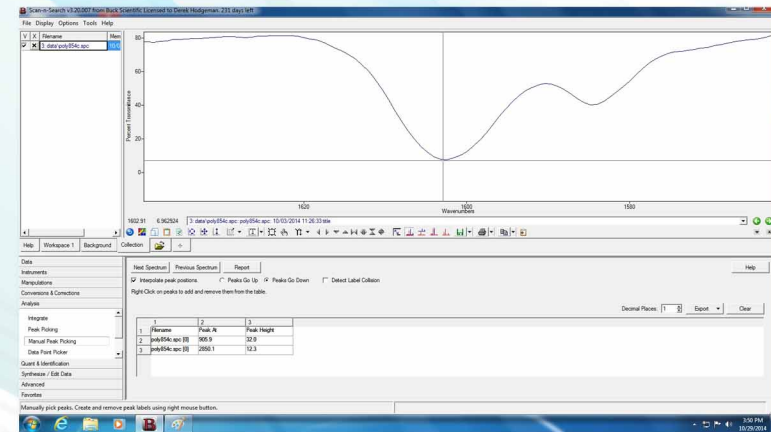
**STEP 1** In the M500/M530 start up screen. It checks your computer and network for all available drives so you can open and share to them.



**STEP 2** In the Scan-n-Search Software is the polished instrument user interface that makes data collection a breeze. The single beam background scan is displayed and stored as the background for the sample runs to come.

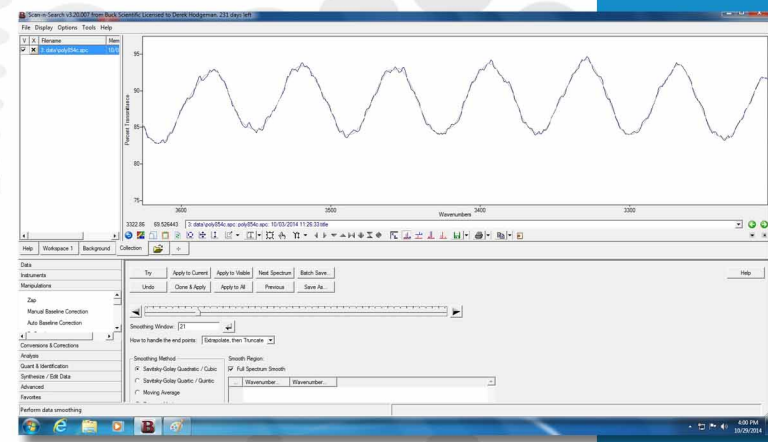


**STEP 3** In the Instrument Control Section once the background Scan has been done change to Sample mode and collect a real time %T scan of your sample. If you like the finished scan you can choose to save it, print it or do other advance manipulations on it.

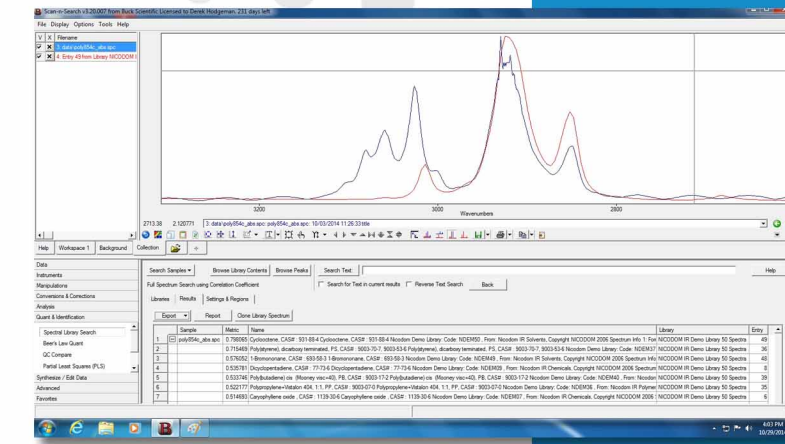


**STEP 4** Manual Peak Labeling at a click.

**STEP 5** Advanced Functions Savitsky-Golay Smoothing for reduce system noise.



**STEP 6** Advanced Functions - Library Search - Your Spectrum can be searched / compared against premade and libraries you construct.



**Did you know?**

FTIR instruments have become an industry standard due to newer technology versus older dispersive instruments. The major advantages of an FTIR systems are 1. faster scan (approx. 1 min) 2. higher resolution (<math><1-2\text{cm}^{-1}</math>).

However, Buck Scientific has been able to design an instrument that competes well with most FTIR's, using a hybrid design with the same type of source, software, and detector to achieve comparable and competitive results:

	Buck M530	FTIR
Price	Starting @ \$9,995	Starting @ \$15,000
Software	Affordable Scan-n-Search w/Free Support	Costly w High Maintenance Fee
Accessories	\$1,850 ATR	\$3,000 ATR
Maintenance/Service	\$200/hr (No Service Contract)	\$400/hr (Service Contract Req'd)
Durability	1 Drive Motor, Very Rugged	Fragile, Laser Alignment
Wave number range	4000 to 600 $\text{cm}^{-1}$	4000-400 $\text{cm}^{-1}$
Resolution	3 $\text{cm}^{-1}$ 4000 $\text{cm}^{-1}$ - 2000 $\text{cm}^{-1}$ 2 $\text{cm}^{-1}$ 2000 $\text{cm}^{-1}$ - 600 $\text{cm}^{-1}$	Depending on price 4 $\text{cm}^{-1}$ - 0.001 $\text{cm}^{-1}$



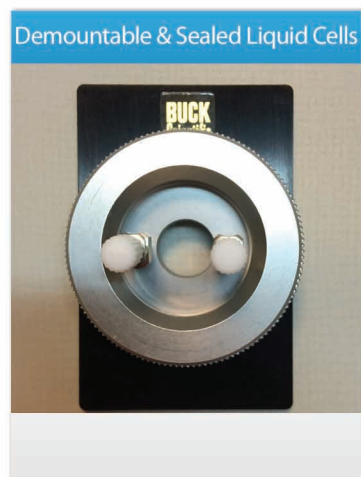
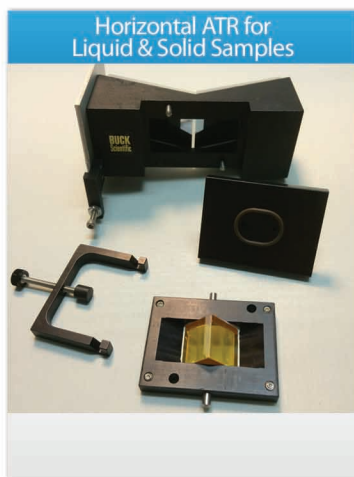
# ACCESSORIES

Buck Scientific manufactures a full line of infrared accessories

## Infrared Sampling Accessory Kit

Dispersive Kit for BA-1 Basic Infrared Kit NaCl Windows includes:

- |                                     |                            |
|-------------------------------------|----------------------------|
| (2) Sealed Demountable Cell Holders | (1) Evacuatable Beta Press |
| (1) Beta-Gas Cell, 10cm             | (1) Magnetic Film Holder   |
| (1) 65mm Agate Mortar and Pestle    | (1) KBr Powder, 100g       |
| (1) Nujol Oil, 2oz.                 | (6) 38 x 19 x 4mm Windows  |
| (4) 38 x 19 x 4mm Drilled Windows   | (2) 25 x 4mm Windows       |



“When I came to work at Texarkana College in 1971 there was an old Perking Elmer Model 700 IR that was not working, but I was able to get a new detector and drive mechanism and put it back into useful service until 1985. Since that time our school has invested in two FT IR units with a total purchase price of approximately \$70,000. We have gotten almost no service out of these instruments and the upkeep is more than our school can afford. In 1990, I advised friends at another community college to buy a dispersive IR from Buck Scientific. The unit is still in service at the school with little maintenance. Four years ago we bought a Buck Scientific Model 530 for less than \$10,000. It sits idle most of the time but when you need a spectra you can count on it. There has been no maintenance costs. The Model M530 is ideal for student or research applications where cost and reliability are important.” **Mike Buttram@Texarkana College**

Contact sales@bucksci.com for a full Infrared Accessories Catalog

Buck Scientific has designed, manufactured, supported, and marketed a wide range of analytical instruments since its inception in 1970. Our products are renowned for their performance, compact size, ease of operation and user-friendly software. Buck's innovative design established the world's most durable IR system available. Buck is committed to the success of its customers, delivering unsurpassed customer service and technical support. We offer extensive services, including installations, customer training, and product seminars.

Call us, or visit our web site to learn more about how Buck Scientific can offer a total solution to your analytical needs.

“The Economical, Versatile and Reliable Infrared Solution since 1970”

“Buck Scientific, Inc. has more than 10,000 satisfied instrument users in over 40 countries since 1970.”



# SPECIFICATIONS

Detector: 1 x 2mm DLTGS (Deuteriated L-Alanine Doped Triglycine Sulfate)

Sensitivity: 1V / milliwatt

Source: Nichrome wire-wound ceramic core

Power Consumption: 36W @ 1250K

Dimensions: 26.25 W x 15.25 D x 7.25 H

Weight: 38lbs.

Power: 115 / 230VAC, 50 /60Hz, 150 watts

Sample Compartment: 150mm square

Outputs: RS-232 and USB

Resolution: Nominally  $4000\text{cm}^{-1}$  -  $2000\text{cm}^{-1}$   $<3\text{cm}^{-1}$  &  $2000\text{cm}^{-1}$  -  $600\text{cm}^{-1}$   $<2\text{cm}^{-1}$

- ✔ Scan-n-Search software for instrument control, data acquisition and library searches
- ✔ Wave number range  $4000$  to  $600\text{cm}^{-1}$
- ✔  $2\text{cm}^{-1}$  Nominal resolution
- ✔ Four scanning speeds 3, 6, 12, and 24 minutes
- ✔ 1 Volt analog output, RS-232 serial port & USB port

## Buck Infrared Starter Package

Our instrument & Scan-n-Search software bundles save you money and offer a great value. Now \$1,100.00 dollars off for a limited time only!

## Academic IR Spec Package

The new Buck Academic IR Package includes everything you need to get started. Scan-n-Search IR Software, gas, liquid and solid sampling accessories, and even a great library of known spectra!

## The Buck Educational Package

M530 IR Spec +  
310 Educational Gas Chromatograph +  
BLC-10  
Isocratic HPLC +  
Free Vis 100  
(\*lower 48 states only)

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