

# 4500A FORENSICS ANALYZER

## PORTABLE FTIR SYSTEM FOR USE IN THE IDENTIFICATION OF UNKNOWN SUBSTANCES

The Measure of Confidence



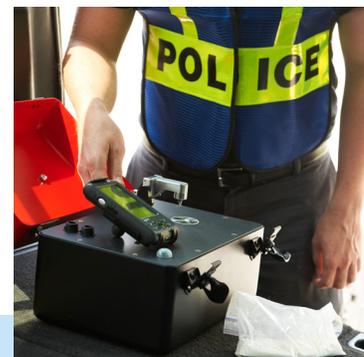
### Portable FTIR Forensics Analyzer Package

FTIR spectroscopy is a proven, powerful technology for the analysis of illegal substances and potentially hazardous compounds. The identity of an unknown liquid or solid substance can be determined in less than one minute with little or no sample preparation required, making identification of unknown substances rapid and easy to use.

[\(click to access application example, "Identification of illicit drugs and hazardous compounds with the Agilent 4500a FTIR Spectrometer" by A. Rein\).](#)

The Portable FTIR Forensics Analyzer Package has been created to address the ever growing need of portability, flexibility and ease of use within the Forensics community. Either a 4500a or 5500a can be selected whether the end user desires full portability (4500a) or simply wants a workhorse, dedicated instrument like the 5500a to use every day in a lab.

The 4500a Portable FTIR system with single reflection diamond ATR sampling device is designed for use in some of the most demanding environments. The diamond ATR sampling interface requires little or no sample preparation and is chemically resistant to virtually all compounds that will be measured. Included with the 4500a is a PDA device, which runs Agilent's MicroLab Mobile software, eliminating the need for a PC at the point of analysis.



#### Portable FTIR Forensic Analyzer:

- ✓ Fully portable with accurate results in real time
- ✓ Comprehensive Forensic ATR database with over 13,000 spectra
- ✓ Little to no sample preparation is required
- ✓ Diamond ATR sample interface is chemically resistant to virtually all compounds

Learn more: [www.agilent.com](http://www.agilent.com)



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## The Agilent 4500a Portable Forensic Analyzer Purposed for Field Use

In addition to class leading performance and ruggedness, what makes the Agilent's Portable FTIR Package stand out is the addition of a comprehensive library. The ATR Forensics Library for Agilent Mobile FTIR contains 13,137 spectra specifically selected for the forensics market containing materials categorized as bio-chemicals, forensics, white powders, hazardous and toxic chemicals, HPV chemicals, food additives and explosives. This creates one of the most comprehensive forensic FTIR databases. The library is configured for



the PDA at  $8\text{cm}^{-1}$  resolution to facilitate speed of identification at the site of measurement, since rapid measurement for quick decision making is necessary when screening materials and identifying probable cause. This package also includes a second high resolution version of the library ( $4\text{cm}^{-1}$ )

which can be used on a Laptop or Desktop PC for higher accuracy and further analysis of samples in the lab.

### Product Highlights:

- Small and lightweight - made for field use.
- Highly accurate mid-IR analysis
- No sample preparation
- Internal 4 hour battery
- USB connection to any computer, if necessary
- Integrated sampling interface
- Water-resistant for inclement weather conditions

### System Specifications:

- Size: 22 x 29 x 19 cm (8.5 x 11.5 x 7.5 in)
- Weight: 6.8 kg (15 lb)
- Operating ranges: 0 to 50 °C (32 to 122 °F)
- Power: Internal battery (4 h), 100/120/240 V AC, 50/60 Hz
- Spectral range: 4000–650  $\text{cm}^{-1}$
- Resolution: 4–32  $\text{cm}^{-1}$
- Controller: Mobile device with Microlab Mobile software
- Software: Agilent MicroLab PC
- Warmup time: 10 min > Response time: 2 min

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## Choice of 4500a FTIR Single Reflection ATR system or 5500a FTIR Single Reflection ATR system:

Part# G8172A	Title and Description
Option #101:	<b>4500a FTIR Single Reflection Portable FTIR</b> Spectrometer with a single (1) reflection diamond ATR sample interface. Socket Somo 655 PDA, power cables, power supply, hardware and software manuals, MicroLab PC and MicroLab Mobile.
Option #102:	<b>5500a FTIR Single Reflection Compact FTIR</b> Spectrometer with a single (1) reflection diamond ATR sample interface. Power cables, power supply, hardware and software manuals, and MicroLab PC software CD.

## Choice of ATR Forensics Library for Agilent Mobile FTIR or ATR Aldrich Spectral Database:

Options	Title and Description
Option #201:	<b>ATR Forensics Library - Agilent Mobile FTIR</b> 13,137 spectra including bio-chemicals, forensics drugs, white powders, hazardous and toxic chemicals, high production volume chemicals, food additives and explosives for one of the most comprehensive databases to be used for forensics applications.
Option #202:	<b>ATR Aldrich Spectral Database</b> 18,513 ATR-FTIR spectra of compounds from the Aldrich collection of the Sigma-Aldrich Company.

\* Laptop PC is available as part of the package under G8172AA



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