

The First FTIR Microscope Designed for the Way You Work

The UMA 600 series microscope accessory from Digilab® was designed to allow you to work the way you want to work. From the integral control panel that lets you control both the microscope and the spectrometer at the microscope, to the ergonomic features such as the tiltable binocular, the UMA 600 series gives you more power, flexibility and convenience than any microspectroscopy accessory on the market.

Advanced. Unique. Successful.

The technology behind the UMA 600 and 400 is backed up by several patents.

- Imaging ATR Spectrometer E. Michael Burka, U.S. Patent 6,141,100 -October 31, 2000
- Sample-masking using wavelength-selective material David C. Brown, U.S. Patent 5,295,017 -March 15, 1994
- Optical instrument providing combined infrared and Raman analysis of samples Ronald Y. Sostek, U.S. Patent 5,841,139 -November 24, 1998

Features

Patented view through aperture (U.S. Patent 5,841,139 -November 24, 1998) lets you to see exactly the sample under the infrared.

Samples can be viewed by both binocular and video — the user can choose which option is the most comfortable.

Dual detector option equips the microscope with either two single point detectors or an array and a single point detector to minimize the “down-time” of detector changes.

Zoom capability in both visible and IR gives the flexibility to use higher magnification if necessary without physically changing the objective.

A motorized aperture gives precise control from either the computer or the microscope and enhances the ease of use.

Auto focus in both the infrared for sample analysis and in the visible for video camera assures that the picture you see or the data you acquire are optimal.

Data collection can be started from the microscope since most operators work from the microscope, not the computer.

Automated multi point analysis (AMPA™) allows unattended analysis of many points on the same samples, or many samples on the sample holder.

UMA 600 Specifications

System Type

Universal infrared microscope with infinity-corrected, all-reflecting optics that can operate in either transmission or reflection mode. This microscope that was designed for imaging can be mounted on either the right or left of an Excalibur spectrometer.

Capabilities Include:

- Advanced optical design eliminates stray light and the need for redundant aperturing.
- Matched cassegrain condenser, objective and detector optics for diffraction limited performance.
- High sensitivity, wide spectral range detector for analysis of samples in the entire mid-infrared range.
- Motorized aperture blades allow you to precisely control the sample you examine.
- Infinity-corrected, all-reflecting optics without the need for dichroics provides the ultimate in detectability and throughput.
- A motorized aperture gives precise control from either the computer or the microscope and enhances the ease of use.

Changing the rules.

An upgrade to imaging gives you **Unparalleled performance** — An array of detectors simultaneously collects spectra from all the detector pixels.

High-quality results — Whether you are in infrared or video camera mode, the picture you see or the data you collect are optimal.



Time savings — Dual detector capability makes detector changes much faster. An optical zoom feature in both the visible and IR modes gives you the flexibility to get higher magnification without physically changing the objective.

Ease of use — Start the data collection from the microscope or from the computer.

Simplicity — The microscope requires a minimum of training to achieve high quality spectra.



Convenience — Exclusive spreadsheet integration of spectral data and images enables easy recall and meets SOP, GLP and ISO-9000 requirements.



Main Objective

15x all-reflecting on-axis Schwarzschild objective with a high numerical aperture for both IR analysis and viewing. Mounted on a three-position turret with a parfocal 4x visible objective. Optional higher magnification visible and infrared objectives and a grazing angle infrared objective are available.

Binocular and Eyepieces

Binocular viewer with 10x eyepieces is standard. Tilttable binocular is available.

Video Camera

An internal video camera with zoom optics is standard.

Auto Focus

Auto Focus in both the infrared and the visible is an option on the UMA 600.

Condenser

On-axis all-reflecting Schwarzschild objective with independent vertical motion to compensate for sample thickness. Optional dark-field objective is available for visible transmission.

Detectors

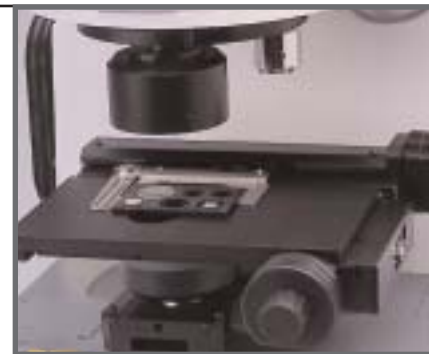
Dual detector plate that can accommodate any single point detector is standard. 250-micrometer square narrow band MCT detector is standard. Other choices include:

- 250 micrometer square wide band MCT
- 100 micrometer square narrow band MCT
- 100 micrometer square wide band MCT
- 250 micrometer square InSb (near infrared)

All detectors include on-axis Schwarzschild objectives. The UMA 600 can also be equipped with any one of a number of choices of infrared focal plane array (FPA) detectors to suit the experiment and budget.

Aperture

In its standard version, the UMA 600 is available with a rectangular aperture. An optional view-through 4 blade aperture can be controlled with micron precision and can be rotated to any angle to precisely match to a sample.



UMA 400/600

The FTIR Microscope Family

Digilab®

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Digilab is an ISO 9001 registered manufacturing, service and engineering facility. The UMA 600 and the UMA 400 are CE marked. 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.

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