MProbe VisHR
Thin Film Measurement System
It is easy to be an expert with MProbe

Majority of translucent or lightly absorbing films can be measured quickly and reliably:Oxides,Nitrides, Photoresists, Polymers, Semiconductors (Si, aSi, polySi), Hard coatings (SiC, DLC), Polymer coatings (Paralene, PMMA, Polyamides), Hard coatings and many more.

Thickness Range: 1μm- 400 μm
Wavelength Range: 700nm -1100 nm

LCD, FPD application: ITO, Cell Gaps, Polyamides. Optical Coatings: dielectric filters, hardness coating, anti-reflection coating Semiconductor and dielectics: Oxides, Nitrides, OLED stack
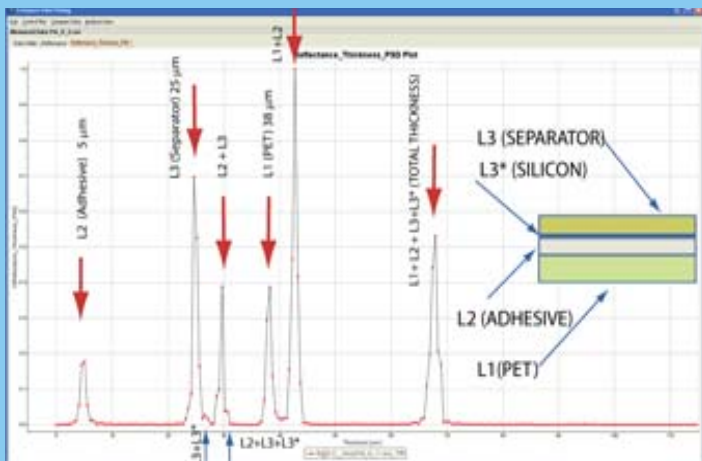
Real time measurement and analysis. Multi-layer, thick, freestanding and nonuniform layers.

Extensive materials library (500+ materials) - new materials easily added. Support of parameterized materials: Cauchy, Tauc-Lorentz, Cody-Lorentz, EMA and many more....
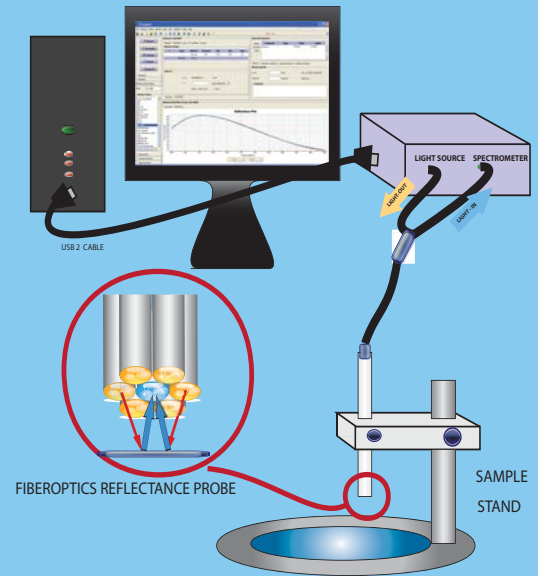
Flexible: Desktop or in-situ, R&D on inline. Easy integration with external system using TCP Modbus interface

Measurement: thickness, optical constants

User friedly and powerful: One-click measurement and analysis. Powerful tools: simulation & sensitivity, background and scaling correction,linked layers and materials, multisample measurements, dynamic measurement and production batch processing.
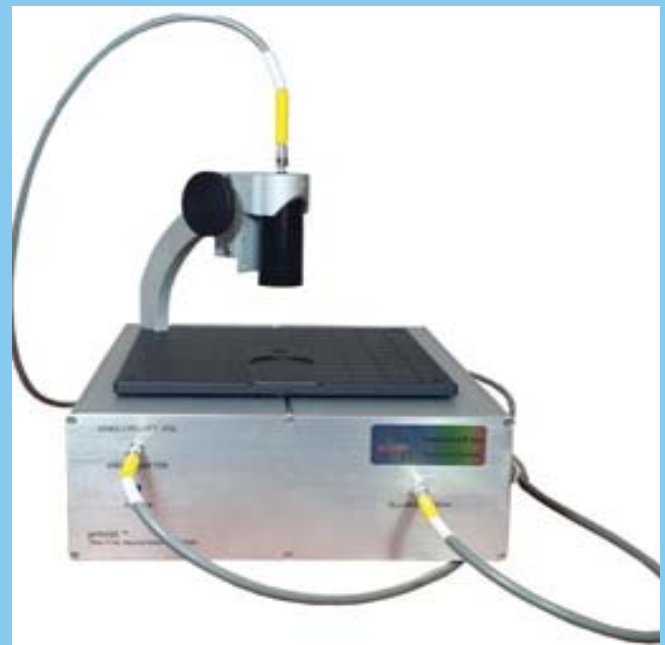

MProbe system diagram

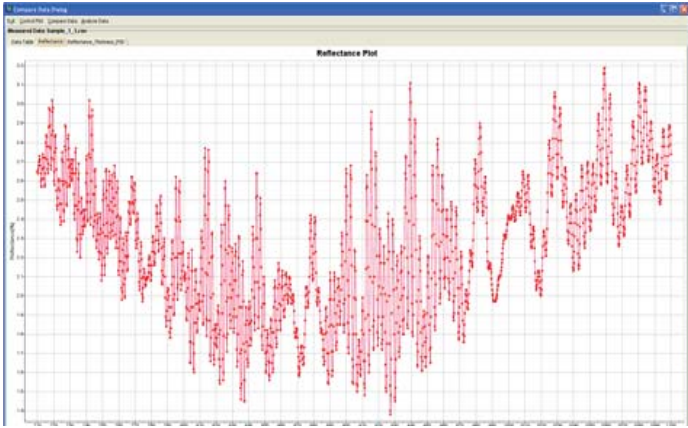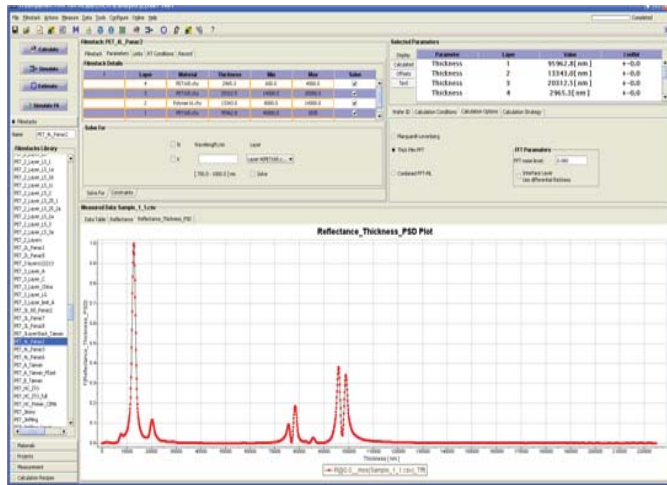| Precision	0.01nm or 0.01%
Accuracy	0.1% or 1 nm
Stability	0.02nm or 0.03%
Spot Size	0.5 mm standard, down to 3 μm(MSP)
Sample Size	from 5 mm
Measurement time	<50ms (typical), 15Hz speed (continuos measurement)

Measurement of PET film with layers

MProbe system (desktop configuration)

Reflectance spectrum from PET (95 μm) with three coated layers.

Spectral range (nm)	700-1100
Spectrometer/detector	F4 spectrometer, 2048 pixels Si CCD (Hamamatsu S11510), 16 bit ADC
Spectral resolution	<0.3 nm
Light source	5 W Tungsten-halogen lamp (Xe filled), CT 2800° Lifetime: 10000 hrs
Reflectance probe	Fiberoptics (7 fibers assembly), 400μm fiber core
Precision	<0.01 nm or 0.01%
Accuracy	<1nm or 0.1%
Weight (main unit)	5 kg
Size (main unit)	8"x 10" x 4" (WxDxH)
Power	100-250VAC, 50/60 Hz

Measurement results of PET with 3 layers. Peak positions indicate layer thicknesses.
Measured parameters: thickness of PET and 3 layers (2.9/20/13/96 μm(PET))

Hardware options	
-LP700	long-pass filter, limits light source wavelength below 700nm. Used for photoresist measurement.
-HC	uses manual reflectance probe instead of the sample stage
-TO	Transmittance option
- 2oW	Change to 20W (CT 3100°, lifetime 2000hrs) tungsten-halogen lamp.
-PC	Laptop computer, Windows 7/10 fully configured with the system

Included in the Box:
1. Main unit (spectrometer/light source/electronics)
2. Reflectance probe VisNIR
3. Sample Holder SH200A with VisACH focusing lens
(-HC - manual probe instead of stage)
4. Calibration set
5. TFCompanion -RA software
6. Power adapter and USB cable

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Thin -film solutions: instruments, software custom development projects.

Software options	
-MOD	remote control (TCP-IP) based on Modbus protocol
- CM	continuos measurement with specified number of measurement and/or delay between them