MProbe Vis

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), thin metal films and many more.

Thickness Range: 10 nm - 75 μm
Wavelength Range: 400nm -1000 nm

LCD, FPD application: ITO, Cell Gaps, Polyamides. Optical Coatings: dielectric filters, hardness coating, anti-reflection coating Semiconductor and dielectics: Oxides, Nitrides, OLED stack

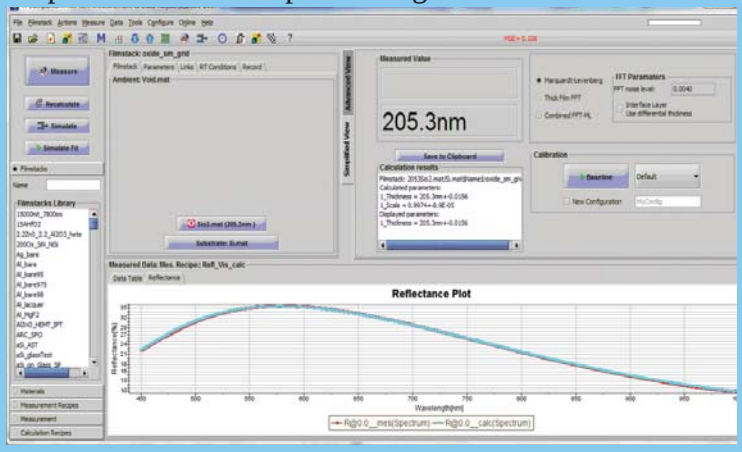
Real time measurement and analysis. Multi-layer, thin,thick, freestanding and nonuniform layers.

Extensive materials library (500+ materials) - new materials easily added. Support of parameterized materials: Cauchy, Tauc-Lorentz, Cody-Lorentz, EMA and many more....

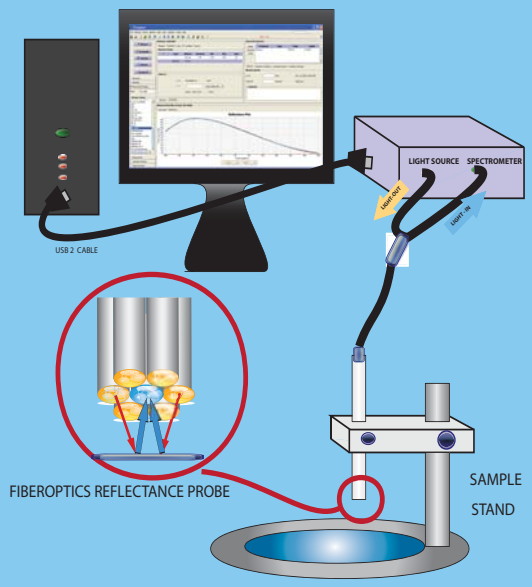
Flexible: Desktop or in-situ, R&D on inline. Easy integration with external system using TCP Modbus interface

Measurement: thickness, optical constants, surface roughness

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.



Measurement of 200nm Si oxide film.
Measurement vs. model data fit.

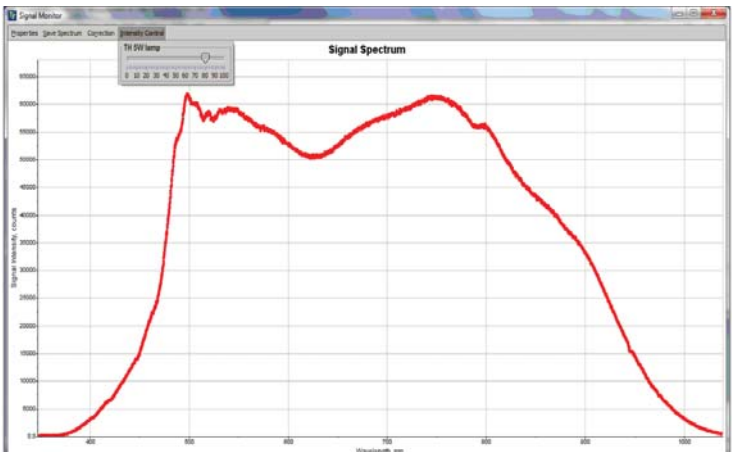


MProbe system diagram

Precision	0.01nm or 0.01%
Accuracy	0.2% 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

MProbe system (desktop configuration)

Specification



Raw reflectance from Si wafer. Signal maximum (16 bit). Integration time: 10ms. Regulation of lamp intensity controlled from the software.

Spectral range (nm)	400-1000
Spectrometer/detector	F4 spectrometer, 3600 pixels Si CCD, 16 bit ADC, 360-1050 nm range
Spectral resolution	<1 nm
Light source	5 W Tungsten-halogen lamp (Xe filled), CT 2800° Lifetime: 10000 hrs (regulated intensity)
Reflectance probe	Fiberoptics (7 fibers assembly), 400µm fiber core
Precision	<0.01 nm or 0.01%
Accuracy	<1nm or 0.2%
Weight (main unit)	4 kg
Size (main unit)	8”x 12” x 4” (WxDxH)
Power	100-250VAC, 50/60 Hz 20W

MProbe Advantage

- Standalone software included
- Remote diagnostics
- Measurement history for recall and display (plots and statistics)
- Compare and evaluate multiple reflectance/transmittance spectra
- Microprocessor controlled light source with 10000+ hours lifetime
- Correction options for angle, wavelength resolution and intensity variations
- Clean room class 1000 compatible
- Free software update for 12 months

Hardware options	
-LP500	long-pass filter, limits wavelength below 500nm. Used for photoresist measurement.(other filters avaialble)
-FDHolder	Face-down sample holder option for SH200A stage.For transmittance measurement and/or foils/flexible samples
-TO	Transmittance option

Included in the Box:

1. Main unit (spectrometer/light source/electronics)
2. Reflectance probe VisNIR
3. Sample Holder SH200A with VisACH focusing lens
4. Calibration set
5. Si oxide test wafer (200nm)
6. TFCompanion -RA software
7. Power adapter and USB cable

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

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