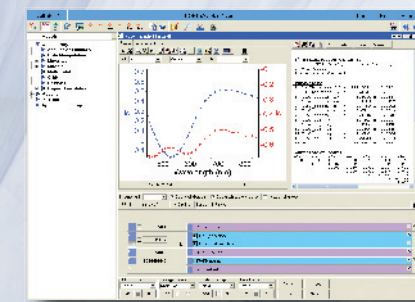




DeltaPsi2 Scientific Mode to Extend the Measurement Capability



DeltaPsi2 is a fully integrated spectroscopic ellipsometry platform that includes advanced measurement and analysis capabilities and a complete materials database.

This software is ideal for engineering applications for new sample characterization or optimisation of an existing experimental recipe. Once the new recipe is validated it can be performed repeatedly without expert intervention.

A very intuitive software has been designed based on the use of icons. Four main interfaces are available to build experimental recipes, manage data, control the system in real-time, and for maintenance.



Auto Soft

"User Oriented
Software Platform"

Fully Automatic Mode for Routine Analysis

- 1 > Load Sample
Automatic adjustment of the sample
Visualization of the spot on the sample
Choose your measurement site

- 2 > Run Measurement
Select your experimental recipe in the ready to use application database
Push the Run button
Measure at a single position or multiple positions to map thin film uniformity

- 3 > Accurate Results
Clear table provides thickness, optical constants, film uniformity and other material properties of the sample
Thin film result status: in or out tolerance limits
Automatic reporting
Reprocessing capability

Worldwide Customer Support

Founded nearly 190 years ago, HORIBA Jobin Yvon is one of world's largest manufacturers of analytical and spectroscopic systems and components. Our instruments are manufactured under a strict quality assurance program and are supported by a worldwide network of strategically located facilities in the United States, Europe and Asia that are ready to provide assistance when and where it is needed. Our staff of highly trained service and application specialists install and certify instrument performance, and conduct technical and application user training for smooth and efficient commissioning of the instruments. This commitment to product excellence and continued support is part of the HORIBA Jobin Yvon culture.

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HORIBA JOBIN YVON

www.autose.org

Explore the future

Auto SE Specifications

Standard Configuration

Light source	Combination halogen and blue LED
Spectral range	440 - 850 nm
Spot size	> 500 µm; 500 µm x 500 µm; 250 µm x 500 µm; 250 µm x 250 µm; 70 µm x 250 µm; 100 µm x 100 µm; 50 µm x 60 µm; 25 µm x 60 µm
Detector	CCD - Resolution: 2 nm
Sample stage	200 mm x 200 mm, automatic XYZ adjustment, vacuum check, Z height 50 mm
Sample viewing	CCD camera - Field of view: 1.33*1 mm Resolution: 10 µm
Goniometer	Fixed at 70° - Possible set up at 66° or 61,5°

Options

Accessories	Sample cells: Temperature controlled cell, Electrochemical cell, Liquid cell. Sample stage: Autosampler, 360° Rotation control, Transmission mount, Plastic film mount Xenon lamp needed for spot sizes < 100 µm Dimension (wxdxh): 1400-1840 x 530 x 740 mm
Microspot Table	

Performance

Measurement time	< 1 s, typical 5 s
Accuracy	NIST 1000 Å SiO ₂ /Si: d ± 4 Å - n(632.8 nm) ± 0.002 Fused silica: n ± 0.004
Repeatability	± 0.2 Å - Tested on NIST 150 Å SiO ₂ /Si

Facility requirements

Operating systems	Windows 98/2000/XP
Power supply	350 W; 115 V / 230 V



HORIBA JOBIN YVON



Auto SE

The simple solution
to measure thin films



Film thickness,
Optical constants
and Imaging

HORIBA

Explore the future

HORIBA

Auto SE

“Designed for your thin film measurements, to deliver maximum efficiency with simplicity”

The Auto SE is a new thin film measurement tool that allows full automatic analysis of thin film samples with simple push button operation.

Sample analysis takes only a few seconds and provides a complete report that fully describes the thin film stack – including film thicknesses, optical constants, surface roughness, and film inhomogeneities.

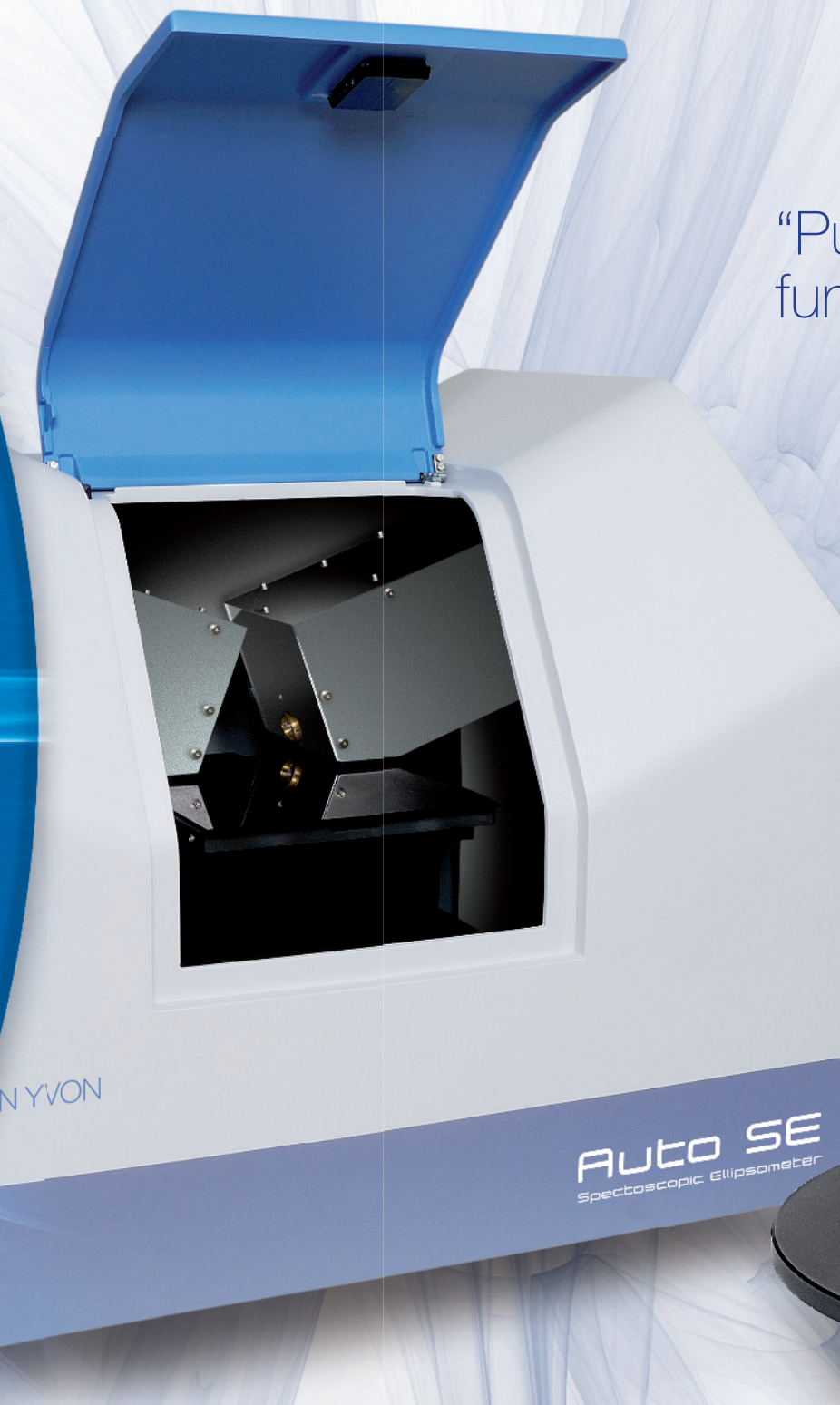
Based on the well established optical technique of spectroscopic ellipsometry, the AUTO SE stands out in its ease-of-use and numerous automatic features.

The Auto SE is a turnkey instrument ideal for routine thin film measurement and device quality control.



Thin Film Analysis Made Easy

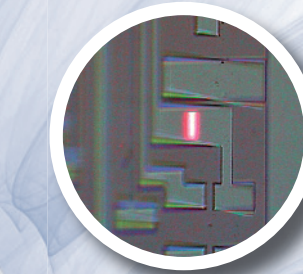
- Ready-to-use system configured to meet your specific application needs
- Full automatic analysis of thin film samples with simple push button operation
- Comprehensive display results with automatic reporting and compliance
- Multilanguage software



“Purpose built for enhanced functionality and flexibility”

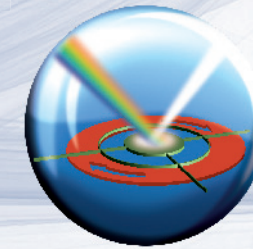
Highly Featured System

- Automatic sample loading and adjustment
- Visualization of the measurement site for any kind of samples
- Automated selection of eight spot sizes
- Integrated microspot optics
- Automatic sample mapping
- Fast measurement from 440-850 nm < 1s



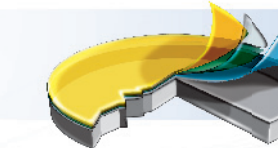
A Host of Accessories to Suit All Applications

- For easy sample handling: autosampler, curved sample mount, plastic film mount
- For various experimental data types: transmittance, 360° rotation
- For varying sample conditions: liquid cell, electrochemical cell, temperature controlled cell



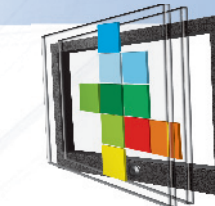
Intelligent Diagnostics

- Detect and diagnose problems automatically with comprehensive operator guidance for troubleshooting
- Stage with integrated reference samples for instrument quality control
- Simple instrument maintenance



Functional Coatings

- Optical coatings: Anti reflective, self-cleaning, electrochromic, mirrors
- Surface coatings and treatments: polymers, oil, Al₂O₃



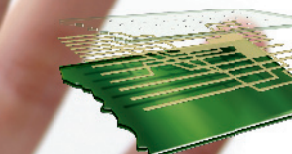
Flat Panel Displays

- TFT
- OLED
- Plasma display panel
- Flexible display



Biological and Chemical Engineering

- Organic films, LB, SAM, protein
- Film adsorption
- Surface functionalization
- Liquids



Semiconductors

- Dielectrics
- Thin metal films
- Polymers, photoresists
- Silicon
- PZT
- Laser diodes: GaN, AlGaIn
- Transparent electronics



Photovoltaic Devices

- Amorphous, poly, micro, nano crystalline silicon
- Transparent conducting oxides
- Anti-reflective coatings
- Organic materials

Broad Range

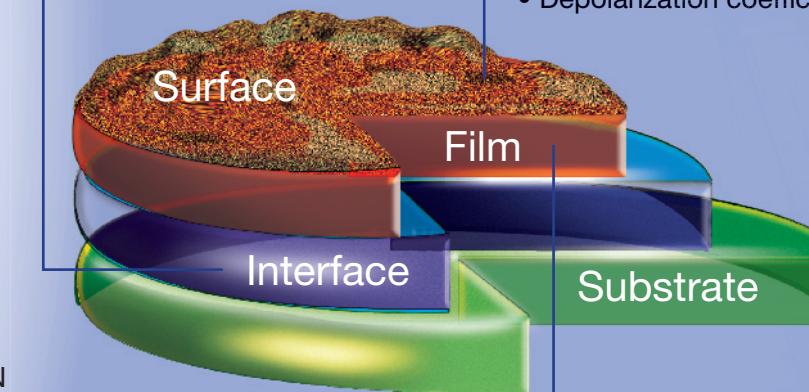
of Thin Film Applications

Interfacial Behaviour

- Interface thickness
- Composition of mixed materials forming interface
- Monitor interface thickness in real-time: film growth, film adsorption
- Monitor real-time changes at interfaces

Surface Measurement

- Roughness thickness
- Native oxide thickness
- Any surface film thickness
- Depolarization coefficient



Thickness Measurement

- From a few Å to 15 µm
- Single and multi layers

Optical Properties

- Optical constants (n,k) and α
- Optical bandgap E_g
- Transmittance

Material Properties

- Graded and anisotropic film
- Film porosity expressed in void percentage

