

ScatterMaster

Full Hemispherical Scatter Measurements

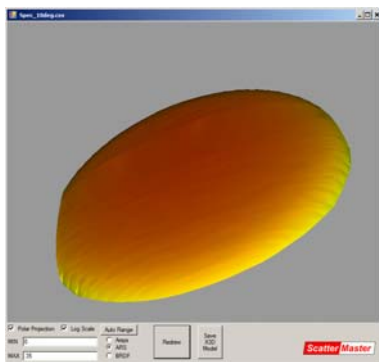
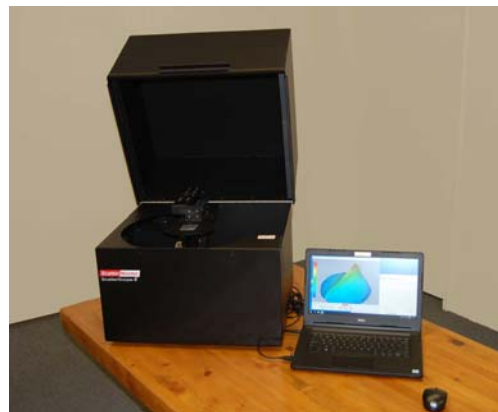
ScatterMaster is proud to announce the **ScatterScope4™** scatterometer. This patent pending instrument is a new concept in high-speed scatter metrology. It operates in both reflection and transmission and provides measurements in seconds instead of hours.

Hardware:

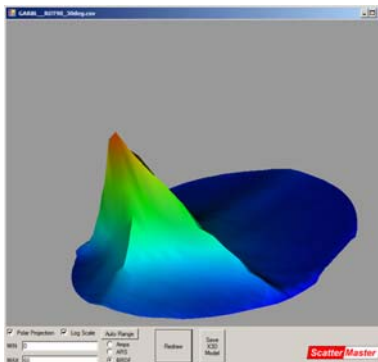
The ScatterScope4 consists of a compact desktop scatterometer (20" cube /35lbs) controlled by a laptop computer (included) running our proprietary ScatterMaster™ control and analysis software. The system is easy to set up and use. The software is straightforward and makes scatter analysis a breeze.

Measurements:

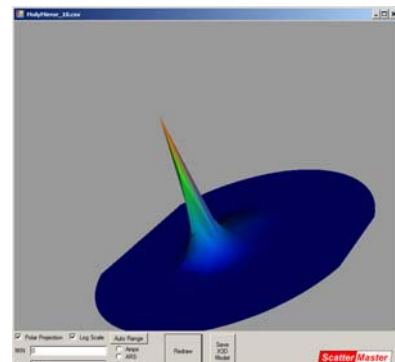
Programmable scans allow sampling the reflective or transmissive hemisphere tighter than 5 deg. Standard units include a 639 nm source and optionally can be configured with multiple wavelengths such as: 473, 520, 639 and 980 nm. Dynamic range exceeds 10 orders of magnitude with a noise floor of approximately 10^{-6} /sr at 639 nm. This makes it capable of measuring most optics (but not polished silicon wafers). Any incident angle up to 75 deg from surface normal can be used. Batch scans can be programmed at different incident angles. Data can be displayed in either BSDF or ARS units. Full hemisphere scans are done in 5-30 seconds depending on scan resolution. The data scans shown below were taken in 15 seconds each. An internal camera and LED facilitates sample alignment.



ARS of Spectralon taken at an incident angle of 10 degrees.



BRDF of a 6 micro inch GAR Standard rotated 90 degrees.



BRDF of a moly mirror with incident angle of 10 degrees.

Analysis Software:

The ScatterScope4 scatterometer includes a laptop computer preloaded with the ScatterMaster analysis software. ScatterMaster allows scatter measurements to be visualized interactively in three dimensions or exported for analysis with MatLab, Excel, and several other optical modeling packages. New features that are coming soon include: the definition of virtual detectors in the hemisphere for easy signal and stray light analysis, as well as the calculation of total integrated scatter and diffuse reflectance at variable incident angles.

Configurations for 639 nm Systems

Base Configurations

Programmable Incident Angle 639 nm Sourcecall for quote

Available Options

Different Single Wavelength Source call for quote

Multiple Wavelength Sources call for quote

Software

All systems include two licensed copies of the ScatterMaster software: One copy is loaded on the included instrument control computer and an additional key is supplied to run the analysis on another computer. Free software updates are included for one year.

Upgrades

Systems may be upgraded within one year of purchase by returning them to the factory at a charge equal to the price differential plus 15%.

Terms

All prices USD.

Payment terms are 30% down with a purchase order and the balance due on delivery. Incoterms-FCA Tucson, Arizona

USA Scatter Course

As a supplement to your instrument, a four hour course on scatter measurement and analysis given in your facility is available from John C. Stover. You will get a copy of his book, course notes (emailed ahead), a four hour presentation and four hours of consulting on your scatter measurement issues and the use of the ScatterScope4 to solve them. The cost in the USA is \$5000 West of the Mississippi and \$5500 East of the Mississippi. Email for details and international quotes.



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Complies with 21 CFR 1040.10 and 1040.11
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