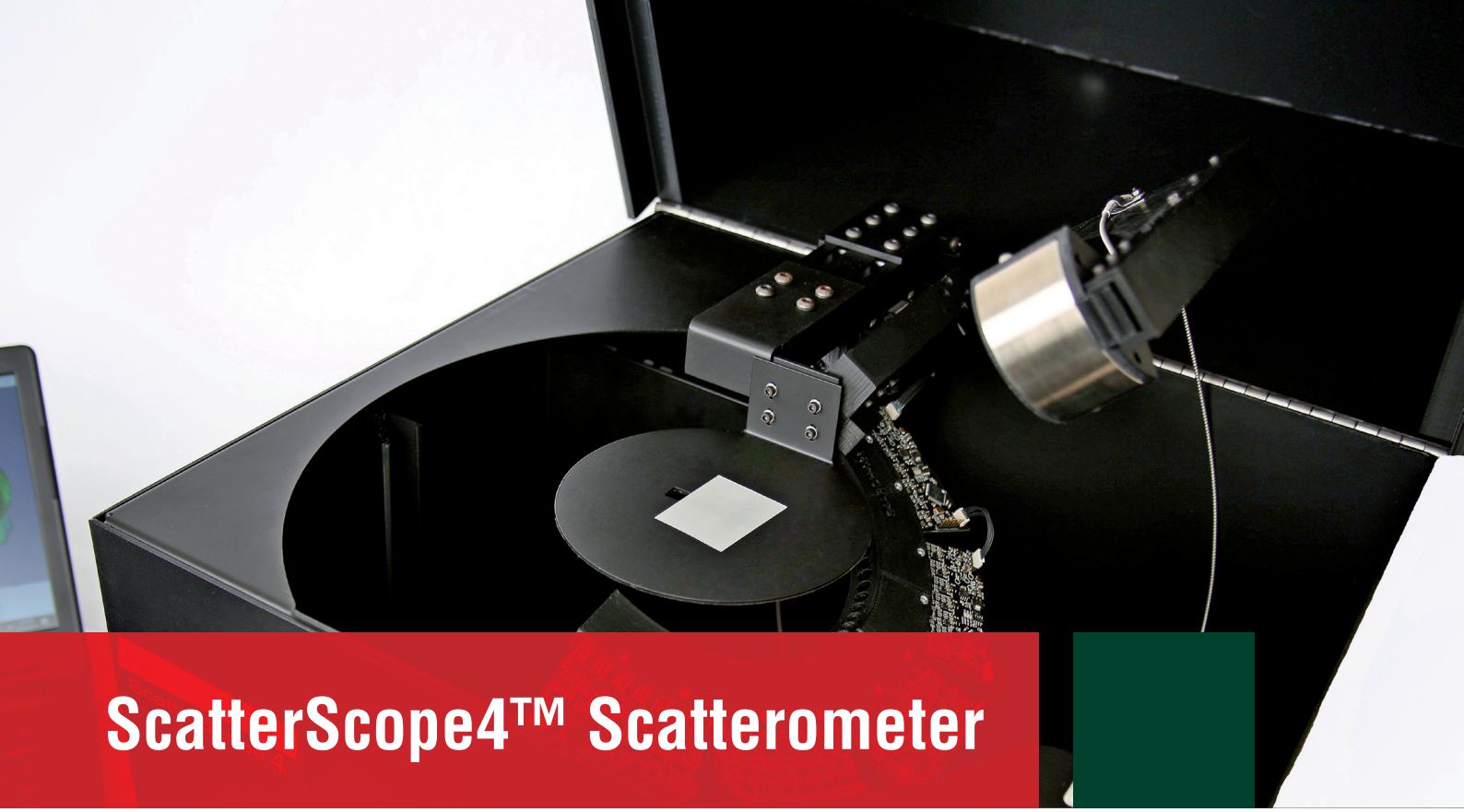


ScatterScope4™ Scatterometer

Full Hemispherical Scatter Measurements

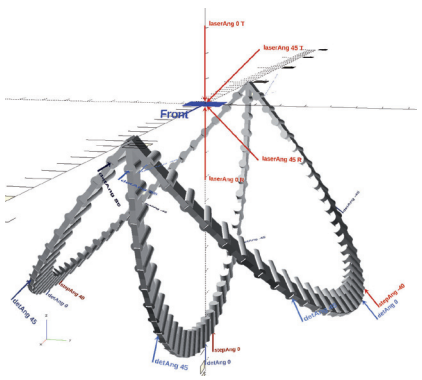
Short facts

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. Its software is straightforward and makes scatter analysis a breeze.

It is operating in both reflection and transmission and provides measurements in seconds instead of hours. 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.

Applications

- Measurement up to 75° incidence angle
- BDRF/BTDF and reflection measurement with option for TIS, e.g. for quality control of optical reflectance targets for LIDAR applications
- Characteristics of materials based on Scatter properties for e.g. textiles, plastic, metals and paper
- Surface finish for quality control, e.g. cleaners, coatings, paints, etc.
- Creation on appearance models of any objects surfaces for virtual reality



ScatterScope4™ technical information

Measurements

Range	BRDF from 10-6 to 103 (sr-1)
Scan Speed	nominally 15 seconds at 2 degree scan resolution
Cross Scan Resolution	every 5 degree 0-80 degree
Scanning Direction Resolution	User selectable from 1 to 5 degrees

Laser Source

Wavelength	standard 637nm (optional available from 375 to 980nm)
Angle of Incident	User Adjustable from 0 to 75 degrees
Spot Size on Sample	Approx 3mm

Power

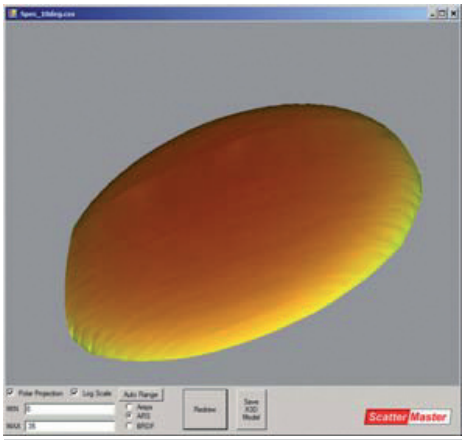
110-240VAC 50/60Hz 2A

Footprint

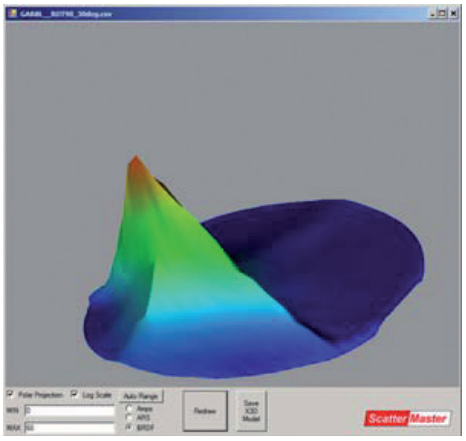
The instrument footprint is 28x53cm“ but it does require approx 76cm of bench space (28x76cm) to allow for clearance when opening. Additional bench space should be provided for the included control laptop computer. 82cm vertical clearance is required.

Analysis Software

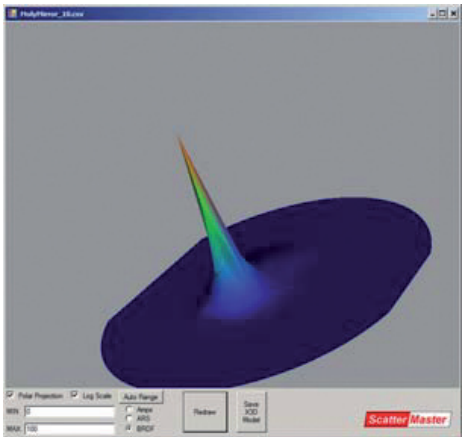
The ScatterScope4 scatterometer includes a laptop computer preloaded with the ScatterMaster analysis software. ScatterMaster allows scatter measurements to be visualized interactively in three dimensions or exported for analysis with MatLab, Excel, and several other optical modelling packages. New features are coming soon, including: 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.



BDRF for diffuse reflectance sample @ 10° incidence angle



BRDF of a 6 micro inch GAR Standard rotated 90 degrees



BRDF of a moly mirror with incident angle of 10 degrees

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