

SURVEYOR[®] Ortho MODELER

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The Leader in 3D Laser Scanning Since 1987

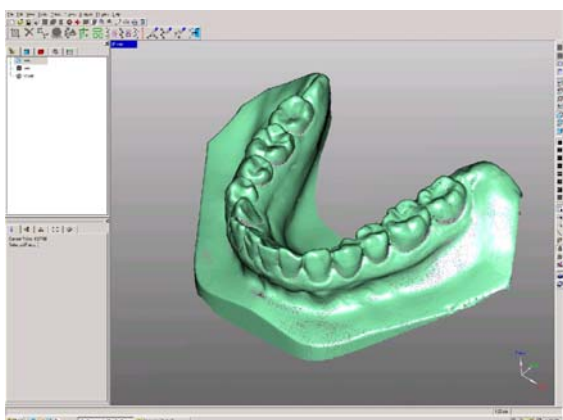
Surveyor[®] OM-3R

Laser Design, the leader in 3D laser scanning since 1987, introduces the Surveyor OM-3R Ortho Modeler 3D Laser Scanning system.

The OM-3R is specifically designed to automatically scan dental models of teeth, dentures, crowns, cap, and bite models used in orthodontic and dental manufacturing processes. The OM-3R features three high precision CNC rotary stages enabling automated scanning of the dental items quickly and accurately. The system features a standard performance computer suitable for scanning. An upgrade to a high performance computer is recommended for scan data processing using optional Raindrop Geomagic software.

The Ortho Modeler incorporates Laser Design's RPS-450 laser probe, which is ideal for profile contour scanning. The RPS-450 captures up to 14,400 points per second and features digital (ASCII) coordinate output, a visible beam, a Class II rating, and a long standoff designed to quickly, easily and accurately scan dental models. Its large measurement range, enhanced specularly performance and automatic adjustments for surface color and finish ensure excellent results. The economical desktop scanner is powered by Laser Design's Surveyor Scan Control software.

Raindrop Geomagic Studio software completes the OM-3R system. Geomagic specializes in 3D scan data processing for input into manufacturing. This automated software creates an .STL file or full CAD model of the scanned item suitable for high-detail manufacturing output via either CNC milling or RP technologies. Studio subsets, such as the Capture or Wrap modules, may be adequate for your manufacturing requirements. Geomagic Qualify is used for comparative analysis inspection of parts after manufacture to better understand the minute distortions resulting from downstream manufacturing of the dental products.



Surveyor OM-3R Specifications

Positioning System	
3 axis CNC controller	3 rotary axes with rotary encoder feedback.
Rotary Axis – Probe Motion:	CNC Servo
Resolution	0.001 degrees
Repeatability	0.003 degrees
Max velocity	20 degrees / Second
Dual Rotary Axes – Specimen Holder:	CNC Stepper
Resolution	0.005 degrees
Repeatability	0.002 degrees
Max velocity	90 degrees / Second
RPS-450 Laser Probe	
Laser Type	Diode Laser – Class II
Wavelength	670 nm (Visible Red Spectrum)
Accuracy per point (with averaging)	+ / - 20 microns
Scanning rate	Up to 14,400 points/ Second
Depth of Field	100 mm
System Scanning Performance	
Scanning Speed	Up to 14,400 points per second
Scanning Work Volume	4” x 4” x 2” 100 mm x 100 mm x 50 mm
Accuracy	+ / - .001” + / - 25 microns
Scanning Modes	Automated sequence provided for typical dental impressions. Includes multiple part orientations for scanning all surfaces and undercuts. Additional scans may be necessary for non-typical or unusual configurations. Manual mode allows additional scans to be made if automated scanning does not capture entire shape.
System Size (W-D-H)	508 mm x 406 mm x 305 mm
PC Controller	See web site for current configuration of optional PC with increased performance for data processing with Raindrop Geomagic software.
Surveyor Scan Control Software	Automated scanning process is provided with simple user interface for common scanning sequence or modified scanning sequence as needs arise. Manual, interactive, or pre-programmable scanning sequencing is provided. See SSC product spec sheet for additional information.
Scan Data Output	XYZ coordinate, ASCII and IGES formats are provided along with native binary for Geomagic software processing. Conversion to .STL is provided with optional Raindrop Geomagic software.

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