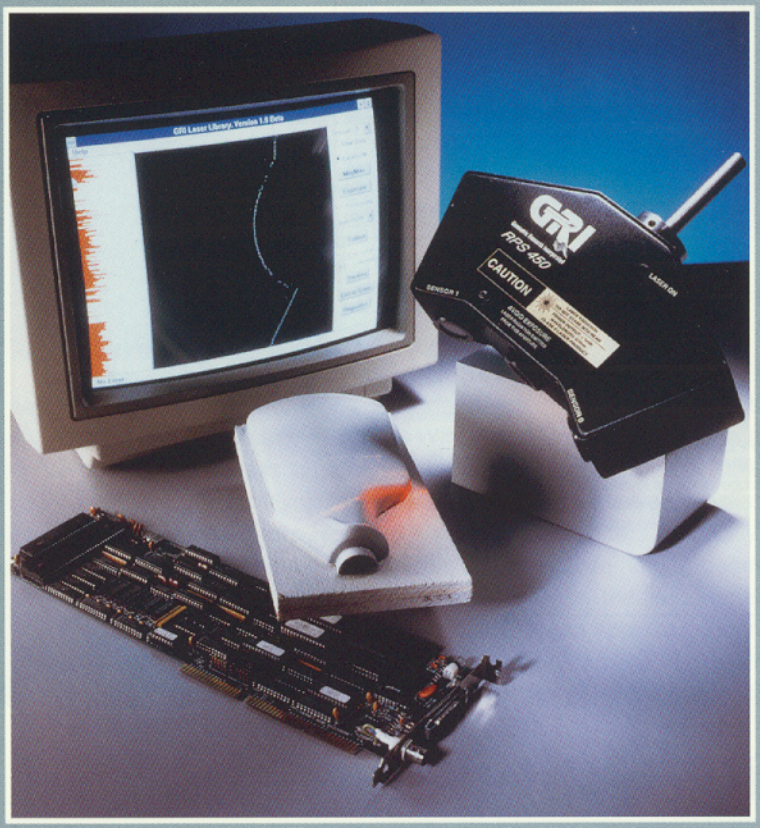
LDI
Laser Design Inc.

RAPID PROFILE SENSOR

TRIANGULATION LASER PROFILE SCANNER

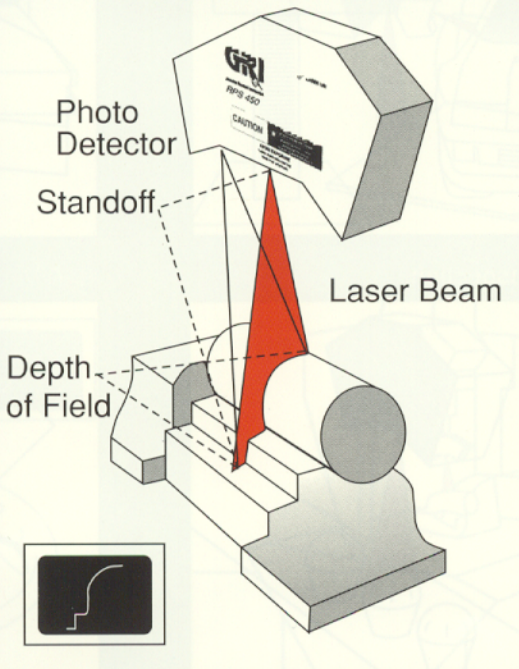


Complex Profile-Contour Scanning

- ❑ *Highly accurate*
- ❑ *Non-contact*
- ❑ *High speed*
- ❑ *Digital (ASCII) coordinate output*

Geometric Research, Inc. presents its new family of Rapid Profile Sensors

Triangulation Sensor



2D/3D SENSOR APPLICATIONS

- *3D digitizing*
- *Complex profile checking*
- *Thickness measuring*
- *In-line process measuring*
- *Part-checking against CAD*
- *Flexible gauging*
- *Height checking*
- *Flatness checking*
- *Steep side wall/deep groove scanning*
- *Sharp edge determination*

GEOMETRIC RESEARCH, INC. • 11935 124th Avenue NE • Kirkland, WA 98034 • Telephone: 206-820-0574 • Fax: 206-820-0742

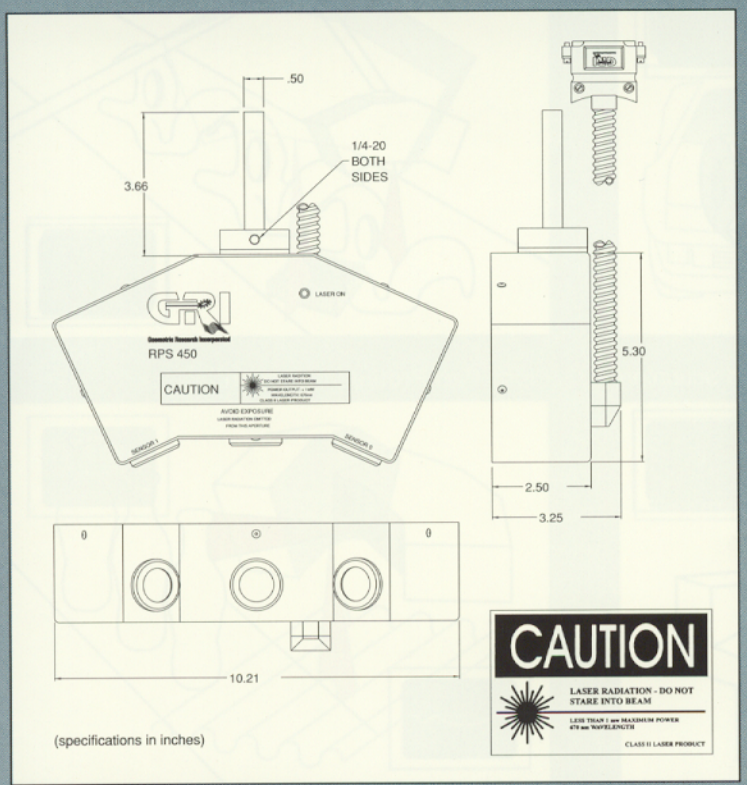
Rapid Profile Sensor Specifications

	450	150
Laser Type:	Laser diode	Laser diode
Laser Power Output:	<1 mW, Class II	<1 mW, Class II
Laser Wavelength:	670 nm (visible red spectrum)	670 nm (visible red spectrum)
Beam Width:	.010" (.256 mm)	.010" (.256 mm)
Beam Spreader:	Passive optical, uniform dispersion with no moving parts	Passive optical, uniform dispersion with no moving parts
Standoff Distance:	6" (150 mm)	6" (150 mm)
Z Range:	1.8" (45 mm)	1.6" (40 mm)
Line Length:	1.8" (45 mm)	.61" (15.5 mm)
Accuracy: (per point with averaging)	± .001" (.025mm)	± .0003" (.0076 mm)
Sample Count:	480 points per line	480 points per line
Sample Rate*:	2,000 per second typical	2,000 per second typical
Sample Density:	.0035" (.09 mm)	.0012" (.032 mm)
Detector(s):	760 x 480 digital CCD array with 256 gray scale levels	760 x 480 digital CCD array with 256 gray scale levels
Weight: (probe only)	3.08 lbs. (1.40 kg)	2.95 lbs. (1.34 kg)
Minimum angle of incidence of laser beam to scanned surface:	10°	10°

Specifications subject to change without notice. June, 1996

*Actual speed depends on CPU being used and application.

RPS 450 and 150 Outline Drawing



(specifications in inches)

Geometric Research Incorporated

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Distributed By:

LDI
Laser Design Inc

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RAPID PROFILE SENSOR SPECIFICATIONS

	 150	 450	 1500
Laser Type	Laser diode	Laser diode	Laser diode
	<1 mW, Class II	<1 mW, Class II	<1 mW, Class II
Laser Wavelength	670 nm (visible red spectrum)	670 nm (visible red spectrum)	670 nm (visible red spectrum)
Beam Width	.010" (.254 mm)	.010" (.254 mm)	.020" (.508 mm)
Beam Spreader	Passive optical, uniform dispersion with no moving parts	Passive optical, uniform dispersion with no moving parts	Passive optical, uniform dispersion with no moving parts
Standoff Distance Near Mid Far	 3.9" (100 mm) 4.78" (121.5 mm) 5.6" (143 mm)	 3.9" (100 mm) 4.8" (122mm) 5.7" (144 mm)	 2.75" (70 mm) 5.75" (146 mm) 8.75" (222 mm)
Z Range	1.69" (43 mm)	1.73" (44 mm)	6" (152 mm)
Line Length Near Mid Far	 .53" (13.5 mm) .61" (15.6 mm) .70" (17.7 mm)	 1.5" (38 mm) 1.6" (41 mm) 1.8" (46 mm)	 5" (127 mm) 6" (152 mm) 7" (178 mm)
Accuracy (per point with averaging)	± .0003" (.0076 mm)	± .001" (.025 mm)	± .005" (.127 mm)
Sample Count	480 points per line	480 points per line	480 points per line
	4,000 per second typical	4,000 per second typical	4,000 per second typical
	.0012" (.032 mm)	.0035" (.09 mm)	.012" (.32 mm)
Detector(s)	760 x 480 digital CCD array with 256 gray scale levels	760 x 480 digital CCD array with 256 gray scale levels	760 x 480 digital CCD array with 256 gray scale levels
Weight (probe only)	2.95 lbs. (1.34 kg)	3.08 lbs. (1.40 kg)	4.5 lbs. (2.00 kg)
Minimum angle of incidence of laser beam to scanned surface	10°	10°	10°

Specifications subject to change without notice.