

MicroRanger™ Specifications

Technology Overview

The *MicroRanger™* uses low-power laser diodes, intensity modulated at microwave frequencies, to measure the phase difference between transmitted and received light. Phase difference is proportional to range since the speed of light and the modulation frequency are known. Although this technique has been used by others, past implementations have been problematic. The key to Visidyne's success is a proprietary processor called the Digital Phase Processor. This device is at the heart of the *MicroRanger™* and enables high-precision range measurements. The Digital Phase Processor calculates range at 4.5 MHz and outputs a value every 1 ms. This data can either be displayed on the front panel or recorded using a PC. The front panel also has a 'Zero' button that allows the user to set a reference distance. Once the reference is set, the output data is given as a change from this location. In addition, the 'Zero' button automatically adjusts the return signal to an optimal level.

MicroRanger™ is a trademark of Visidyne, Inc.

Specifications

Light Source	Class IIIa Diode laser - 5 mW at 670 nm
Display	6 digits with 10 um resolution (in cm)
Update Rate	1 KHz
Range Uncertainty	±5 um
Range Accuracy	± 200 um
Measurement Range	0.01 - to - 10 meters
Audible	Signal overload Loss-of-signal
LED indicators	Signal power - Red/Green Power - Blue
PC data rate	1 kHz (up to 4.5 MHz possible)

Physical

Power	120 VAC
Instrument Dimensions	Length - 17" (43.18 cm) Height - 6.25" (15.88 cm) Width - 14" (35.56 cm)
Probe Dimensions	Length - 7.25" (18.42 cm) Diameter - 2" (5.08 cm)
Probe Cable	Length - 78.75" (200.00 cm)
Weight	23 lbs

Software

Platform	Pentium Class
Operating System	Windows95
Memory	16 Mb
Program Storage	2 Mb
User Interface	Point and click GUI
Functionality	Data storage and display Macro/micro motion storage and display Stripchart plotting

More Information

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