



# LEICA VECTOR



*Rangefinder Binoculars*  
*2 Eyes to See, 2 Fingers to Measure*

**vectronix**

# **VECTOR™ Rangefinder Binoculars**

## **for observation, distance and angle measurement**

Wouldn't your job be easier if you had an excellent pair of binoculars capable of measuring distances and angles at the touch of a key?

**LEICA VECTOR is the instrument which allows you to "point and click" to determine the position and dimensions of inaccessible objects in the field, locate targets, etc.**

**VECTOR is four instruments in one:**

### **Binoculars**

Superb optics in robust, water-tight, rubber-armoured housing

### **Laser Rangefinder**

Measures from 5m up to 12km (depending on model, visibility and nature of target object)

### **Digital Compass**

Displays magnetic azimuth or grid azimuth in degrees, gon or mils

### **Clinometer**

Displays vertical angles between -35 to +35 degrees

### **First class optics**

The optical performance and light transmission of VECTOR rival those of the best of the classical binoculars. It offers x7 magnification and 42mm objective aperture so you can observe clearly even in poor light conditions.

Traditional survey instruments and laser rangefinders constrain you to observe with just one eye. With VECTOR you use both eyes, see more and reduce eye strain.

### **Efficient data acquisition**

Measured data are displayed in the field of view and you can send them via the VECTOR's RS232 interface to a computer, data terminal or recording device.

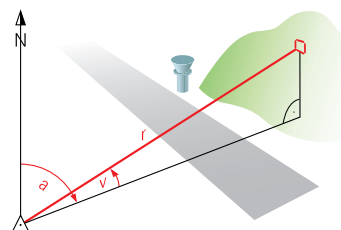
Special software enables VECTOR to communicate with Rockwell Collins PLGR/SPGR so that target grid coordinates are displayed by the GPS receiver.

***You will use VECTOR instinctively after minimal training, and operate it confidently even when wearing eye glasses, gloves or full NBC protection.***

### **Ergonomic and robust**

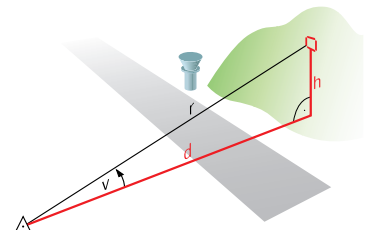
Operators appreciate the compact and ergonomic design. With a weight of 1.6kg (60oz) and a volume of 1.9l, VECTOR would float should it accidentally be dropped into water.

VECTOR boasts a Mean Time Between Failures (MTBF) of 13'000 hours.



**VECTOR measures the polar vector from your position to the object you sight:**

**r** range (slope/slant distance)  
**a** azimuth (bearing, angle between north and object)  
**v** vertical angle (inclination, elevation)



**From your position to a remote object VECTOR also displays:**  
**d** horizontal distance  
**h** height difference



**Choose the right VECTOR for your job**

	VECTOR 1500 GMD	VECTOR 1500	VECTOR IV	VECTOR 21
Distance measurement	5m to >2km		5m to >4km	5m to 10km
Distance accuracy (1σ)	±1m (50m to 500m)	± 2m	±2m (50m to 2km)	±5m
	±2m (<50m / >500m)		±3m (<50m / >2km)	
Distance, resolution	0.5m	1m	1m	1m
Height difference, resolution	0.1m	1m	1m	1m
Laser diode	860nm		1550nm	1550nm
Eye safety Class 1 according to	IEC 60825-1 Ed 1.2 (2001-08) ANSI Z 136.1 (2000)		IEC 60825-1 Ed 1.2 ANSI Z 136.1 (2000)	IEC 60825-1 Ed 1.2 ANSI Z 136.1 (2000)
Laser visible through image intensifier	yes		no	no
Azimuth accuracy (1σ)	±0.6°, ±10 mils		±0.6°, ±10mils	±0.6°, ±10mils
Elevation accuracy (1σ)	±0.2°, ±3mils		±0.2°, ±3mils	±0.2°, ±3mils
Elevation range	-35° to +35°		-35° to +35°	-45° to +45°

Having produced over 10'000 Rangefinder Binoculars, Vectronix can now offer a range of products optimized for the requirements of specific user groups. Their key features are shown in the above table.

**VECTOR 1500 GMD**

For rapid field data collection. This Gap Measuring Device offers the decimeter resolution required by engineers.

**VECTOR 1500**

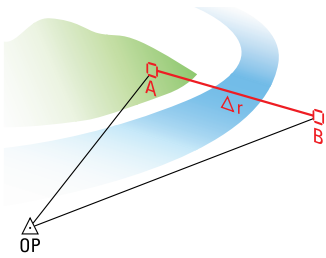
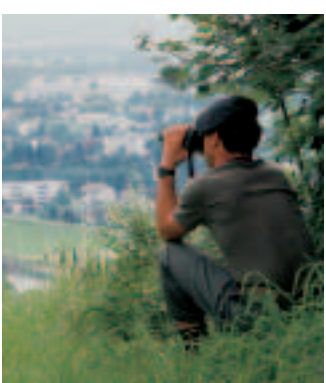
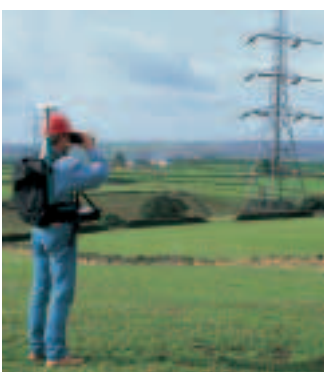
The basic model for tough, professional applications in civilian, paramilitary and military organizations.

**VECTOR IV**

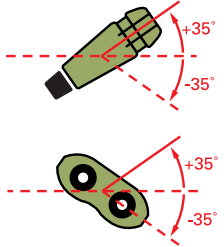
For medium range observation, reconnaissance and surveillance.

**VECTOR 21**

Under ideal conditions this latest model ranges up to 12 km. It matches the range performance of the "10 km rangefinder category", yet retains the ergonomics, superior optics and intelligent features of VECTOR 1500 and VECTOR IV.



**VECTOR also calculates and displays relative values between two remote objects A and B:**  
Δr slope distance

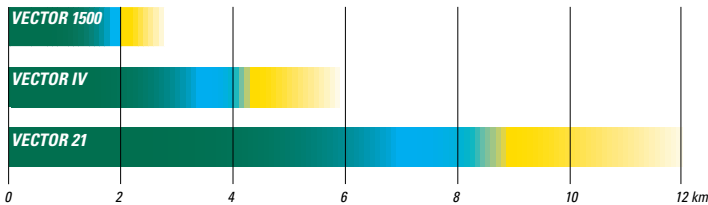


**A traditional magnetic compass must be held level so that its needle can swing and point to north. The digital compass inside VECTOR gives you correct bearings even when tilted by as much as 35 degrees.**

# How far can you measure?

VECTOR benefits from Vectronix' proprietary know-how to measure great distances at amazingly low laser output power. How far you can actually measure in practice depends on a number of factors as illustrated in the diagram.\*

*\*For specified range information please refer to the product technical data sheet.*



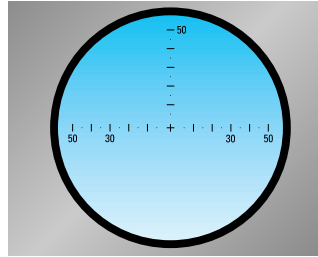
#### Distance measurement under ideal conditions

- + Clear atmosphere, overcast sky or twilight
- + Good reflectivity of target object (smooth, bright wall)
- + Target surface roughly perpendicular to laser beam
- + Steady hold or support (to ensure that the laser beam will not miss the target)

#### Distance measurement under average conditions

#### Distance measurement under poor conditions

- Snow, fog, rain, dust, high humidity, heat
- Small object (does not "capture" the whole laser beam)
- Difficult object (dark, uneven, gaping such as a leafless tree)



The standard aiming mark on all VECTOR models is a red LED square. In addition, VECTOR 21 has a glass reticle which is optional on VECTOR 1500 and VECTOR IV.



Operators find it easy to measure short distances by holding VECTOR in their hands. At ranges greater than 2km, they prefer to fix it on a mini-tripod or goniometer.



A commercial 6V lithium battery, (type 2CR5) is sufficient for more than 3000 measurements, hence operating costs are minimal.



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**vectronix**

Vectronix AG  
Max-Schmidheiny-Strasse 202  
CH-9435 Heerbrugg  
Switzerland  
Telephone +41 71 727 47 47  
Fax +41 71 727 46 79  
[www.vectronix.ch](http://www.vectronix.ch)

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