

# Stalker's New Pro II Surface Velocity Radar (SVR)

*Sets a new standard in water flow measurement.*

When Stalker Radar, The World Leader in Speed Measurement, began development of its new Pro II Surface Velocity Radar, it began with its newest radar platform, the Pro II. Based on the Stalker II law enforcement radar, the Pro II is backed by Stalker's nearly two decades' experience in microwave radar and its 22 accumulated patents in the industry. In addition, Stalker Radar's manufacturing process is registered to ISO9001:2000.

## **Pro II Ideally Suited for Water Flow Measurement**

The Pro II SVR features a rugged cast-metal exterior and the world's most sensitive transmitter/receiver as well as miniaturized and modernized electronics. Its direction sensing software and updated algorithms position the Pro II as a new-generation radar ideal for the task of accurate and reliable water flow measurement. Moreover, the Pro II's Ka Band performance measuring water flow is superior to the K Band used by some of its competitors' radars.

## **Automatic Vertical Tilt Compensation**

To make it better suited for the different elevated perspectives in comparing water flow at different times or locations, Stalker Radar engineers developed automatic vertical tilt compensation. Simply put, Stalker's SVR automatically adjusts its speed reading based on the angle the radar points at the target flow. With a vertical angle accuracy of  $\pm 2^\circ$  and vertical angle resolution of  $1^\circ$ , if an operator takes one reading pointing down at  $45^\circ$ , then takes another at  $50^\circ$ , both flow readings will be adjusted and directly comparable.

## **Wide Speed Range & Settings**

The Stalker Pro II SVR has a speed range of 0.2 m/s to 18.0 m/s – from below 1 mph to over 40 mph – with an accuracy of  $\pm 0.1$  m/s. And it measures in meters/second, feet/second, centimeters/second, miles per hour, and kilometers per hour.

## **Software Upgradeable**

Utilizing a state-of-the-art Digital Signal Processor (DSP), Stalker Pro II SVR provides a level of performance, convenience, and accuracy previously unavailable. The DSP performs the critical filtering and timing functions required for speed measurement in its software, as opposed to hardware. This provides less unit-to-unit variation, more reliable performance, and easier maintenance. One unique feature is that it can be upgraded in the future by simply installing new software, preventing obsolescence!

## **And a Lot More**

Tilt compensation, settings' range, and DSP, combined with direction sensitivity, horizontal angle adjustment, and 4 levels of sensitivity all make the Stalker Pro II SVR the new standard in water flow measurement.



**Pro II SVR**  
*Surface Velocity Radar*

**STALKER**

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# STALKER<sup>®</sup> PRO II Surface Velocity Radar SPECIFICATIONS

## General Specifications

TYPE:	Surface Velocity Radar Sensor
OPERATING FREQUENCY:	34.7 GHz (Ka-band)
FREQ STABILITY:	± 100 MHz
POWER REQUIREMENTS:	<b>Voltage:</b> 9 - 16 VDC <b>Current</b> (at 12 VDC nominal) Transmitter on: 470 mA Transmitter off: 100 mA
ENVIRONMENTAL:	<b>Operating:</b> -30°C to +70°C, 90% relative humidity <b>Non-operating:</b> -40°C to +85°C
MECHANICAL:	<b>Weight</b> – 0.52 kg (1.15 lb) <b>Diameter</b> – 6.7 cm (2.6 in.) <b>Length</b> – 11.8 cm (4.7 in.) <b>Case Material</b> – Aluminum die cast
ACCURACY:	± 0.1 m/s
AUTO SELF-TEST:	Performed every 10 minutes while transmitting
SPEED RANGE:	0.2 m/s to 18.0 m/s
VERTICAL ANGLE ACCURACY:	±2°
VERTICAL ANGLE RESOLUTION:	1°

## Microwave Specifications

ANTENNA:	Conical horn
POLARIZATION:	Circular
3DB BEAMWIDTH:	12° ± 1°
RF SOURCE:	Gunn-Effect diode
RECEIVER TYPE:	Two direct-conversion homodyne receivers using four low-noise Schottky barrier mixer diodes
POWER OUTPUT:	20 mW minimum 25 mW nominal 50 mW maximum
POWER DENSITY:	2 mW/cm <sup>2</sup> maximum at 5 cm from lens

## Factory Configuration (defaults in bold)

UNITS:	<b>m/s</b> (meters/sec), cm/s (centimeters/sec), MPH (miles/hour), or KPH (kilometers/hour)
LEADING ZERO CHARACTER:	<b>Space</b> (ASCII 20h) or "0" (ASCII 30h) for ASCII formats (A, B, S)
SERIAL PORT BAUD RATE:	The serial port operates at 8 data bits, no parity and 1 stop bit (8N1) with the following selectable baud rates: 300, 600, 1200, 2400, 4800, <b>9600</b> , 19200, 38400
SERIAL PORT DATA FORMAT:	None – no data output 'A' – Averaged velocity output (continuous) 'AP' – Current velocity (continuous)
COMMUNICATIONS PROTOCOL:	<b>RS-232</b>
AUTO-TEST MODE:	Automatic test runs <b>always</b> or only when the radar transmitter is on.

## Field Configuration (defaults in bold)

TRANSMIT/ HOLD:	Turns the microwave transmitter <b>On</b> or Off
RADAR ZONE:	Away, <b>Closing</b> or Auto directional sensitivity may be selected
HORIZONTAL ANGLE:	Angles from <b>0°</b> to 60° may be selected in 5° increments
SENSITIVITY:	4 levels of field sensitivity may be selected ( <b>1/2/3/4 max</b> )
TEST MODE:	Initiates a speed sensor self-test followed by a 60 second tuning fork mode, during which time directionality screening is disabled and the speed sensor will respond to any target direction (away or closing) or to non-directional targets (like tuning forks)