STALKER

The World Leader in Speed Measurement

STALKER Pro II SVR

Surface Velocity Radar

Dear Valued Radar Customer:

Thank you for choosing the STALKER SVR Radar System. We sincerely appreciate you purchasing the STALKER and giving us the opportunity of serving you and your organization. You will find the STALKER to be an invaluable tool in water management. Most importantly, we care about you, our customer, and want you to be completely satisfied. Our success as a company depends upon your satisfaction and experience with the STALKER Radar.

Applied Concepts, Inc. believes that the STALKER offers more than superior performance and versatility. STALKER is backed 100% with reliable, professional, and experienced sales and service support, ready to assist you at your request. We also offer the longest warranty in the industry, with nationwide factory authorized repair centers to assure you of fast and efficient service.

We wish you the greatest success in your water management program. Please do not hesitate to let us know if there is anything we may do to add to your product satisfaction. Thanks again!

Sincerely,
Applied Concepts, Inc.

Any changes or modifications not expressly approved by Stalker Radar / Applied Concepts, Inc., could void the user's authority to operate the Stalker Pro II SVR.

Not intended for Law Enforcement use.

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Introduction

Congratulations! You have purchased the most accurate SVR gun system available. The Stalker Pro II SVR radar was designed specifically to measure the speed of water movement in rivers and streams.

The ***STALKER Pro II SVR*** is a Ka-band **S**urface **V**elocity **R**adar designed to allow maximum flexibility in measuring water flow. The Angle Sensing ability of the ***STALKER Pro II SVR*** allows the radar to automatically compensate for tilt and thus for cosine error.

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 of the unique features of the ***STALKER Pro II SVR*** is that it can be upgraded in the future by simply installing new software, preventing obsolescence!

STALKER Pro II SVR operates in the Ka- 34.7 GHz band**.**

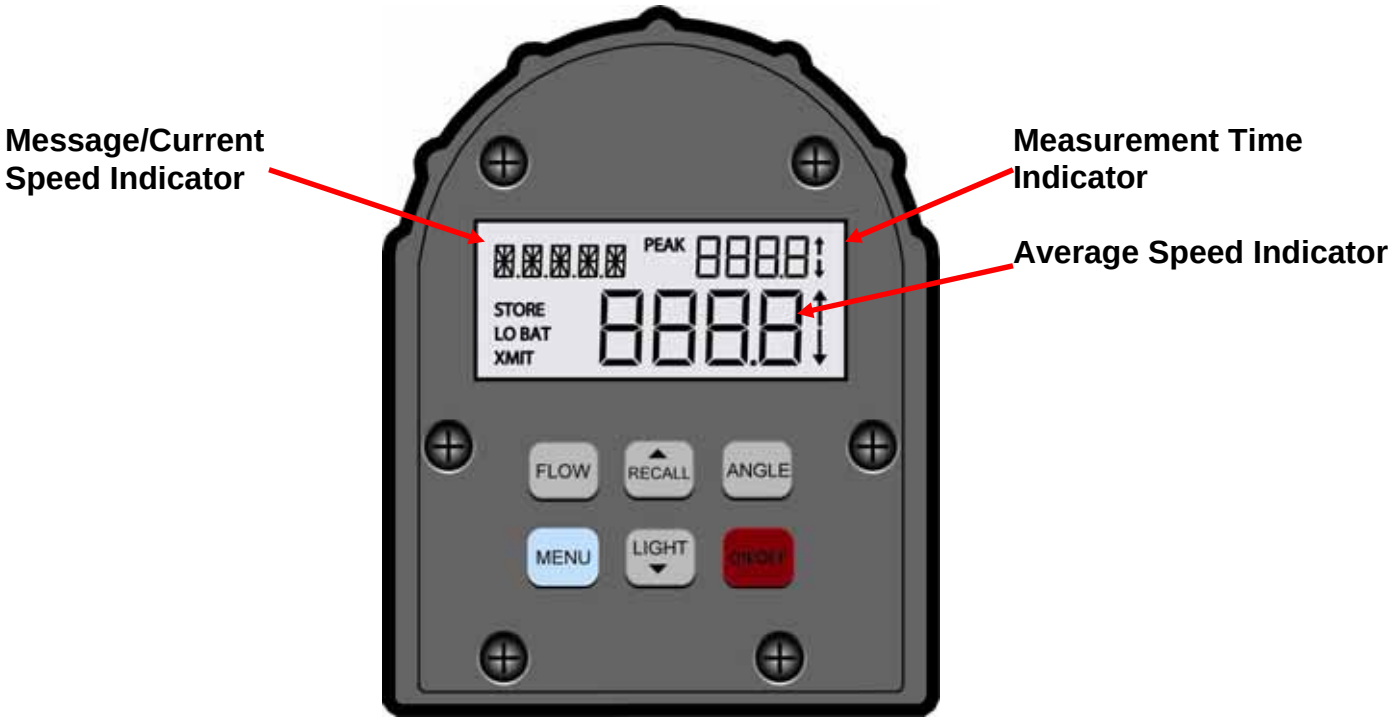
What's Included

The components included with your radar are listed below. If you are missing any parts or if you would like to upgrade your package, contact **Stalker Radar** at **1-877-782-5537**.

Pro II SVR Package

Ka-Band Radar Gun
Removable Battery Handle (rechargeable)
Battery Handle Charger
Radar Manual
Hard Case

Controls and Indicators



LCD Display Icons

STORE	Is on when recalling speeds from the RECALL queue.
LO BAT	Indicates the batteries are low and need recharging or replacement. LO BAT blinks when batteries are approaching exhaustion.
XMIT	Indicates the gun is transmitting and is able to take readings.
PEAK	The **PEAK** icon indicates that the current speed measurement is valid and will affect the reported average

LCD Display Windows

MESSAGE (upper left)	Messages display shows: Measurement units in idle mode, peak speed in measurement mode or menu selections in menu mode.
Average Speed (lower right)	Indicates the average speed in measurement mode or Menu options in menu mode.
Elapsed Time (upper right)	Indicates the elapsed time since a measurement was started (trigger pull). Displayed in 10^{th} of a second.

8-Pin Interface Connector

The 8-Pin Interface Connector has the following pinout:

1	**Ground**	Ground
2	**Voltage Input**	External voltage input, 6 VDC to 16 VDC
3	**7V Out**	Output (limited to 50 mA)
4	**RS-485-A**	Transmit data stream
5	**RS-485-B**	Transmit data stream
6	**Not used**	do not connect
7	**RS-232 RX**	Receive (not used at this time)
8	**RS-232 TX**	Transmit data stream

Detailed Instructions

Providing Power to the Pro II SVR

Batteries - The Pro II SVR handle is a removable, rechargeable lithium ion battery. Attach the battery handle to the radar body by inserting the front tip of the handle into its mating lip on the radar body and rotating the back of the handle up until seated. Next, rotate the thumb latch to engage the ramping slot in the back of the handle. When fully charged, the handle will power the gun for more than 3 hours of continuous transmit time. The handle can be removed and recharged using the included charger. It can also be charged while attached to the gun when using the optional 12VDC Cigar Cable for external power.

External - To power the Pro II SVR from an external 12VDC (nominal) source, use the optional 12VDC Cigar Cable attached to the 8-pin interface connector on the side of the gun. The 12VDC cigar cable also charges the battery handle while it is supplying power to the radar.

Turning the Transmitter ON and OFF

The radar transmitter must be turned ON to make a measurement.

Trigger Transmit – The transmitter toggles between 'on' and 'off' states by squeezing the trigger. If the unit is 'off', squeezing the trigger turns it 'on'. If it is 'on', squeezing it again will turn it off.

NOTE:

* The XMIT icon displays when the gun **IS** transmitting.
* The XMIT icon does not display when the gun **IS NOT** transmitting.

Menu Mode

This mode is activated by pressing the **MENU** key. Press once to access the **Operator Menu**. Access the **Option Menu** by pressing and holding the **MENU** key from the **Operator Menu**. In either menu mode, the **MENU** button advances to the next section and the **UP/DOWN** buttons cycle through the available options. See "Setting up the Radar Unit" for more detailed instructions on how to use the menu system.

Recall Mode

This mode is active by default. It is, in effect, the idle mode. Pressing the **RECALL** button cycles through the 10 previous measurements. **STORE** indicates this mode is in effect.

Recall Mode Button Functions

Trigger	
FLOW	Select water flow direction sensitivity mode (Outbound, Inbound, Auto)
▲/RECALL	Cycle through previous readings stored in volatile memory
ANGLE	Cycle through horizontal cosine angles
MENU	Enter Menu Mode
LIGHT/▼	Toggle the LCD backlight and the keyboard backlight on and off
ON / OFF	Toggle the main power On and Off

Measurement Mode

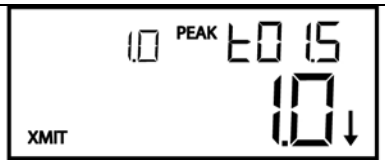
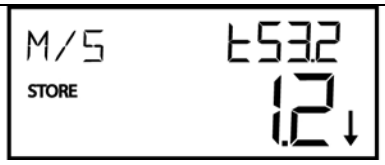
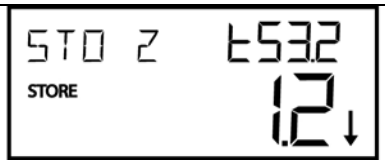
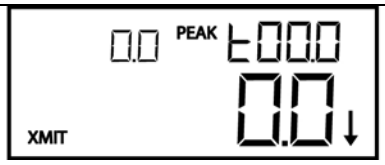
This mode is activated by **Trigger**. It is the active measurement mode. Pressing **Trigger** again completes the measurement and exits Measurement Mode, storing the result in the Recall list.

Measurement Mode Button Functions

Trigger	Terminate measurement and return to Recall Mode
FLOW	First press: display current setting, subsequent presses: cycle through flow direction mode settings, returns to basic Measurement Mode on timeout or other key press—measurement is restarted by changing the direction setting
▲/RECALL	-none-
ANGLE	First press: display current horizontal angle setting, subsequent presses: cycle through horizontal angles from 0° to 60° in 5° increments, long key press decrements angle, returns to basic Measurement Mode on timeout or other key press—measurement continues, but if angle is changed the measurement is restarted
MENU	Abort measurement and enter Menu Mode
LIGHT/▼	Toggle the LCD backlight and the keyboard backlight on and off
ON / OFF	Toggle the main power On and Off

Operating the Radar

The Pro II SVR is powered on by pressing the red ON/OFF button on the rear panel of the radar.

Operator Actions	SVR Display Unit
When first powered on, the ***STALKER Pro II SVR*** displays its RECALL screen and is in "idle (Recall) mode."	
Pressing and releasing the trigger initiates Measurement Mode or "active mode."	
Pressing and releasing the trigger a second time stores current measurement.	
Pressing the RECALL button allows the operator to scroll through the stored measurements (up to 10).	
Stored measurement #3 is shown recalled	
Pressing and releasing the trigger re-initiates Measurement Mode.	

Setting Up the Radar Unit

Setting up the radar unit is fast and easy.

Briefly press the MENU key on the keypad to enter the OPERATOR MENU.
Briefly press the MENU key again to step through the features.
Press the ▲ or ▼key to change the settings.
Press the trigger at any time to exit the OPERATOR MENU and save all settings.

The factory default for each setting is indicated by the **bold underlined** setting.

The Operator Menu

Menu Step	Description	FEATURE Step down by pressing MENU key	SETTINGS Change using the ▲ or ▼key
MENU Step ORDER	Description	MESSAGE WINDOW	Main Window (bold indicates factory default)
1	Sensitivity	SENS	1_to_**4**
2	Horizontal Angle	HZANG	**0**_to_60_in_steps_of_5
3	Vertical Angle *	VTANG	**0**_to_60_in_steps_of_5
4	View Auto Tilt Angle	ANGLE	0-to-360
5	Backlight On/Off	LIGHT	On-**OFF**

* Vertical Angle only appears if VTILT is set to SEL in the Option Menu.

Sensitivity Setting

The Sensitivity setting affects the range (measuring distance) of the radar. The settings are:

4	Setting the range to 4 increases the gun's sensitivity and lengthens the measuring distance. It "looks" as far away as possible for targets and gives the gun the highest level of performance. This is the default setting.
2, 3	Setting the range to 2 or 3 sets the gun to a medium range in its measurement distance.
1	Setting the range to 1 decreases the gun's sensitivity and shortens its measurement distance. The 1 range setting is handy for measuring objects close to the gun and when you want to restrict the gun from "seeing" objects farther out in the background.

Horizontal Angle

Use this menu selection to specify the horizontal angle of intercept to the direction of flow of the water being measured. The angle can be set from to 0 to 60 degrees in 5 degree increments. Refer to the section at the end of this users manual for an explanation of the effect of measuring speed at an angle relative to the direction of travel and how this adjustment can compensate for that angle.

Vertical Angle

Use this menu selection to specify the vertical angle of intercept to the direction of flow of the target being measured. This is only required when the users has set the Tilt Sensor to **SEL** in the options menu. If the Tilt Sensor was set to Auto, then the vertical angle is taken care of by the internal Tilt Sensor and this menu selection is not available.

View Auto Tilt

This menu selection will show the current tilt sensor angle reading. It can be used for test verification or manual data recording.

Backlight On/Off

This menu selection toggles the back light between on and off.

The Option Menu

Selecting Options

Selecting the options is more involved (but still easy), because there are 8 features to select. The Pro II SVR ships with the default (BOLD) settings indicated in the chart.

Enter the OPERATOR MENU as described on the previously.
Press and hold the MENU key (while in the OPERATOR MENU) to enter the OPTION MENU. All display segments will briefly flash to indicate the change of menu.

Briefly press the MENU key again to step through the FEATURES. The current feature selected is shown in the top left corner of the display.
The ▲ and ▼ keys are used to change the setting of each option. The current setting selected is shown in the center of the display.
Press the trigger at any time to exit the OPTION MENU, save all settings and return to normal operation.

Press and hold the MENU key to return to the OPERATOR MENU. All display segments will flash to indicate the change of menu.

The factory default for each setting is indicated by the **bold underlined** setting.

MENU Step	Description	*FEATURE* Step down by pressing MENU key	*SETTINGS* Change using the ▼ or ▲key
MENU Step ORDER	***Description***	***MESSAGE WINDOW***	***Main Window*** (**bold** indicates factory default)
1	Tilt Sensor	VTILT	**Auto,** SEL
2	Units	MPH, KM/ H, **M/ S** CM/ S, FT/S	Unit
3	Serial Port Speed	BAUD	I2, 24, 48, **96**, I92, 384
4	Serial Port Format	FOR	**-**, A, AP
5*	Leading 0'S	LEAD0	nonE, SPAC, 2Ero
6*	Termination	TERM	Cr, u CL, uCr, CrLF
7	Tilt Calibration	T CAL	Strt
8	Reset Confirmation **	SURE	yES, **no**

* The **Leading Zero** and **Message Termination** menu items only show if Serial Port Format is A or AP.

** The **Reset Confirmation** menu item only shows if **Reset** is set to yES. In this case, only the **Reset** and **Reset Confirmation** menu items are available

Options Defined

Tilt Sensor

Pressing and holding the **MENU** key once displays the first option in the Option Menu. The ▲ and ▼ keys change the setting to either Auto or SEL. Press the trigger to exit the Option Menu.

Auto: Uses the internal tilt sensor for vertical angle adjustments
Sel: Uses angle provided by the user in the Vertical Angle menu for vertical angle adjustments.

Units

Pressing the **MENU** key again will access the Measurement Units option. The ▲ and ▼ keys then cycle through the four (4) selections: KM/H, MPH CM/S and M/S. Press the trigger to exit the Option Menu.

KM/H: Kilometers per Hour
MPH: Miles per Hour
CM/S: Centimeters per Second
M/S: Meters per Second
FT/S: Feet per Second

Serial Port Speed

The Serial Port Speed, or BAUD rate of ***STALKER Pro II SVR*** is adjusted by pressing the **MENU** key again. The ▲ and ▼ keys then cycle through the six (6) levels: I2, 24, 48, **96**, I92, 384 (Fig. 3 shows 96, the factory default setting). In each case, the right-hand display refers to the serial port speed setting. Press the trigger to exit the Options Menu. Multiply the number shown by 100 to get the true baud rate. As an example I2 is the representation for 1200 baud.

Calibrate the Tilt Sensor

Access the tilt sensor calibration of ***STALKER Pro II SVR*** by pressing the **MENU** key again. The ▲ key advances the selections of Strt⇨PArA⇨PErP⇨donE. The ▼ key aborts the sequence and starts over. Press the trigger to exit the Operator Options Menu.

CAUTION: The SVR Radar gun is shipped from the factory already calibrated, aligning the gun when pointing horizontal to the earth as 0 degrees. Recalibrating the gun without proper attention to true horizontal and vertical position will cause inaccurate readings.

Calibration Process

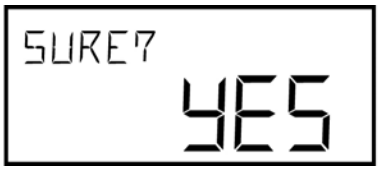
1. Enter the calibration menu and using the ▲ key advance from the Strt to the PArA display. Hold the Radar gun so that the barrel is parallel to the horizon.
2. Press the ▲ key again, this will lock in the angle and advance the display to PErP. If the display shows ErOr it means the gun was outside the range the gun defines as horizontal and the measurement aborted.
3. When the display shows PErP, point the gun vertically down towards the ground. Press the ▲ key again. The display will show DonE if the measurement was completed successfully. The display will show ErOr if either the vertical measurement or the difference between the horizontal and the vertical measurements are outside allowed ranges.

Reset (returns gun to factory default settings)

The reset of ***STALKER Pro II SVR*** is accessed by pressing the **MENU** key again. The ▲ and ▼ keys toggle the yES, and no. Press the trigger to exit the Operator Options Menu.

Reset Confirmation

The reset confirmation of ***STALKER Pro II SVR*** is accessed by pressing the **MENU** key again. The ▲ and ▼ keys toggle the yES, and no. Press the trigger to exit the Operator Options Menu.



Battery Information

The Pro II SVR uses a rechargeable Lithium Ion battery handle. Attach the battery handle to the radar body by inserting the front tip of the handle into its mating lip on the radar body and rotating the back of the handle up until seated. Next, rotate the thumb latch to engage the ramping slot in the back of the handle.

Operational Time using the Battery Handle

The Pro II SVR draws the most current when it is transmitting, so the run time depends upon how often the gun is transmitting. The Pro II SVR also has a sleep mode to conserve battery life when it is not being operated. The sleep mode is automatically initiated after about 10 seconds of inactivity when the transmitter is off. Squeezing the trigger or pressing any key immediately "wakes" the gun and brings it back into operation.

Operational Status	Run Time
Continuous Transmitting	3.0 Hours
Typical Trigger Operation	6-7 Hours

Low Battery Warning

A low voltage condition from either the battery or an external power source will cause the **LO BAT** icon to illuminate and will inhibit speed readings.

Charging the Battery Handle

The Battery Handle Charger is used to charge the battery handle for the Pro II SVR. This charger may be powered either from 120 VAC using the wall adapter supplied or from a 12 VDC vehicle electrical system by using the optional cigarette plug cable. To use the charger, plug either the wall adaptor or the optional cigarette plug cable into the 12 V AC/DC jack on the charger, and plug the other end into a wall outlet or cigarette plug receptacle. Since the charger monitors the battery temperature to prevent damage to the battery, the battery must not be hot or cold while charging. Install a battery on the charger by inserting it into the mating battery connector in a manner similar to attaching it to the radar body. The charging cycle will be automatically started when the battery is connected, and the green indicator should glow indicating that the battery is being quick charged. Quick charging should take 2-3 hours to complete. After quick charging is complete, the green indicator should extinguish. After the green indicator extinguishes, the battery is still being "topped off". The battery should remain on the charger the entire 3 hours to ensure the battery reaches a

full state of charge. For longest battery life and best service, batteries should only be charged in an environment where the temperature is between 0°C and 40°C (32°F and 104°F).

NOTE: The charger senses battery temperature to prevent damage to the battery. As a result, it may refuse to charge a battery that is hot or cold. If this occurs, allowing the battery to stabilize in a room temperature environment for a few minutes should correct the problem.

NOTE: Battery performance and longevity will be greatly reduced if it is exposed to temperatures over 125°F.

NOTE: Batteries do NOT need to be fully discharged prior to charging. The battery will last longer if recharged frequently.

Auto-Shutdown Feature

The Pro II SVR has a 30 minute time-out auto-shutdown feature. After 30 minutes in sleep mode, the Pro II SVR automatically shuts off.

How To Save Battery Life

Since the transmitter has the highest current draw, turn the transmitter off whenever you are not taking readings.

Angle Errors

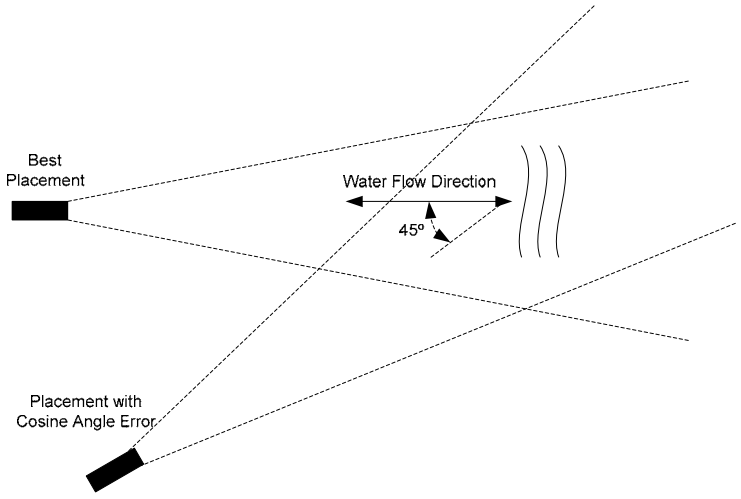
The most common mistake made with all radar guns is trying to measure targets at an angle relative to the direction of travel of the target.

All radar guns work on the Doppler principle and need to measure objects moving directly at or away from the gun. Measuring at an angle with a radar gun results in angle error, and the gun displays a speed that is LOWER than the actual speed.

Cosine Angle Error Chart

	0 Degrees	5 Degrees	10 Degrees	15 Degrees	30 Degrees	45 Degrees	90 Degrees
True Speed	0% Error	0.4% Error	1.5% Error	3.4% Error	13.4% Error	29.3% Error	100% Error
25.0 mph	25.0 mph	24.9 mph	24.6 mph	24.1 mph	21.7 mph	17.7 mph	0 mph
50.0 mph	50.0 mph	49.8 mph	49.2 mph	48.3 mph	43.3 mph	35.4 mph	0 mph
75.0 mph	75.0 mph	74.7 mph	73.9 mph	72.4 mph	65.0 mph	53.0 mph	0 mph
100.0 mph	100.0 mph	99.6 mph	98.5 mph	96.6 mph	86.6 mph	70.7 mph	0 mph
125.0 mph	125.0 mph	124.5 mph	123.1 mph	120.7 mph	108.3 mph	88.4 mph	0 mph
150.0 mph	150.0 mph	149.4 mph	147.7 mph	144.9 mph	129.9 mph	106.1 mph	0 mph

Radar Gun Placement



For accurate readings, the radar gun must be placed in the line of travel of the water. At slight angles, the error is very small; however, at larger angles, the error becomes substantial.

NOTE: The Pro II SVR can automatically adjust for angle error by changing the Cosine Angle settings in the Operator MENU.

Calculating Angle Errors

If you know the angle at which you are clocking, you can calculate the actual velocity by taking the radar reading and dividing by the cosine of the angle.

For example: if you are clocking at 30 degrees, and the gun displays 129.9 mph, take 129.9 and divide by the cosine of 30 degrees (0.866) to get a true speed of 150.0 mph.

Interference Problems

Interference Frequencies

The STALKER Pro II SVR radar transmits at a frequency of 34.7 GHz (34,700,000,000 Hz), using a Ka-Band Transmitter. The receiver is designed to read the Doppler frequency (the change in frequency) between 500 Hz and 15,500 Hz. There are very few devices other than another radar gun that could cause interference in a radar gun's transmission frequency range. However, there are a number of devices that could interfere with a radar gun in the receiver's frequency range.

What Does Interference Do?

Interference can cause a radar gun to read random readings, or make it harder for the radar gun to "see" the intended target.

A variety of sources, both natural and man-made, can cause misleading indications or poor performance. The operator should note the sources described below, and take steps to avoid the problem, or ignore the misleading indications.

Sources of Interference

Terrain

Radar signals will not pass through most solid objects, including tree foliage. Make certain the path between the radar and target is unobstructed.

Rain

Rain absorbs and scatters the radar signal. This reduces the range and increases the possibility of obtaining readings from the speed of the raindrops.

Electrical Noise

Electrical noise sources include neon signs, radio transmitters, power lines, and transformers. These influences may cause reduced range or intermittent readings.

FCC Requirements

The Federal Communications Commission requires that all transmitting equipment carry a Grant of Type Acceptance. The STALKER Pro II SVR is Type Accepted by the FCC under Type Acceptance number IBQACMI002. The FCC also requires that an operating license be obtained by the user of the equipment.

Why Testing is important

In order to ensure continued compliance with FCC rules, meet legal requirements for admissibility of radar speed measurements, and verify full operating performance, the following test procedures are recommended. If the unit fails any of the tests, it should be removed from service until the cause of the problem is corrected.

Periodic Calibration

We recommend that the following performance characteristics should be verified on a regular basis:
Transmitter frequency is within specification of licensed operating frequency.
Unit indicates correct speed (±0.1 m/s) when reading a target of known speed.

Pro II SVR Accessories

The STALKER Pro II SVR radar gun has a host of optional accessories. For current pricing and availability, contact sales at **1-888-STALKER.**

Accessories

- 200-0804-00, Tripod mount kit
- 155-2272-00, Stopwatch/Radar Control Cable – a 4 foot cable with momentary switch that connects to the 8 pin interface connector. Can remotely control radar trigger.
- 155-2232-00, 12VDC CIG Cable – Connects to the 8 pin interface connector and plugs into a cigarette lighter receptacle.
- 200-0760-00, Battery Charger kit for charging battery through side data port.
- RS-232 Serial Cable that connects to the 8 pin interface connector for RS-232 data output.
- 200-0661-01, Spare Battery Handle

Service Information

A Check List Before Servicing the Pro II SVR Radar

Check the Settings - If you are having a problem with your Pro II SVR, first make sure that the settings are correct for your application. Read the Operator and Option Setup MENUS sections. Call Customer Service at 1-877-STALKER if you need help with this.

Check the Battery - If the Pro II SVR does not turn on, the problem is usually with the battery handle. Try charging the battery handle. If it still does not turn on, you could use a volt meter to see if the batteries are producing at least 7.2 volts. You may need to order new batteries.

Call Customer Service - If the problem is not rectified with these steps, call Customer Service at 1- 877-STALKER for help. A service representative will determine if the gun needs to be sent to the factory.

Factory Service Center Address

Applied Concepts, Inc.
Attn. Repair Department
2609 Technology Drive
Plano, TX 75074
1-877-STALKER Toll Free
Phone: (972) 801-4807
Fax: (972) 398-3781

Warranty Information

The Pro II SVR radar is covered for Two (2) Full Year, Parts and Labor, against defects in workmanship, parts, or materials, and is guaranteed to operate within specifications for that period.

STALKER Radar will repair or replace, at their option, any component or system found to be defective. The customer is responsible for shipping the defective product to the factory (freight prepaid), and STALKER Radar will pay for the return shipping via UPS ground service back to the customer. Any expedited air shipping charges are to be paid by the customer.

This full warranty does not cover damage due to dropping, water, salt, improper voltage, fire, charging alkaline batteries in the unit, attempted repairs or modifications by an unauthorized service agent, or any other unusual treatment.

STALKER Pro II SVR

Specifications

PERFORMANCE SPECIFICATIONS

Speed Range	.2 – 18.0 meters per second
Accuracy	± 0.1 meters per second In onES resolution, round to the nearest integer; In tnth resolution, round to nearest tenth.
Vertical Angle accuracy	±2º
Vertical angle resolution	1º

MICROWAVE SPECIFICATIONS

Operating Frequency	34.7 GHz (Ka-Band) ± 50 MHz
Polarization	Circular Polarization
3 db Beam width	12 Degrees Nominal (± 1°)
Microwave Source	Gunn-Effect Diode
Receive Type	Schottky Barrier Mixer Diode
Power Output	20 Milliwatts Minimum 25 Milliwatts Nominal 50 Milliwatts Maximum

The STALKER Pro II SVR Complies with Part 90 of the FCC rules.
FCC ID #IBQACMI002.

GENERAL SPECIFICATIONS

Product Type	Stationary Doppler Radar
Computer Processor	Digital Signal Processor
Display Type	Liquid Crystal
Operating Temperatures	-30°C to +70°C (-22°F to +158°F)
Storage Temperatures	-40°C to +85°C (-40°F to +185°F)

ELECTRICAL SPECIFICATIONS

Battery Capacity	7.2 VDC, 2.4 Ah, Li-Ion
Current Requirements	Transmitting - 0.73 Amps
(At 7.2 Volts DC)	Standby - 0.32 Amps Sleep Mode - 0.085 Amps

PHYSICAL SPECIFICATIONS

Weight (with battery handle)	2.15 Pounds
Dimensions	7.35” H x 2.83” W x 7.9” L

Housing Material	Aluminum and Magnesium

Serial Communications Protocol

Physical Interface

An **RS-232 or RS-485 Serial Cable** is required for data communications to speed display boards, computers, and other electronic devices. The data connector is on the side of the unit.

Connector Signals:

1. Ground
2. Voltage Input
3. 7 Volts (out)
4. RS-485 A
5. RS-485 B
6. Aux Input
7. RS-232 RX
8. RS-232 TX

BAUD Rate	1200 to 38400 BAUD – default =9600 BAUD
Data Format	8 Data Bits
No Parity	
1 Stop Bit	

Serial Port Message Formats

Format A and AP are similar with the difference being that in format A **the reported speed is the average current speed; in** AP **the speed reported is the current speed.**

A & AP Format – Resolution = **ones**

Byte#	Content
1	Speed hundreds digit (ASCII)
2	Speed tens digit (ASCII)
3	Speed ones digit (ASCII)
4(+)	Carriage Return (0x0D) or alternate termination string determined by the message termination setting

A & AP Format – Resolution = **tenths**

Byte#	Content
1	Speed hundreds digit (ASCII)
2	Speed tens digit (ASCII)
3	Speed ones digit (ASCII)
4	Decimal Point (0x2E)
5	Speed tenths digit (ASCII)
6(+)	Carriage Return (0x0D) or alternate termination string determined by the message termination setting

The **Leading Zero** setting affects formats A:

When set to SPAC (default setting), ASCII spaces are used for leading zeros:

"500"	or	"500.0"
" 50"	or	" 50.0"
" 5"	or	" 5.0"

When set to 2Ero, ASCII zeros are used for leading zeros:

"500"	or	"500.0"
"050"	or	"050.0"
"005"	or	"005.0"

For Format A, when set to nonE, leading zero characters are not transmitted, and the message length is reduced by the number of skipped zeros.

"500"	or	"500.0"
"50"	or	"50.0"
"5"	or	"5.0"

The **Message Termination** setting affects both format A and AP:

When set to Cr (default setting), each message is terminated with only a carriage return: (0x0D).

When set to CrLF, each message is terminated with a carriage return and a line feed: (0x0D, 0x0A).

When set to u Cr, each message is terminated with the speed's units and a carriage return: "500MPH(0x0D)".

When set to u CL, each message is terminated with the speed's units, a carriage return and a line feed:"500MPH(0x0D0A)".

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The STALKER Pro II SVR Radar
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