STALKER® 2X SPECIFICATIONS

General Specifications

Type:	Dual Antenna Direction Sensing Moving/Stationary Doppler Radar
Operating Frequency:	33.4 GHz - 36.0 GHz (Ka-Band)
Stability:	±100 MHz (Ka-Band)

Power Requirements:
(With 2 Antennas)
	10.0 to 16.4 VDC. (currents are typical at 12.0 VDC):
	    XMIT on FRONT & REAR, no targets, stationary: 1.35A
	    XMIT on FRONT & REAR, no targets, moving: 1.40A
	    XMIT on FRONT & REAR, with 25 mph targets, stationary: 1.75A
	    XMIT on FRONT & REAR, 25 mph patrol with 15 mph targets: 1.53A
	    XMIT on FRONT with 25 mph patrol and 15 mph target and
	    XMIT on REAR with no target: 1.46A
	    HOLD on FRONT & HOLD on REAR, stationary: .78A
	    HOLD on FRONT & HOLD on REAR, moving: .82A
	    XMIT – 1 antenna, HOLD – 1 antenna, no target, stationary: 1.05A
	    XMIT – 1 antenna, HOLD – 1 antenna, no target, moving: 1.10A
	    XMIT – 1 antenna, HOLD – 1 antenna, 25 mph target, stationary: 1.66A

Environmental:	-30° C to +70° C, 90% Relative Humidity Operating -40° C to +85° C, non-operating
Display:	Five multi-color (red, green, amber) 3-digit Light Emitting Diode (LED) windows for target, fast/lock, and patrol, plus red LED mode indicators and LED target direction arrows
Mechanical:	**Display Unit:** Weight - 0.5 lb. Size - 1.65" Height, 1.05" Depth, and 5.50" Width **Counting Unit:** Weight - 1.6 lbs. Size - 1.65" Height, 3.35" Depth, and 5.50" Width **Antenna:** Weight - 1.4 lbs. Size - 2.60" Dia. X 4.75" Length **Remote:** Weight - 0.4 lb. Size - 1.00" Height, 6.20" Length, and 2.25" Width
Accuracy:	±1 mph stationary, ±2 mph moving ±1.6 km/h stationary, ±3.2 km/h moving
Automatic Self-Test:	Performed every 10 minutes while transmitting
Stationary Speed Range:	12 mph to 200 mph Standard or 2 mph to 200 mph (set-up menu selectable) **Stationary Fastest Speed -** Same speed range as stationary speed

Moving Speed Range:	**Patrol Speed** – Once acquired, will track to 150 mph. Acquistion speed is selectable with **PS 5/20** key.
	    5 in patrol window for patrol speed acquistion speeds of 5 to 95 mph
	    20 in patrol window for patrol speed acquistion speeds of 20 to 95 mph
	
	Opposite Lane Target Speed – 200 mph Max closing
	    For 5 mph patrol speed: 20 mph to 195 mph; For 70 mph patrol speed: 35 mph to 130 mph.
	Opposite Lane Fastest Speed – Same speed range as opposite lane speed
	
	Same lane target speed – Related to patrol speed: ±70% of patrol speed within 5 mph of patrol speed. For 50 mph patrol speed:
	    15 ® 45 mph and 55 ® 85 mph.
	    Same lane patrol speed must be greater than 15 mph

Microwave Specifications

Antenna:	Conical horn with corrective lens
Polarization:	Circular
3 db Beam Width:	12° ±1°
Microwave Source:	Gunn-Effect diode
Receiver Type:	Two Direct Conversion Homodyne receivers using four low-noise Schottky barrier mixer diodes
Power Output:	10 mW minimum, 25 mW nominal, and 50 mW maximum
Power Density:	2 mW/cm^2 maximum at 5 cm from lens

Display Messages

HLd:	The **HLd** message display in one of the middle windows indicates that the transmitter for that antenna is in hold mode or turned off.
V Lo:	A **V Lo** message indicates the input voltage is too low. Operation is inhibited while the **V Lo** message is displayed but normal operation will resume automatically when the input voltage is restored. All other speed windows will be blanked.
RFI:	The **RFI** message indicates the presence of an interfering signal. Operation is inhibited during an **RFI** indication. All other speed windows will be blanked.
PASS:	**PASS** is displayed at the end of a successful internal test cycle along with a "happy tone."
FAIL:	A **FAIL** message (along with fail tone) indicates that a circuit malfunction has been detected, in which case speed readings are inhibited and the unit should be removed from service and repaired. **FAIL** will remain in the message window until reset by being powered off.
HOT:	The **HOT** message is used to indicate that the counting unit is outside of its rated temperature range. After the counting unit cools down, it will automatically begin normal operation.

Remote Control Functions

MOV/STA:	The **MOV/STA** key toggles between moving and stationary modes. A speed or a **[ ]** in the patrol window indicates moving mode, while a blank patrol window indicates stationary mode. With a VSS cable installed, the radar will automatically switch between moving and stationary modes based on the presence (or absence) of VSS pulses and [ ] will not be seen in the patrol window.

	After selecting moving mode or stationary mode, the operator can use the four zone keys (described below) to select two target zones to monitor (one zone on the front antenna and one zone on the rear antenna). The **SAME** and **OPP** icons display the zone selection in both moving and stationary modes. Each antenna is totally independent of the other relative to target zone selection. The stationary modes (and associated icons) for the front antenna are: stationary closing (**OPP**), stationary away (**SAME**), and stationary bi-directional (**OPP/SAME**). The stationary modes for the rear antenna are: stationary closing (**SAME**), stationary away (**OPP**), and stationary bi-directional (**OPP/SAME**).
START/STOP:	When in Stopwatch Mode, the **START/STOP** key is used to start and stop the electronic timing of the target vehicle as it enters and exits the speed measurement zone.
OPP/FAST LK:	**FOR STATIONARY MODE** - The **OPP/FAST LK** key is a two (2) function key: 1. <u>Press and hold</u> the **OPP** key to turn on the corresponding transmitter (if it is in hold mode) and directly select the Opposite lane speed zone for the associated antenna. 2. While a fast target (either **SAME** or **OPP**) is displayed in the corresponding Fast Window, press the **FAST LK** key (actually either **FAST LK** key for that antenna) to lock the fast speed in the Fast Window. In stationary mode, both speed zones (**OPP/SAME** stationary mode) are selected for an antenna when both the **OPP** mode key and the **SAME** mode key are pressed within 5 seconds of each other for either (or both) antenna. **FOR MOVING MODE** - The **OPP/FAST LK** key is a two (2) function key: 1. <u>Press and hold</u> the **OPP** key to turn-on the corresponding transmitter (if it is in hold mode) and directly select the opposite lane speed zone for the associated antenna. If you <u>press and hold</u> the **OPP** key a second time, it will only beep (no action). 2. While a fast target is displayed in the corresponding Fast Window, press the **FAST LK** key (actually either **FAST LK** key for that antenna) to lock the fast speed in the Fast Window.
HOLD/LK REL:	The **HOLD/LK REL** key is a three (3) function key: 1. <u>Press and hold</u> the **HOLD** key to place the associated antenna (both zones for that antenna) in hold (standby) mode. **HLd** will be displayed in the lock window (for that antenna) and all icons and arrows, associated with that antenna will turn off (unless that antenna has a locked target). 2. <u>Press</u> the **LK REL** key normally to LOCK a strong target for the associated antenna. LOCK activation occurs with a key <u>press</u>. 3. <u>Press</u> the **LK REL** key normally to RELEASE any locked target (strong or fast) for the associated antenna. RELEASE activation occurs with a key <u>release</u>.
é and ê:	The **é** key and the **ê** key (located on the **HOLD/LK REL** keys) are used with the **MENU** key to select options from the SET-UP menu.
SAME/FAST LK:	**FOR STATIONARY MODE** - The **SAME/FAST LK** key is a two (2) function key: 1. <u>Press and hold</u> the **SAME** key to turn on the corresponding transmitter (if it is in hold mode) and directly select the Same lane speed zone for the associated antenna. 2. While a fast target (either **SAME** or **OPP**) is displayed in the corresponding Fast Window, press the **FAST LK** key (actually either **FAST LK** key for that antenna) to lock the fast speed in the Fast Window. In stationary mode, both speed zones (**OPP/SAME** stationary mode) are selected for an antenna when both the **OPP** mode key and the **SAME** mode key are pressed within 5 seconds of each other for either (or both) antenna. **FOR MOVING MODE** - The **SAME/FAST LK** key is a two (2) function key: 1. <u>Press and hold</u> the **SAME** key to turn on the corresponding transmitter (if it is in hold mode) and directly select the opposite lane speed zone for the associated antenna. If you <u>press and hold</u> the **SAME** key a second time, it will only beep (no action). 2. While a fast target is displayed in the corresponding Fast Window, press the **FAST LK** key (actually either **FAST LK** key for that antenna) to lock the fast speed in the Fast Window.
MENU:	The **MENU** key is used to enter the SET-UP menu system allowing the **é** and **ê** keys to select options from the SET-UP menu. Exit the menu system by pressing any zone key (**OPP** or **SAME**).
VOLUME/TEST:	The **VOLUME/TEST** key is a two (2) function key: 1. The **VOLUME** key is used with the **é** and **ê** keys to adjust the Doppler volume from 0-9 where 0 is off and 9 is max. The Beep volume and the Voice volume can be adjusted from 0-3. The first press of the **VOLUME** key will display **AuD**, the second press will display **BEE P**, and the third press will display **VOI CE**. The **é** and **ê** keys are used to increase or decrease the volume of each sound. For each attribute, **0** is off and **3** is maximum volume. Two different **Aud** levels can be set – one associated with the moving mode and the other associated with the stationary mode. The levels are set when the radar is in the appropriate mode. When VSS is enabled, the radar will automatically switch between moving **Aud** level and stationary **Aud** level when it switches between modes. The **bEE P** and **UOI CE** volume levels remain the same in both modes. 2. <u>Press and hold</u> the **TEST** key to perform a diagnostic check on the display/counting unit and antenna. The display/counting unit will complete a processor check, memory check, and crystal check, followed by the display of speeds of 10, 35, and 65, followed by counting unit temperature display and input voltage display. A comprehensive test is also performed on each antenna by the counting unit to ensure the integrity of the antenna cable and antenna electronics. **PAS S** or **FAI L** (with tone) is indicated on the display unit after the completion of each antenna test. After **PAS S** is displayed for each antenna, the radar goes into a 60-second "fork mode" time interval that is used for the tuning fork tests. This "fork mode" state is indicated by decimal points being displayed in both the Front and Rear Strong Target windows simultaneously.
PS BLANK:	The **PS BLANK** key is a dual function key: 1. While any target speeds are locked (front, rear, or both), the **PS BLANK** key can be used to toggle between: 1) blanked patrol speed window, 2) front lock patrol speed, or 3) rear lock patrol speed. When toggling between a front lock condition and a rear lock condition, the patrol speed decimal point and the associated lock decimal point will flash three times together. 2. In addition, if the patrol window indicates an incorrect patrol speed, the **PS BLANK** key can be used to blank the patrol speed window and acquire a new patrol speed. When a VSS cable is installed, this function is not needed and is disabled.
LIGHT:	This is a dual function key. With a single depression, the **LIGHT** key activates the remote control back light for six (6) seconds. Additional depressions of the **LIGHT** key toggle the display intensity through six levels of brightness, ranging from **bri 1** (low) to **bri 6** (high) and the **bri A** (automatic) position. The auto brightness function is selected with the **bri A** position and uses the front panel light sensor to select either full brightness for day operation or reduced brightness for night operation.