# STALKER® PATROL SPECIFICATIONS

## General Specifications

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| **Type:** | Dual Antenna Moving/Stationary Doppler Radar |
| **Operating Frequency:** | 24.150 GHz (K-Band) |
| **Stability:** | ±100 Mhz (K-band) |
| **Power Requirements:** (With 2 Antenna) | 9.0 to 16.0 VDC. (currents are typical at 12VDC)<br>XMIT ON: with maximum display brightness: 0.39A<br>XMIT ON: with minimum display brightness: 0.29A<br>XMIT OFF: with maximum display brightness 0.24A<br>XMIT OFF: with minimum display brightness 0.13A |
| **Environmental:** | -30 to +70 C, 90% Relative Humidity Operating<br>-40 to +85 C, non-operating |
| **Display:** | Sunlight viewable WHITE on BLACK Liquid Crystal Display (LCD) panel with seven icons and triple 3-digit windows for target, lock/fast and patrol windows. LCD has HEA film and 9:00 polarization. |
| **Mechanical:** | **Counting unit** Wt. – 1.1 lbs (0.498 kg)<br>1.68" Height, 3.59" Depth, and 5.52" Width<br>(4.26 cm Height, 10.0 cm Depth, and 14.0 cm Width)<br>**Antenna** Wt. -1.2 lbs. (0.544 kg)<br>2.89" Dia. X 5.26" (includes connector)<br>(7.3 cn Dia. X 13.3 cm)<br>**Remote** Weight - 0.4 lb. (0.181 kg)<br>1.25" Height, 6.50" Length, and 2.25" Width<br>((2.0 cm Height, 16.5 cm length and 6.8 cm Width) |
| **Accuracy:** | ±1 mph (or kph) stationary<br>±1mph (or kph) moving, when using Vehicle Speed Sensor<br>±2mph (or kph) moving, when Vehicle Speed Sensor is not used |
| **Automatic Self-Test:** | Performed every 15 minutes while transmitting |
| **Stationary Speed Range:** | 10 mph to 210 mph Standard (16 to 337 Km/h)<br>2 mph to 210 mph (3 to 337 Km/h(set-up menu selectable) |
| **Moving Speed Range:** | **Patrol speed** - Selectable with **P.S. 5/20** key:<br>**5** in patrol window for acquisition of 5 to 90 mph (8 to 144 Km/h)<br>**10** in patrol window for acquisition of 10 to 90 mph(16 to 144 Km/h)<br>**20** in patrol window for acquisition of 20 to 90 mph (32 to 144 Km/h)<br>Patrol speed, once acquired, will track to 150 mph (241 Km/h)<br>Same lane patrol speed must be greater than 19 mph (30 Km/h)<br>**Opposite lane target speed** - 210 mph (337 Km/h)Max closing<br>For 5 mph (8 Km/h)patrol speed: 20 mph to 205 mph (32 to 329 Km/h)<br>For 70 mph (112 Km/h)patrol speed: 35 mph to 140 mph(56 to 225 Km/h).<br>**Same lane target speed -** Related to patrol speed:<br>±80% of patrol speed to within 5 mph (8 Km/h) of patrol speed<br>i.e. For 50 mph (89 Km/h): 15 → 44 mph (24→ 70 Km/h)and 55 → 85 mph (88→ 136 Km/h)<br>**Faster Speed -** Same speed range as opposite lane speed |

## Microwave Specifications

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| **Antenna:** | Conical horn with corrective lens |
| **Polarization:** | Circular |
| **3 db Beam width:** | 13° nominal, 15° maximum |
| **Microwave Source:** | Gunn-Effect diode |
| **Receiver Type:** | Direct Conversion Homodyne using low-noise Schottky barrier mixer diode |
| **Power Output:** | 8 mw min (K-band)<br>12 mw nom (K-band)<br>20 mw max (K-band) |
| **Power Density:** | 1 mw/cm$^2$ maximum at 5 cm from lens |

## Display Messages

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| **PASS:** | **PASS** spelled out in display with a 4-beep "happy" tone indicates the unit has just passed self-test. |
| **FAIL:** | **FAIL** spelled out in display with a 15-beep tone indicates a circuit malfunction has been detected, in which case speed readings are inhibited. Remove the unit from service and repair. **FAIL** will remain on the display until reset by being powered off. |
| **SEn 1, SEn 2, SEn 3 or SEn 4:** | **SEn 1** thru **SEn 4** is used to indicate the current range (sensitivity) setting . **SEn 1** is minimum; **SEn 4** is maximum. Opposite lane sensitivity is independent of same lane sensitivity. They are separately set. |
| **5, 10 or 20:** | **5, 10** or **20** spelled out in the patrol window indicates the low-end patrol speed is set to either 5, 10 or 20 mph (8,16 or 32 Km/h) |
| **Aud 0 .. Aud 9:** | **Aud 0** thru **Aud 9** spelled out on the display unit indicates the current speaker volume setting. **Aud 0** is off; **Aud 9** is loudest. |
| **bri 1, bri 2 bri 3, bri 4, bri 5, or bri 6:** | Used to indicate display brightness. **bri 1** is the dimmest; **bri 6** is the brightest. |
| **Hot:** | The display flashes **Hot** and powers down when the internal temperature exceeds specifications.Automatically resumes operating when the temperature drops. |
| **Lo V:** | A **Lo V** message indicates the input voltage is too low. Operation is inhibited while the **Lo V** message is displayed but normal operation will resume automatically when the input voltage is restored. All other speed windows will be blanked. |

## Remote Control Functions

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| **SAME/OPPOSITE:** | The **SAME/OPPOSITE** key is used to alternate between same lane moving mode and opposite lane moving mode. The **SAME** icon toggles on and off to indicate same lane mode. |
| **LOCK/RELEASE:** | The **LOCK/RELEASE** key is a dual function key. This key alternates between the lock and the release functions. **LOCK** is used to transfer the contents of the target window to the lock window. **RELEASE** clears the locked contents of the lock window and the patrol window. During lock, the patrol window will lock the present patrol speed and the **LOCK** icon will light. The target window and Doppler audio remain active after locking. |
| **ANT:** | Used to switch between the front and rear antenna. The **FRONT** or **REAR** icon will light. A 1-beep tone corresponds to the front antenna while a 2-beep tone corresponds to the rear antenna. The counting unit can sense the presence or absence of either antenna. |
| **XMIT/HOLD:** | Toggles between xmit and hold (standby). The **XMIT** icon will light. |
| **MOVING/STATIONARY:** | Toggles between moving and stationary modes. |
| **FASTEST:** | Used to select *fastest* mode. A high pitched tone indicates that *fastest* mode is selected. Any power off event will reset the *fastest* mode to OFF. |
| **SLOWER:** | The **SLOWER** key is used to toggle between *fast target* same lane mode and *slow target* same lane mode. The **SLOW** icon is on for a slower target. |
| **SEn :** | Used to adjust the range (sensitivity) at any time. Maximum sensitivity is **SEn 4**; minimum sensitivity is **SEn 1**. Opposite lane sensitivity is independent of same lane sensitivity. They are separately set. |
| **SQL:** | Toggles the squelch override off and on. In the normal (off) position, audio will only be heard when a target is being tracked. |
| **P.S. 5/20:** | Used to select a low-end patrol speed of either 5 mph, 10 mph or 20 mph. For example:<br>**5** in patrol window for speed of 5 (8 Km/h)<br>**20** in patrol window for speed of 20 (32 Km/h) |
| **TEST:** | Performs a complete self-test on display/counting unit and the selected antenna. The display unit shows the temperature inside the display/counting unit in °F (e.g., **110 °F**); and input battery voltage (e.g., **bAt 13.8**); followed by "**PASS**" and a 4-beep "happy" tone or "**FAIL**" and a 15-beep tone.. |
|  | Used to adjust the volume of the Doppler audio up or down. **Aud 0** is off; **Aud 9** is loudest. |
| **P.S. BLANK:** | Dual function key. Used to re-acquire patrol speed. Also, blanks the patrol speed after a target speed and patrol speed are locked. Pressing the **P.S. Blank** key again restores the blanked speed. |
|  | Dual function key. A single depression of the key activates the keyboard backlight for six (6) seconds. Two rapid depressions of the key activates the display brightness control. Additional depressions of the key toggles display brightness from bri 1 (low) to bri 6 (high). |

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