STALKER® II MDR Moving Radar

GENERAL SPECIFICATIONS

Type: Handheld Moving/Stationary Doppler Radar

Operating Frequency: 34.7 GHz (Ka-band)

Stability: ±100 MHz

Battery Type: Removable/rechargeable sealed battery handle containing a 7.2 Volt Li-Ion battery

Cell Capacity: 3700 mAh

Power Requirements:
- Removable Battery Handle: 7.2 VDC nominal
- Cigarette Plug Cord Handle: 7.0 to 18.0 VDC (currents are typical at 12VDC with Cigarette Plug Handle)
- XMIT with all displays off and back light off: 300 mA
- XMIT with moving target and back light: 350 mA
- XMIT with no target and back light: 350 mA
- Standby with no target and back light on: 160 mA
- Standby with no target and back light off: 105 mA
- Sleep mode: 35 mA (when battery powered only)

Environmental:
- -30°C to +70°C, 90% Relative Humidity, Operating
- 0°C to 45°C, 90% Relative Humidity, Battery Charging
- -40°C to +85°C, Non-Operating

Display:
- Back-lighted LCD with 3 speed windows (Target speed, Lock/Fast speed, and Patrol speed), 4-digit Alphanumeric status window, XMIT icon, and CHG icon

Mechanical:
- Weight: 2.15 lb. (0.98 kg) with battery handle attached
- Height: 7.35 in. (18.5 cm)
- Length: 7.9 inches (20.1 cm)
- Width: 2.83 inches (7.2 cm)

Radar Body Material: Aluminum and Magnesium die castings

Handle Case Material: ABS polymer

Accuracy: ±1, -2 MPH stationary, ±2 MPH moving

Auto Self-Test: Performed every 10 minutes while transmitting

Stationary Speed Range: 5 MPH to 200 MPH Standard

Operating Speed Range: 15 MPH to 200 MPH (option menu selectable)

Moving Speed Range:
- Patrol speed - Selectable with P.S, 5/20 key
- 5 in patrol window for acquisition of 5 to 90 MPH
- 20 in patrol window for acquisition of 20 to 90 MPH
- Patrol speed, once locked, will track to 150 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
- Same lane target speed - Related to patrol speed: ±20% of patrol speed within 5 MPH of patrol speed. i.e. for 50MPH: 16—45 MPH and 55—85 MPH.

Same lane patrol speed must be greater than 16 MPH.

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:
- 10 mW minimum
- 25 mW nominal
- 50 mW maximum

Power Density: 2 mW/cm² maximum at 5 cm from lens

MESSAGE WINDOW MESSAGES

<table>
<thead>
<tr>
<th>RFI</th>
<th>An RFI message indicates the presence of an interfering signal. Operation is inhibited during an RFI indication.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU</td>
<td>A MENU message displayed in the message window after the MENU key is pressed and indicates that the radar is in MENU mode</td>
</tr>
<tr>
<td>TEST</td>
<td>A TEST message indicates that a test sequence is in process</td>
</tr>
<tr>
<td>FAWY</td>
<td>A FAWY showing in the message window indicates that the radar is set to track targets moving away from the radar in stationary mode</td>
</tr>
<tr>
<td>FCLD</td>
<td>FCLD showing in the message window indicates that the radar is set to track targets closing on the radar in stationary mode</td>
</tr>
<tr>
<td>FTTH</td>
<td>FTTH indicates that the target direction is set to simultaneously track both closing and away targets in stationary mode</td>
</tr>
<tr>
<td>FSMP</td>
<td>A FSMP message indicates that same lane moving mode has just been selected</td>
</tr>
<tr>
<td>FOPP</td>
<td>A FOPP message indicates that opposite lane moving mode has just been selected</td>
</tr>
<tr>
<td>STOP</td>
<td>A STOP message indicates that the radar is in stopwatch mode. Stopwatch mode is selected from the OPERATOR MENU</td>
</tr>
<tr>
<td>LOCK</td>
<td>A LOCK message indicates that a strong target has been locked. The LOCK message will alternate with the operating mode in the message window</td>
</tr>
<tr>
<td>FLOK</td>
<td>A FLOK message indicates that a faster target has been locked. The FLOK message will alternate with the operating mode in the message window</td>
</tr>
<tr>
<td>FDRK</td>
<td>A FDRK message indicates that the radar is in fork mode. The FDRK message will alternate with the operating mode in the message window</td>
</tr>
</tbody>
</table>

SWITCH DEFINITION

**TRIGGER:** Press the trigger to transmit and release the trigger for hold. A push (to transmit) push (to hold) operation is optional. The trigger can also be used in stopwatch mode to perform the start/stop function.

**MENU:** MENU is used to enter the operator menu

**STA/MOV:** STA/MOV selects stationary or moving mode

**▲ TEST:**▲ sets distance in stopwatch mode and increments settings in the operator menu. TEST performs a diagnostic check on the radar.

**LIGHT/▼:** LIGHT switches the backlight on and off. ▼ sets distance in stopwatch mode and decrements settings in the operator menu.

**LOCK/REL:** LOCK/REL is used to LOCK and RELEASE strong speed targets

**BOTH DIRECTION:** This key is used to select target direction

**POWER:** POWER toggles the main power ON and Off.

REMOTE CONTROL FUNCTIONS

**▲:** ▲ is used to set distance in stopwatch mode and to increment settings in the operator menu

**STRONG LOCK/REL:** STRONG LOCK/REL is used to lock and release strong targets

**MENU:** MENU is used to enter the operator menu

**XMIT/HLD:** XMIT/HLD toggles between transmit mode and hold mode

**SS:** SS is the Start/Stop control for stopwatch operation

**STA/MOV:** STA/MOV selects either stationary mode or moving mode

**FAST LOCK/REL:** FAST LOCK/REL is used to lock and release faster targets

**▼:** ▼ is used to set distance in stopwatch mode and to decrement settings in the operator menu

**BOTH/DIRECTION:** BOTH/DIRECTION is used to select target direction

**SEN:** SEN adjusts the sensitivity (range) of the radar

**100:** 100 is used for setting distance in stopwatch mode

**SOL:** SOL toggles the squelch control on/off

**PS 5/20:** PS 5/20 is used to set the minimum patrol speed

**1:** 1 is used for setting distance in stopwatch mode

**TEST:** Press TEST to perform a diagnostic check on the radar

**[▲][▼]:** [▲][▼] is used to adjust the doppler volume and the beep volume

**PS BLANK:** PS BLANK will blank a locked patrol speed and it is also used to re-acquire a new patrol speed

**LIGHT:** LIGHT activates the remote backlight for 6 seconds

SPEED WINDOW MESSAGES

**PASS:** PASS in the speed windows indicates the unit has just passed self-test.

**FAIL:** FAIL in the speed windows indicates the unit has just failed self-test. Speed readings are inhibited. Remove the unit from service and repair. FAIL will remain on the display until reset by being powered off.

DISPLAY WINDOW INDICATORS

**BHT:** A flashing BHT message indicates a nearly exhausted battery

**FLU:** A FLU message indicates the operating voltage is too low.