S *BASIC* MOVING STATIONARY RADAR

General Specifications

Type: Handheld Moving/Stationary Doppler Radar

Operating Frequency: 24.15 Ghz (K-band)

Stability: ±45 Mhz

Battery Type: 7-cell $^{2}/_{3}$ AA removable NiMH battery pack

Cell Capacity: 960 mah

Power Requirements:
Internal Battery:
7.2 VDC to 10.5 VDC; 8.4 VDC nominal
Cigarette Plug coil cord:
7.0 to 18.0 VDC.
(currents are typical at 12VDC without battery)
XMIT with all displays and back light on: 308 ma
XMIT with all displays off and back light off: 268 ma
XMIT with moving target and back light: 350 ma
XMIT with no target and back light: 300 ma
Standby with no target and back light on: 240 ma
Standby with no target and back light off: 215 ma

Environmental:
-30°C to +60°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 speed, and Patrol speed), 4-digit Alphanumeric status window, XMIT icon, and CHG icon

Mechanical:
Weight – 1 lb. 10 oz. with battery
Height – 7.6 inches
Length – 8.6 inches
Width – 2.8 inches
Case Material – High impact polycarbonate

Accuracy: ± 1 mph stationary, ± 2 mph moving
± 1 kmh stationary, ± 2 kmh moving

Auto Self-Test: Performed every 10 minutes while transmitting

Stationary Speed Range: 5 mph to 200 mph Standard
15 mph to 200 mph (set-up menu selectable)

Moving Speed Range:
Patrol speed - Selectable with **P.S. 5/20** key:
5 in patrol window for acquisition of 5 to 85 mph
20 in patrol window for acquisition of 20 to 85 mph
Patrol speed, once locked, will track to 199 mph
Opposite lane target speed - 210 mph Max closing
For 5 mph patrol speed: 20 mph to 195 mph
For 70 mph patrol speed: 35 mph to 130 mph.

Microwave Specifications

Antenna: Conical horn

Polarization: Circular

3db Beamwidth: 15°

RF Source: Gunn-Effect diode

Receiver Type: Direct Conversion Homodyne using low-noise Schottky barrier mixer diode

Power Output: 2.5 mw mininum
5 mw nominal
10 mw maximum

Power Density: 2 mw/cm^2 maximum at 5 cm from lens

Display Messages

TEST: **TEST** in the alphanumeric window indicates that a self-test sequence is in process.

PASS: **PASS** in the alphanumeric window indicates the unit has just passed self-test.

FAIL: **FAIL** in the alphanumeric window 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.

SEn: Eight settings are used to adjust range and patrol speed cutoff. **SEn 1** thru **SEn 4** is used to indicate the current range setting . **SEn 1** is minimum; **SEn 4** is maximum. The right number (**5** or **20)** indicates the patrol speed cutoff setting. i.e. **SEn 4 20** indicates maximum range with 20 mph patrol speed cutoff.

PS: **PS 5** or **PS20** is shown in the alphanumeric window when using the remote to set the patrol speed cutoff.

ON: **ON** is always in the alphanumeric window when the unit is powered on and no other status is displayed.

VOL: **VOL0, VOL1, VOL2, VOL3, VOL4, VOL5, VOL6, VOL7, VOL8,** and **VOL9** indicate the audio volume level.

SQL: **SQL+** and **SQL-** in the alphanumeric window indicates the squelch setting. See instructions below.

LOCK: **LOCK** in the alphanumeric window indicates a speed lock condition.

REL: **REL** in the alphanumeric window indicates that a speed reading was just released.

MOV: **MOV** appears momentarily in the alphanumeric window when switching from stationary mode to moving mode using the remote control.

STA: **STA** appears momentarily in the alphanumeric window when switching from moving mode to stationary mode using the remote.

LOW: **LOW** appears in the alphanumeric window when the battery is nearing exhaustion – below 7.7 VDC

DEAD: **DEAD** appears in the alphanumeric window when the battery is exhausted – below 7.2 VDC. The unit becomes inoperative.

RFI: **RFI** appears in the alphanumeric window when the unit detects an interferring RF signal. The display is blanked.

Switch Definition

TRIGGER: Press the trigger to transmit and release the trigger for hold.

PWR: Toggles main power ON and Off.

LIGHT/TEST: The **LIGHT** key toggles the LCD backlight and the keyboard backlight on and off.

To perform a self test, hold down the **LIGHT/TEST** key until you hear the second beep. Display of **TEST** folowed by **40** and **PASS** indicates a successful test. Display of **TEST** followed by **FAIL** indicates failure of self-test. A **FAIL** condition will disable the unit from operating.

AUDIO/SQL: The **AUDIO/SQL** key may be used to adjust the volume of the speaker from low to high in 10 steps. Press the **AUDIO/SQL** key once to display the audio level or press repeatedly to advance. **VOL 0** is off**. VOL 1** is low and **VOL 9** is high**.**

Hold the **AUDIO/SQL** key until you hear the second beep to open or close the audio squelch. **SQL +** indicates squelched operation and **SQL –** indicates unsquelched operation.

SEN: The **SEN** key may be used to adjust the range up and down at any time. Maximum sensitivity is **SEN 4** and minimum sensitivitiy is **SEN 1**. **SEN 4** is the highest sensitivity.

In addition, the **SEN** key is used to select Patrol Speed cutoff of either 5 mph or 20 mph. The 5 or 20 setting is observed in the Patrol window while stepping **SEN.**

LOCK/REL: To LOCK the Target speed, press **LOCK/REL** once to transfer the contents of the Target speed window to the LOCK speed window. Press again to RELEASE (clear) the LOCK speed window.

Remote Control Functions (moving model only)

REL: **REL** clears the locked contents of the lock window and the patrol window. During lock, the patrol window will lock the present patrol speed and **LOCK** will light in the Alphanumeric window. The target window and Doppler audio remain active after locking.

: Press the LAMP key to activate the remote control backlight for 10 seconds.

LOCK: **LOCK** causes the contents of the Target window to be transferred to the Lock window, and the Patrol window locks the present patrol speed.

MOV/STA: Toggles between moving and stationary modes. Moving mode is indicated by either [ ] or a speed in the patrol window.

XMIT/HOLD: Toggles between xmit and hold (standby).

P.S. 5/20: Used to select a low-end patrol speed of either 5 mph or 20 mph. For example:
5 in patrol window for an acquistion speed of 5 to 85 mph
20 in patrol window for an acquistion speed of 20 to 85 mph

P.S. BLANK: Used to re-acquire patrol speed to eliminate a shadowing condition.