

# RadarHAWK™ SM

USER MANUAL



# RadarHAWK™ SM

## Introduction

Congratulations on your purchase of one of the world's most sophisticated solar radar/laser detectors. The RadarHAWK™ SM is a completely integrated radar/laser detector which responds not only to all the radar guns in use today, but also to the other latest development in speed monitoring devices - the laser gun.

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**Important:** The RadarHAWK™ SM is not designed to help you disobey the law, and its manufacturer doesn't take responsibilities for any speeding violations caused by using the RadarHAWK™ SM. A defensive driver always obeys the posted speed limit and driving methods.

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## 1 Important Safety Cautions

Read this book and understand how to use the RadarHAWK™ SM. Keep this book and refer in each case.

Follow the cautions in this book for safe use of this unit, or it may lead accidents.

- Locate this unit on the passenger side windshield.  
- If located on the driver side windshield, it may obscure the driver's view.
- Don't get the unit wet. Electrocutation Hazard. Death or Serious Injury can result.
- Don't operate this unit while driving.
- Don't open the housing case of this unit.
- Stop the use of this unit if it is very hot, has a strange odor, or is emitting smoke.
- Use within the temperatures of -10° to +60° C (14° to 140° F).  
- Don't leave the unit in car under high/low temperature. Failure will result.
- Before leaving your vehicle, always remember to conceal the unit in order to reduce the possibility of break-in and theft.
- Don't drop or put excessive force on the unit.
- Under high temperature, this unit can become very hot.  
- Don't touch the unit until it is cool enough to avoid burns.
- Obey the traffic laws in your area.
- Don't use the RadarHAWK™ SM if the unit is illegal in your area.

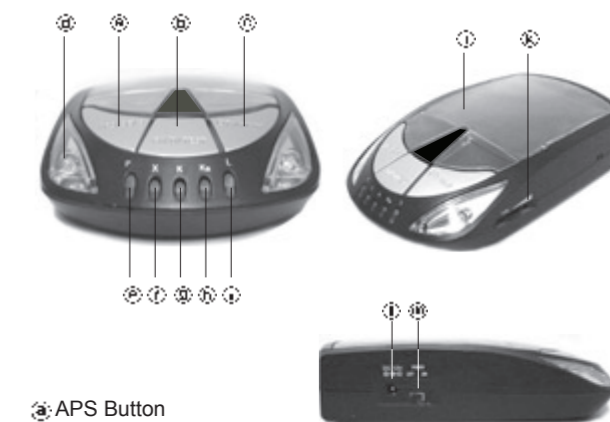
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Notes and precautions for solar cell and built-in battery;

- Plug-in the provided cigarette adapter cable to charge the built-in battery for the initial use of about 10 days driving.
- 5 hours of charging by the provided cigarette adapter cable fully charges the built-in battery.
- Solar battery is designed to support the built-in battery, and the solar cell can not charge the built-in battery after RadarHAWK™ SM gives battery alert.
- Plug-in the provided cigarette adapter cable to charge the built-in battery if RadarHAWK™ SM gives battery alert.
- Solar battery can charge built-in battery even while the power is OFF.
- Stand-by time of detector with full-charged battery is approximately 10 hours, but running time depends on the detection/warning conditions.
- High/low temperature can effect the charging time.
- Solar battery cannot provide adequate charging electricity under rainy/cloudy weather, during nighttime, in a parking garage, under sunshade, etc. where there is not enough sunlight.
- Solar cell should be exposed to sunlight over its entire area, or it will not provide adequate charging electricity.

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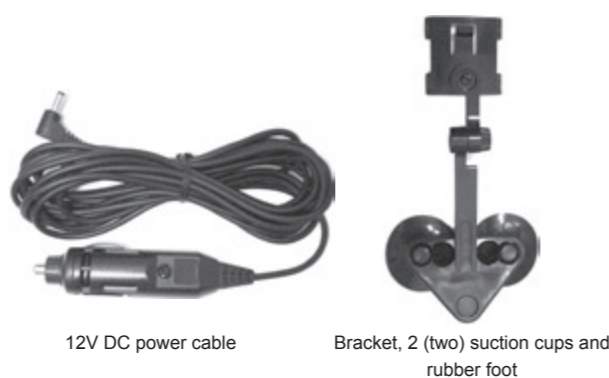
## 2 Controls, Indicators and Connections



- ⊗ APS Button
- ⊗ BAND Button
- ⊗ CITY Button
- ⊗ Warning Light : 2pcs (left and right)
- ⊗ P Alert LED
- ⊗ X Alert LED
- ⊗ K Alert LED
- ⊗ Ka Alert LED
- ⊗ Laser Alert LED
- ⊗ Solar Cell
- ⊗ Volume Controller
- ⊗ 12V DC Power Jack
- ⊗ Power Switch

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## 3 Accessories

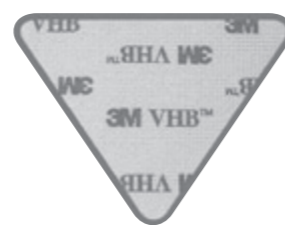


12V DC power cable

Bracket, 2 (two) suction cups and rubber foot



User manual



Triangle two-sided tape

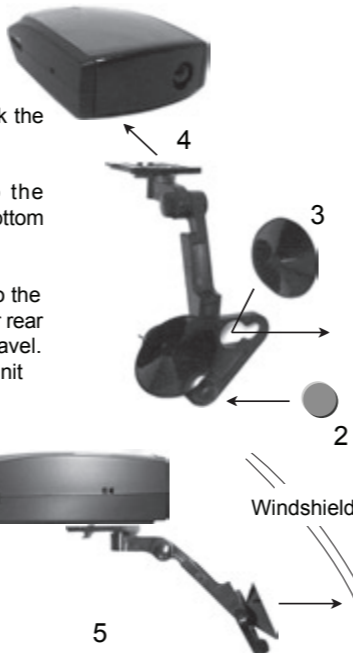
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## 4 Installation

### Windshield Mounting

When you set the unit on the windshield, triangle two-sided tape becomes unnecessary. Keep it in case you change the installation location.

1. Make sure the suction cups and your windshield are clean.
2. Attach provided rubber foot onto bracket.
3. Push the bracket to stick the rubber cups.
4. Attach the bracket to the bracket socket on the bottom side of the detector unit.
5. Fix the detector unit onto the windshield. Set the radar rear side in the direction of travel. Adjust the angle of the unit to keep in the horizontal position. If necessary, adjust the bracket screw to change the angle. After the angle becomes level tighten the screw firmly.



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6. Plug the power cord into the detector unit.

7. Plug the cigarette light adapter of the power cord into your vehicle's cigarette lighter socket.

### Dashboard Mounting

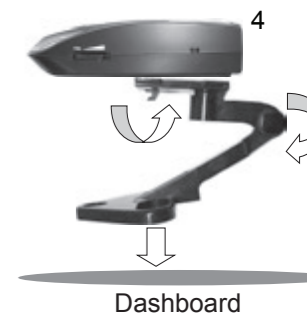
When you set the unit on the dashboard, suction cups and rubber foot become unnecessary. Keep them in case you change the installation location.

1. Place the detector unit on the dashboard to find a location where the unit has a clear, level view of the road.
2. Remove the paper backing from one (1) side of the triangle two-sided tape and attach the sticky side of two-sided tape on the bracket.
3. Attach the bracket to the bracket socket on the bottom side of the detector unit.



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4. Remove the paper backing from the other side of the triangle two-sided tape and attach to the location you set the unit on the dashboard. Pay attention to set the radar rear side in the direction of travel. If necessary, adjust the bracket screw to change the angle. After the angle becomes level, tighten the screw firmly.



Dashboard

5. Plug the power cord into the detector unit.

6. Plug the cigarette light adapter of the power cord into your vehicle's cigarette lighter socket.

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## 5 Features

### User Interface

- A power switch at the left of the unit.
- A volume controller at the right of the unit.
- Three function buttons on the top of the unit:  
APS/SENS : APS on/off (on-1 beep, off-2 beeps with a short press), default is APS on  
Press SENS to set APS sensitivity  
BAND : X band on/off (on-1 beep, off-2 beeps), default is BAND on  
CITY : City/Highway(City-1 beep, Highway-2 beeps), default is HIGHWAY

APS/SENS

BAND/TEST

CITY/HIWAY

### Main Features

- Detects all radar/laser bands
- Undetectable by VG-2
- Detects POP™ mode radar (when power cord is used)
- 360-degree laser coverage
- LED display
- Highway/City mode (Detection sensitivity selection)
- Auto mute function
- Auto Dim (LED brightness)
- APS (Auto Power Save) on/off
- APO (Auto Power Off)
- Low battery alert
- Retains memory on previously set operation modes after power off

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automatically reduce the audio sound level and the LED brightness.

#### • AUTOMUTE

- Detected 3 level signal (strong signal strength): Audio sound level will reduce after 10sec.
- Detected 1~2 level signal (low~middle signal strength): Audio sound level will reduce after 30sec.

#### • AUTODIM

- Detected 3 level signal (strong signal strength): LED brightness will reduce after 5sec.
- Detected 1~2 level signal (low~middle signal strength): LED brightness will reduce after 10sec.

### Sensitivity Control (City/Highway mode)

Press the CITY button repeatedly each time to toggle the "CITY" or "HIGHWAY" mode. The factory default is the HIGHWAY mode. CITY mode starts with 1 beep and the HIGHWAY mode with 2 beeps.

Mode	X Band	K / Ka Band
Highway	Full sensitivity	Full sensitivity
City	Reduced to 20%	Full sensitivity

### TEST Mode

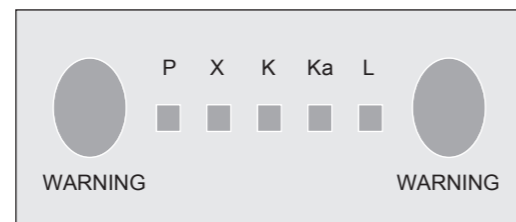
Press and hold the BAND button for longer than 3 seconds and the unit will demonstrate how it operates when radar and laser signals are detected. The unit will displays every visual alert message along with the corresponding unique audio alert.

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- Test mode to demonstrate operations
- Mounts on windshield and dashboard
- Operates on the battery or a 12V power adapter
- Rechargeable by solar cell
- X Band ON/OFF
- Built in rechargeable battery (NIMH AAA2/3 400mA@3.6V)

### LED Display

- Warning LED 2pcs : Lamp type LED, Blue color / left and right side
- Power: chip LED, dual color (Green/Red)
  - APS on mode : Green blinking
  - APS off mode : Red blinking
- X : Green color
- K : Red color
- Ka : Yellow color
- Laser : Red color



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After the tutorial sequence is all done the screen will stay at the all-indicator-on status for 5 seconds and then back to the stand-by mode.

X → K → Ka → LASER

### BAND ON/OFF

Press BAND button to turn X band detection off (or on).

### Automated Functions/Features

#### • Protection against VG-2

The unit is completely invisible to (undetectable by) the VG-2 interceptor.

#### • Alert Priority

The unit will report on a FIFO (First In, First Out) basis. However, when there are laser signals detected at the same time it will report by the following priority rule:

- Laser signal
- Radar signal

### Using POP™ Mode

Press the CITY button for three (3) seconds to turn POP™ mode ON or OFF. Once you select this mode, the unit gives one beep for POP On and two beeps for POP Off. The factory default is "POP OFF". POP™ mode(ON or OFF) is stored in the memory.

**Note:** POP™ Mode works only with power cord operation, it does not work with battery operation.

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## 6 How to Use

### Power Connection

Slide the power switch towards the display to turn the unit on. If the unit has low battery status, Plug the adapter of the power cord (12V DC) into the lighter in your vehicle and the connector at the other side of the power cord into the power jack of the unit.

### Start-Up & Self-Test

Slide the power switch towards the display to turn the unit on. When powered on, the unit will beep and illuminate (blink) all the indicators. After self-test the unit will start flashing the power indicator.

### Low Battery Alert

The low battery alert will appear for 5sec when the battery voltage level is low. This will repeat every 10 minutes until no battery power remains and the radar detector shuts off.

[P] LED will blink to alert low battery. Other LEDs are all off during alert.

**Note:** We suggest keeping the power cord readily available. If your batteries are drained, the cord will allow you to continue using your radar detector until you recharge the batteries.

### APS (Automatic Power Save)

#### • Basic function

If there is not a detected vibration signal for 60sec, The sound is muted and LED brightness is reduced to 50% when there is

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## 7 Understanding Your Radar Detector

The RadarHAWK™ SM detects radar signals by audio alert and indicator while driving. The audio alert and indicator warning lights change in accordance with an increasing or decreasing of radar signals.

### Frequency of Radar/Laser Signals

X band : 10.525 GHz  
K band : 24.125 GHz, 24.150GHz  
Super wide Ka band : 33.400~36.000GHz.  
Laser : 905nm

### Police Speed Control Machine

The RadarHAWK™ SM detects radar transmitters that measure the speed of vehicle. Automatically the transmitter will take a photo of the speeding vehicle.

There are a variety of types such as Stationary Installation Type, Gun Type and Car Portable Type.

#### **Note:**

Radar detector may detect interruption signals from;

- Automatic door
- Wireless CCTV system
- Vehicle monitor system
- Mobile phone radiation base

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a detected radar/laser signal at that time.

Press the APS button repeatedly each time to toggle the APS ON or APS OFF mode. The factory default is the APS ON mode. The APS ON mode starts with 1 beep and APS OFF mode starts with 2 beeps.

When the unit operates in the APS ON mode – [P] LED is blinking with green color, but If there is not a detected vibration signal for 60sec, [P] LED will be blinking with red color.

When the unit operates in the APS OFF mode, [P] LED is always blinking with red color. APS function should be operated both in the +12V LINE MODE and BATTERY MODE.

#### • Sensitivity adjustment

There is a piezo vibration sensor function added to the circuit. The sensitivity control operation is as follows;

1. Sensor Sensitivity: High - Middle – Low (3 steps) → Factory default is MIDDLE (for low-vibration sedan car)
2. Press and hold APS button for three (3) seconds to enter sensor sensitivity control mode (1 beep).
3. Select HIGH or MIDDLE or LOW using the APS button (short press), then press and hold APS button again for three (3) seconds to store and exit this mode.
4. You can determine the mode with the warning lamp LED (blue) display as follows:

- High: left - ON, right - ON
- Middle: left - ON, right - OFF
- Low : left - OFF, right - ON

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## 8 Troubleshooting

Confirm the following points if any problem is found:

### Trouble with Power-On Operation

- Battery exhaustion/battery shutoff - Recharge by the cigarette adapter cable.
- Power switch is off - turn on the power switch.

### Trouble with Battery Recharge

- Sunlight is not enough - Confirm it can be recharged by the the cigarette adapter cable.
- Blown fuse - Change the fuse in the cigarette adapter plug.
- Duration of rechargeable battery life - Use the unit with the cigarette adapter cable.

### Trouble with Sound

#### No Sound

- Power switch is off - turn on the power switch.
- Setting of the sound is low - Change the setting.
- Band function is off - press the BAND button and change the mode.
- City mode is on - press the CITY/HIWAY button and change to the Highway mode.
- The police transmitter doesn't use the radar system.
- The police transmitter is off.

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### APO (Automatic Power Off)

To conserve battery power, the unit will automatically shut off when there is not a detected vibration signal for 15 minutes,  
- APO function operates in both APS on and off mode.  
- APO function should be operated under alerting.  
- APO function should be operated both in the +12V LINE MODE and BATTERY MODE.

To conserve battery power, the unit will operate in Idle mode when the unit is shut off. If a vibration signal is detected, the unit will turn on to resume detection.

### Memory Retention

The unit keeps some of the operation modes in its memory even after the unit is powered off, so that the unit can restore the same user settings when it's turned on again. They are;

- APS on/off mode
- BAND on/off mode
- City/Highway mode
- Sensitivity adjustment (High/Middle/Low)
- POP on/off mode

### Volume Control

Rotate the volume controller at the front anti-clockwise to increase the audio level and clockwise to decrease. The maximum audio level must be 85 +/- 5dB when measured at the distance of 10cm from the buzzer.

### Auto Mute and Auto DIM Control

The unit will alert with reduced audio alarms and with reduced LED brightness for continuously detected signals. When an alert is constantly reported for a radar/laser signal, the unit will

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## 9 Specifications

### Bands and Frequencies

Band	Frequency	Tolerance
X band	10.525GHz	+/-25MHz
K band	24.125GHz	+/-100MHz
	24.150GHz	+/-100MHz
Superwide Ka band	34.700GHz	+/-1300MHz
Laser	905nm	+/-50nm

### Main Specifications

Detection format	Dual conversion superheterodyne
Operating voltage	12V DC (max 16V DC)
Rechargeable battery	built in 3.6V, 400mA NiMH battery
Operating temperature	-10° to +60° C (14° to 140° F)
Storage temperature	-20° to +85° C (-4° to 185° F)
Stand-by time	appx. 10hrs with fully-charged battery
Dimension W x D x H (mm)	72 x 122 x 32.2
Weight	appx. 140g

### RadarHAWK™ SM • FCC ID U9P-RH-SM

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

In addition, any changes or modifications to this product, which are not expressly approved by Q3 Innovations, LLC in writing, could void the user's authority to operate this product.

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