

ALL-BAND (X, K, Ka) ULTRA HIGH-PERFORMANCE  
SOLAR-POWERED  
RADAR/LASER DETECTOR

# RadarHAWK™ SM

USER MANUAL



## 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 of any speeding violations cased with using the RadarHAWK™ SM. A defensive driver always obeys the posted speed limit and driving methods.

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## 1 Important Cautions for Use this Unit in Safety

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 safety use of this unit, or it may lead accidents.

- Locate this unit on the passenger side windshield.
  - If locate on the driver side windshield, it obscures the driver from view.
- Don't get the unit wet. Electrocutation Hazard. Death or Serious Injury can result.
- Don't operate this unit during driving.
- Don't open the housing case of this unit.
- Stop the use of this unit if it has a fever, strange odor, emitting smoke.
- Use under the temperature of -10 ~ +60 degree Centigrade.
  - Don't leave the unit in car under high/low temperature. Result the failure.
- Before leaving your vehicle, always remember to conceal the unit in order to reduce the possibility of break-in and theft.
- Don't put impact shock on the unit.
- Under high temperature, this unit can have a fever.
  - Don't touch until the unit gets enough cold. Get burned.
- Obey the traffic laws.
- Don't use RadarHAWK™ SM if the unit is illegal in your area.

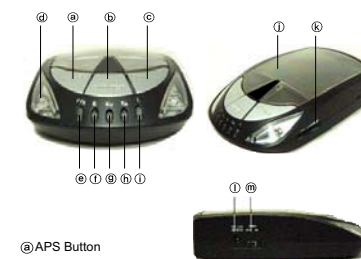
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Note and precautions for solar cell and built-in battery;

- Plug the provided cigarette cable to charge the built-in battery for the initial use of about 10 days driving.
- 5 hours charging by provided cigarette cable fully charges the built-in battery.
- Solar battery is aimed to support the built-in battery, and only the solar cell can not charge the built-in battery after RadarHAWK™ SM gives battery alert.
- Plug the provided cigarette cable to charge the built-in battery if RadarHAWK™ SM gives battery alert.
- Solar battery can charge built-in battery even under power OFF.
- Stand-by time of detector with full-charged battery is approximately 19 hours, but running time depends on the detection/warning condition.
- High/low temperature can effect on the charging time.
- Solar battery cannot charge adequate electricity under rainy/cloudy weather, during nighttime, in a basement park, under sunshade, and etc. where give inadequate sunlight.
- Solar battery shall be exposed to sunlight in its whole area, or cannot charge adequate electricity.

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## 2 Controls, Indicators and Connections



- ④ APS Button
- ⑤ BAND Button
- ⑥ CITY Button
- ⑦ Warning Light : 2pcs (left and right)
- ⑧ P/X Alert LED
- ⑨ K Alert LED
- ⑩ Ku Alert LED
- ⑪ Ka Alert LED
- ⑫ Laser Alert LED
- ⑬ Solar Cell
- ⑭ Volume Controller
- ⑮ 12V DC Power Jack
- ⑯ Power Switch

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## 3 Accessories



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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 on the level, tighten the screw firmly.

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6. Plug the power cord into the detector unit.

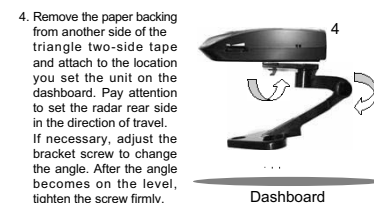
7. Plug the cigarette light adaptor in the power cord into your vehicle's cigarette lighter socket.

### <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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5. Plug the power cord into the detector unit.
6. Plug the cigarette light adaptor on the power cord into your vehicle's cigarette lighter socket.

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# RadarHAWK™ SM

## 5 Feature

### User interface keys

- 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-1beep, off-2beep by short press), default APS on  
Press SENS to set APS sensitivity  
BAND : X band (9.900GHz/10.525GHz) on/off(on-1 beep, off-2 beep), default BAND on  
CITY : City/Highway(City-1beep, Highway-2beep), default HIGHWAY

APS/SENS

BAND/TEST

CITY/HIWAY

### Main features

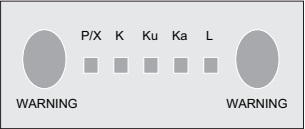
- Detects all radar/laser bands
- Undetectable by VG-2
- 360 degree laser coverage
- LED display
- Highway/City mode (Detection sensitivity selection)
- Auto mute function
- Auto Dim (LED brightness)
- APS (Auto Power Save) on/off
- APO (Auto Power Off)
- Low battery alert
- Retains memory on previously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

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- 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
- PW/X : chip LED, dual color(Green/Red)
  - APS on mode : Green blinking
  - APS off mode : Red blinking
  - X band Alert : Green on
- K : Red color
- Ku : Green color
- Ka : Yellow color
- Laser : Red color



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## 6 How to Use

### Power connection

Slide the power switch forward 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 pin at the other side of the power cord into the power jack of the unit.

### Start & Preamble

Slide the power switch forward the display to turn the unit on. When powered on, the unit will beep and illuminate (blinking) all the indicators. After preamble the unit will start flashing the power indicator.

### Low battery alert

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

"PW/X" 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.

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### APS (Automatic Power Save)

#### • Basic function

If there is not a detected vibration signal for 5sec, The sound is muted and LED brightness is reduced to 50% when there is 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/X] LED is blinking with green color, but if there is not a detected vibration signal for 5sec, [P/X] LED is blinking with red color.

When the unit operates in the APS OFF mode, [P/X] 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 select the mode with the warning lamp LED (blue) display as follows.

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

### APO (Automatic Power Off)

To conserve battery power, the unit will automatically shut off when there is not a detected vibration signal for 3minute, - APO function operates 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, MCU operate into Idle mode when the unit is shut off. If there is a detected vibration signal, the unit will turn on to resume the 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 reboot 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)

### 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.

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### Auto mute and Auto DIM control

The unit alert with reduced audio alarms and with reduced LED brightness for continuously detected signals. When an alert is constantly reported for radar/laser signal, the unit will 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 with 2 beeps.

Mode	X/Ku Band	K /Ka Band
Highway	Full sensitivity	Full sensitivity
City	Reduce 20%	Reduce 10%

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### 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 with the corresponding unique audio tone for its own. After the tutorial sequence is all done the screen will stay at the all-indicator-on status for 5 seconds and gets back to the stand-by mode.

**X → K → Ku → Ka → LASER**

### BAND ON/OFF

Press BAND button to off (or on) X band (9.900GHz/10.525GHz).

### Automated function/features

#### • Protection against VG-2

The unit must be completely invisible to (undetectable by) the VG-2 interceptor

#### • Alert Priority

The unit must report on the FIFO (first in first out) basis. However, when there is laser signals detected at a time, it must report by the following priority rule:

- Laser signal
- Radar signal

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## 7 Understanding Radar Detector

RadarHAWK™ SM detects radar signals by buzzer alert and indicator while driving. The buzzer alert and indicator warning lighting change in accordance with increasing/decreasing of the radar signals.

### Frequency of radar/laser signals

X band : 9.900GHz, 10.525 GHz  
Ku band: 13.450GHz  
K band : 24.125 GHz, 24.150GHz  
Super wide Ka band : 33.400~36.000GHz.  
Laser : 905nm

### Police Speed Control Machine

RadarHAWK™ SM detects Radar transmitter measures the speed of vehicle. Automatically the transmitter takes the photo of the violation speeding vehicle.

This system has variety like Stationary Installation Type, Gun Type and Car Portable Type.

#### Note

- Radar detector may detect interruption signals such from;
- Automatic door
- Wireless CCTV system
- Vehicle monitor system
- Mobile phone radiation base

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## 8 Troubleshooting

Confirm the following points if any problem found;

### Trouble of power-on operation

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

### Trouble of battery recharge

- Sunlight is not enough - Confirm it can be rechargeable by the Cigarette plug cable.
- Fuse short - Change the fuse of cigarette plug.
- Duration of rechargeable battery life - Use the unit by the Cigarette plug cable.

### Trouble of sound

#### No Sound

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

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## 9 Specification

### Band and Frequencies

Band	Frequency	Tolerance
X band	9.900GHz	+/-25MHz
	10.525GHz	+/-25MHz
Ku band	13.450GHz	+/-25MHz
K band	24.125GHz	+/-100MHz
	24.150GHz	+/-100MHz
Superwide Ka band	34.700GHz	+/-1300MHz
Laser	905nm	+/-50nm

### Main Specification

Detection format	Dual conversion superheterodyne
Operating voltage	12V DC (max 16V DC)
Rechargeable battery	built in 3.6V, 400mA Ni/Cd battery
Operating temperature	-10 to +60 degree C
Storage temperature	-20 to +85 degree C
Stand-by time	appx. 190hours with full-charged battery
Dimension W x D x H (mm)	72 x 122 x 32.2
Weight	appx. 140 gs

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FCC Compliance Statements

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

Warning : Your are cautioned that any change or modifications to the equipment not expressly approved by the party responsible for compliance could void your authority to operate such equipment.