

# WILLTRONICS

## Detection system



## OWNER ' S MANUAL

# FCC Information

Note: This equipment has been tested and found to comply with the limit 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

Change or modification not expressly approved by the party responsible for Compliance could void the user's authority to operate the equipment

## CONTENTS

### . MODEL FEATURES AND CONTROLS

### . ACCESSORIES INCLUDED WITH RADAR DETECTOR

Owner ' s Manual

Power Cord

Mounting kit

Hook & Loop Fasteners

Spare Fuse

### . MOUNTING INSTALLATION

Windshield Mounting

Dash Board Mounting

Power connection

### . OPERATION GUIDE

Power on & Self -Test

Feature Engaged Confirmation

Mute Mode

City/City1 Modes

Dim/Dark Modes

VG-2 Mode

Tutorial Mode

Memory Retention

### . RADAR / LASER / VG - 2 ALERTS

Speed Radar Visual /Audio Alerts

Laser Visual /Audio Alerts

VG-2 Visual /Audio Alerts

Instant Visual/Audio Alerts

Safety Radar Visual/Audio Alerts

### . TROUBLESHOOTING GUIDE

Factory setting

### . SPEED MONITORING DEVICES

Radar speed gun

Laser speed gun

Radar Detector Detectors

### . MAINTENANCE

Care and Maintenance

Fuse Replacement

### . SPECIFICATIONS

## . MODEL FEATURES AND CONTROLS

X, K, Ka Super Wideband Detection

All Laser Detection

360 ° Laser Detectability

Safety Radar System (SA, SWS) Detection

VG2 (Radar Detector Detector) Detection

VG2 Undetectability

Instant On /Pulsed Radar Alert

Smart ICON Display (Bar LED:8 Cell)

Memory Retention

Bar-graph Signal Strength meter

Visual & Audible Alarms

External Laser Jack (Option)

Power On/Off with Volume Control

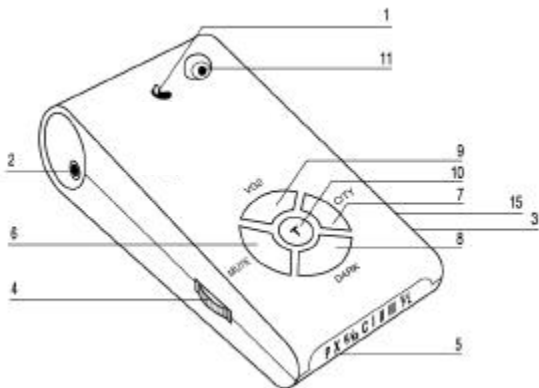
Mute Mode

Dim/Dark Modes

City/City1 Modes

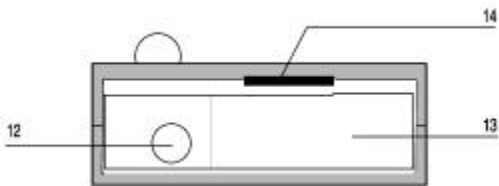
VG2 Mode

Tutorial Mode



1. Bracket Lock/Release Button    Easy lock/release of the mounting bracket.
2. Power Jack    Connection for the power cord.
3. Speaker    Provides distinct audio alarms for X, K, Ka band radar, laser and the VG-2
4. Power / Volume Control    Turns unit on/off and adjusts audio level.
5. High Visibility ICON Display    Provides distinct visual confirmation of signals strength, signal band identification and indicates engaged modes of operation.

- 6. MUTE Button    Pressing MUTE during a radar/laser encounter silences audio alerts.
- 7. CITY Button     Reduces the annoyance of false alerts typically encountered in urban driving areas.
- 8. DARK Button    Reduces illumination of display to “dim” or “dark” settings.
- 9. VG 2 Button    Pressing VG2 to engage or disengage VG-2.
- 10. T Button    Tutorial mode engage button
- 11. Laser Lens (Rear)    An integrated optical waveguide provides superior detection of laser signals transmitted from behind



- 12. Laser Lens (Front)    High gain optical lens array provides increased sensitivity and field of view for leading edge laser detection.
- 13. Radar Antenna    Compact, high -efficiency antenna receives radar signals.
- 14. Mounting Bracket Location    Slot holds mounting bracket firmly.
- 15. EXT    Port for external laser connection (Option Laser Module)

## . ACCESSORIES INCLUDED WITH RADAR DETECTOR

1. Owner's Manual



2. Power Cord



3. Mounting kit



4. Hook & Loop Fasteners



5. Spare Fuse 2A 250V



## . MOUNTING INSTALLATION

Mount the unit as low as possible near the center of the windshield.

Do not mount your unit behind wipers, ornaments, mirrored sunscreens, etc. These obstructions have metal surfaces which can affect radar and laser signals and reduce critical warning time. (Regular tinted glass does not affect reception.)

Some newer windshields have an Instaclear™ or Electriclear™ type coating, which affect radar signals.

Avoid placing unit in direct contact with windshield.

To reduce the possibility of theft, conceal your unit when not in use.

### Windshield Mounting

Install the mounting kit at the windshield as it follows.

IMPORTANT: Some newer cars have a plastic safety coating on the inside of the windshield. The windshield bracket may leave permanent marks on this type of surface. We recommend that you do not leave the suction cup bracket on the window in direct sunlight. If the detector is removed, this may cause blistering of the dash in some vehicles.



Slide the detector onto the bracket and get it locked with switch.

If necessary, the unit may be leveled by bending the windshield bracket. Push the bracket release switch and remove the detector before bending.



## D a s h b o a r d   M o u n t i n g

Make sure the mounting location you have chosen is relatively level and is clean and dry. Clean with isopropyl alcohol if necessary to remove any waxes or polishes.

Separate the fastener strips. Peel the paper backing off each strip and adhere one piece to the dash and the other piece to the bottom of the unit, taking care not to cover the serial number.



Be careful not to place the fastener strip over the unit's serial number. If the fastener strip is removed, the serial number may be pulled off the unit. Units without serial numbers are not covered under warranty.

## P o w e r   C o n n e c t i o n

Plug the small end of the power cord into the unit ' s power jack.  
Plug the large end into the vehicle ' s cigarette lighter.

## . OPERATION GUIDE

### Power On And Self - Test

Each time your WT1010 detector is turned on, an automatic self-test sequence confirms that the speaker and visual displays are functional and displays the engaged features.

Turn Power/Volume control clockwise. Display reads:



### Feature Engaged Confirmation

Each time a button is pressed one beep confirms feature "on ", two beeps confirm feature " off " .

Mute Mode

Press "MUTE" to cancel the audio when signal is detected.

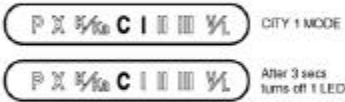
City/ City 1 Modes

Two levels of City Mode are designed to reduce the annoyance of automatic door openers for X band detecting sensitivity, intrusion alarms and other devices which share frequencies with police radar.

Press City to engage City, reduce X band sensitivity. Display reads:



Press City a second time engages City 1, which could be unable to detect X band speed gun. Display reads:



Pressing City third time cancels City, City 1. Display reads:



In City Mode, weak speed/safety radar signals give an initial alarm of two beeps, and then the unit remains quiet unless the signal becomes very strong. When the signal strength increases, two additional beeps are provided. In City 1 X-band is not detected. CAUTION: Some towns/small cities may still be using X band radar.

Dim / Dark Modes

Dim/Dark Mode reduces the illumination of the display.

Press and hold “DARK” to reduce illumination to a Dim setting.



Press and hold the “DARK” button a second time for 2 seconds engages Dark Mode.



Dim or dark can be engaged during an alert. In Dark Mode, the display goes dark for as long as a signal is being detected and for 20 seconds after, then the display returns to the dimmer setting.

Pressing and holding the “DARK” button a third time restores full illumination to the display.

VG - 2 Mode

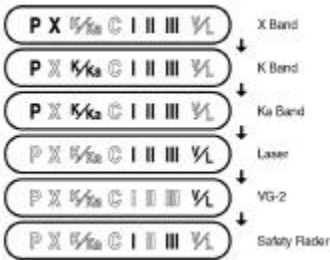
Press “VG-2” button to turn this feature on. Press “VG-2” button once again to turn off.

Tutorial Mode

Provide simulated alerts for each type of signal.

Press “T” button for 2 sec to go tutorial mode.

Press “T” button again to exit.



Memory Retention

Electronically remembers all your own settings for a certain period of time after power-off.

. RADAR / LASER / VG - 2 ALERTS

Speed Radar Visual /Audio Alerts

When X, K or Ka is detected, the band ID and signal strength is displayed with an audible alert.

- . Signal strength ICON blinking                      Example: X band strong signal
- I            -> weak signal
- I II        -> middle signal
- I II III -> strong signal



Laser Visual /Audio Alerts

When a laser signal is detected, the V/L ICON is on with signal strength, the audio alert is continuous for a minimum of 3 seconds. Example:



VG - 2 Visual /Audio Alerts

When a VG-2 signal is detected, the detector “hides” its own radiated signal and becomes undetectable by the VG-2. The ‘V/L’ ICON is only blinking.



Every 30 seconds, the detector checks for a VG-2 signal. If a VG-2 signal is still present, the unit continues to hide and repeats the VG-2 alert. If no signal is detected, two beeps are provided, indicating an “all clear” condition. During VG-2 Alert X, K, and Ka band signals cannot be received

### Instant Visual/ Audio Alert

When a instant signal (strong signal) is detected, an urgent 3 second audio warning is sounded and the display shows:



After 3 seconds standard alert pattern continues.

### Safety radar Visual/ Audio Alert

The WT1010 detects the new Safety Warning system . This provides advanced warning of various road hazards including accident sites, highway construction, emergency vehicles and enables you to respond more appropriately to potentially dangerous conditions. It provides a distinct audio tone and illuminates the first strength bar and the last bar in the display.



## . TROUBLESHOOTING GUIDE

PROBLEM: No display or audio.

Check fuse in the plug and replace if necessary with a 2 amp 3AG type.

Check fuse for lighter socket; replace if necessary.

Make sure lighter socket is clean.

PROBLEM: Unit alarms when vehicle hits bumps.

Check for loose lighter socket; tighten and clean.

Check connections at both ends of power cord. Substitute another cord to determine if cord is defective. Return defective cord to the factory.

PROBLEM: Unit alarms when using vehicle equipment or electrical accessories (brakes, power mirrors/windows, directionals, horn, etc.).

Vehicle's electrical system, including battery and alternator, may have electrical noise. Install a filter capacitor (470mfd. 25 volt or larger capacitance value) on the back of the lighter socket.

### Factory setting

All user features can be reset to factory settings. Please follow below steps for reset.

1. Unplug Power Cord from unit
2. Press and hold City and Mute.
3. Plug Power Cord into unit.
4. Wait for 2 beeps.
5. Release City and Mute button. Unit is now reset

- Factory reset -

Highway Mode ON.

Dim/Dark Mode to full illumination of display.

VG-2 Detection Mode OFF

## . SPEED MONITORING DEVICES

### Radar speed gun

A radar gun operates by transmitting radio waves at certain frequencies which reflect off objects and are then picked up by the radar gun's receiving section. When a radar beam reflects off a moving target, a measurable frequency shift occurs. The radar unit converts this shift into miles per hour to determine your vehicle's speed.

Currently, the FCC (Federal Communications Commission) permits operation of traffic radar guns at X Band(10.500 10.550 GHz), K Band (24.050 24.250 GHz), and Ka Band (33.400 36.000 GHz).

### Laser speed gun

It's well documented that many radar guns cannot reliably provide the speed of a targeted vehicle that is traveling in a group of vehicles. In contrast, a laser gun can target a specific vehicle out of a line of traffic and determine its speed.

The advantage of laser over radar in terms of target identification is the result of the laser gun's narrow beam. A radar transmission can cover more than a four-lane highway at a distance of 1,000 feet, compared with a laser transmission which covers about 6 feet at the same distance. For best protection, keep these points in mind:

Because your vehicle's license plate or headlights are the laser gun's primary targets, mounting your detector on the dashboard can improve laser detection at short range.

Do not follow closely behind any vehicle you cannot see through. If you can't see past a vehicle ahead of you, chances are your detector won't either.

The receiving range of your laser detector will not be the same as a radar detector. Laser guns are most often used at short range.



## Radar Detector Detectors

The Interceptor VG-2, or simply VG-2, is a microwave receiver used by police to detect signals radiated by the local oscillator of a radar detector. Because its purpose is to identify persons driving with radar detectors, the VG-2 is known as a "radar detector detector".

## . MAINTENANCE

### Care And Maintenance

During the summer months, avoid prolonged exposure to direct sunlight by removing your unit from the dash when your vehicle is parked for an extended period of time.

Do not spray water, cleaners or polishes directly onto the unit. The spray may penetrate through the openings and damage the unit. Also, do not use any abrasive cleaners on the unit's exterior.

### Fuse Replacement

The lighter socket plug is equipped with a replaceable 2 amp 3AG fuse located behind the silver tip. To replace the fuse, carefully unscrew the tip of the plug. (IMPORTANT: Unscrew slowly. The tip contains a spring which may fly out when disassembling.) Insert the new fuse with the spring and screw on the tip.



With use, screw cap on plug may loosen. Retighten occasionally.

## . S P E C I F I C A T I O N S

### G e n e r a l

Dimensions:	65mm(W) x 118mm(L) x 32mm(H)
Weight:	148 g
Power Requirement:	12- 15V DC
Temperature Range:	Operating -20 ° C to +80 ° C Storage -40 ° C to +100 ° C

### L a s e r D e t e c t o r

Receiver Type	Pulse Laser Signal Receiver
Sensor Front End	Convex Condenser Lens
Detector Type	Pulse Width Discriminator
Receiver Bandwidth	30 MHz
Spectral Response	800- 1100 nm

### R a d a r D e t e c t o r

Receiver Type	Double Conversion Superheterodyne
Detector Type	Scanning Frequency Discriminator
Antenna Type	Linear Polarization
Frequency of	10.525 GHz $\pm$ 50 MHz (X Band)
Operation	24.150 GHz $\pm$ 100 MHz (K Band) 34.700 GHz $\pm$ 1300 MHz (Ka Band)

Specifications are subject to change without notice.

## MEMO

[illegible]