User's Manual

Radar detector Beltronics RX65i blue

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RX65 Professional Series

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RX65 Professional Series

Owner's Manual

ULTIMATE RADAR / LASER / SAFETY DETECTOR

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Congratulations

The BEL Pro RX65 is the most advanced radar, laser and safety detector ever designed by Beltronics.

The BEL RX65 includes full X, K, SuperWide Ka, and Safety Warning System radar capability, front and rear laser detection, digital signal processing (DSP) for superior range and reduced false alarms, our patented Mute and AutoMute, audible and visual band alerts, and all the performance you'd expect from Beltronics.

In addition, the BEL RX65 introduces a new level of revolutionary performance and innovative features.

- Superior long-range radar and laser detection, including new "POP" mode alert
- Advanced Programming lets you customize 7 features
- AutoScan mode drastically reduces false alarms, plus Highway and City settings
- Ultra-bright alphanumeric Display with 280 LEDs
- Exclusive Threat Display tracks and displays multiple radar signals, including signal strength.
- Tech Display provides actual numeric radar frequency for any radar signal
- New Programmable Bands (on/off), including International and North American settings.
- Detects and decodes Safety Warning System messages
- Includes new coiled SmartPlug

If you've used a radar detector before, a review of the Quick Reference Guide on pages 4 and 5, and the Programming information on pages 12 and 13 will briefly explain the new features.

If this is your first detector, please read the manual in detail to get the most out of your RX65's outstanding performance and innovative features.

Please drive safely.

FCC Note:
Modifications not expressly approved by the manufacturer could void the user's FCC granted authority to operate the equipment.

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Quick Reference Card

▼ Remove card along perforations ▼

BEL Pro RX65 Quick Reference Card

There are 7 user-selectable options so you can customize your RX65 for your own preferences.

The buttons labeled CITY and BRT are also used to enter the Program Mode, REVIEW your current program settings, and to CHANGE any settings as desired. The words PROGRAM, RVW and CHG are located on the top of the detector, and are highlighted in graphics.

How to use Programming

1 **To enter Program Mode, press and hold both CITY and BRT buttons down for 2 seconds.** (The unit will beep twice, and will display the word "Program").

2 **Then press the RVW button to review the current settings**. (You can either tap the button to change from item to item, or hold the button to scroll through the items).

3 **Press the CHG button to change any setting.** (You can either tap the button to change from setting to setting, or hold the button to scroll through all the options).

4 **To leave Program Mode, simply wait 8 seconds without pressing any button, or press the PWR button.** (The unit will display Complete, beep, and return to normal operation).

Factory Default Settings
To reset RX65 to its original factory settings, press and hold the "CITY" and "BRT" buttons while turning the power on. RX65's display will provide a "Reset" message, accompanied by an audible alert, acknowledging the reset.

An example
Here is how you would turn RX65's AutoMute feature off.

1 Enter the Program Mode by holding both the CITY and BRT buttons down seconds. *RX65 will beep twice and di* `Program`.

2 Then hold the RVW button down. *RX65 will scroll through the categori starting with Pilot (*`Pilot`*), then Voi (*`Voice`*), then Power-on sequence (*`PwrOn`*), then Signal strength meter (*`Meter`*), and then AutoMute (*`aMute`

3 Release the RVW button when RX6 shows the AutoMute item. *Since the factory setting is for AutoMute to be RX65 will display* `aMute ON`.

(If you accidentally don't release RVW button in time, and the RX65 g the next category, hold the RVW butt down again, and after RX65 scrolls through all categories, it will begin a at the top of the list.)

4 Press the CHG button to change fro `aMute ON` to `aMute OFF`.

5 To complete the Programming, sim wait 8 seconds without pressing any b or press the PWR button. *The RX65 w display* `Complete`*, beep, and return t normal operation.*

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Quick Reference Card

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BEL Pro RX65 Quick Reference Card

Press the RVW button to go from one category to the next

Press the CHG button to change your setting within a category

PILOT (Power-on indication)	Pilot HWY	* Full word: Highway or AutoScan or City
	Pilot H	Letter: H or A or C
	Pilot V	Vehicle voltage
VOICE	Voice ON	* Voice alerts on
	Voice OFF	Voice alerts off
POWER-ON SEQUENCE	PwrOn STD	* Standard power-on sequence
	PwrOn FST	Fast power-on sequence
SIGNAL STRENGTH METER	Meter STD	* Standard signal strength meter
	Meter THT	Threat Display
	Meter TEC	Tech Display
AUTOMUTE	aMute ON	* AutoMute on
	aMute OFF	AutoMute off
CITY MODE SENSITIVITY	City STD	* Standard City mode sensitivity
	City LoX	Low X band sensitivity in City Mode
	City NoX	No X band sensitivity in City Mode
BANDS	Bands ALL	* All bands enabled
	Bands MOD	One or more bands has been modified

Turn bands "ON" or "OFF" by pressing the VOLUME/MUTE button

X	ON	or OFF
K	ON	or OFF
Ka	USA	or Intl or OFF
POP	ON	or OFF
Ku	ON	or OFF
LSR	ON	or OFF
SWS	ON	or OFF

* Factory Default Settings

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Table of Contents

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Quick Reference Guide

To begin using your RX65, just follow these simple steps

1. Plug the small end of the power cord into the side jack of the detector, and plug the large end of the power cord into your car's lighter socket.
2. Mount your RX65 on the windshield using the supplied windshield mount.
3. Press the PWR button, located top left, to turn RX65 on.
4. Press and hold the Volume/Mute button to adjust the volume.

Please read the manual to fully understand RX65's operation and features.

QuickMount Slot
Insert RX65's adjustable Windshield mount into this slot. *Page 7*

QuickMount Button
Press the button, and slide the Windshield mount into one of its four locking positions. *Page 7*

City Button
Switches between AutoScan, City and Highway, settings. In general, we recommend AutoScan. *Page 8*

Power Button
Press the PWR button to turn the RX65 on or off. *Page 8*

AutoMute
RX65's patented AutoMute automatically reduces the volume level of the audio alert after a brief period. *Page 8.* If you prefer, you can turn AutoMute off. *Page 8*

Programming
RX65 is ready to go, just plug it in and turn it on. But you can also easily change 8 features for your preferences. *Page 12-16*

Radar Antenna and Laser Lens
The rear panel of your RX65 should have a clear view of the road ahead. For best performance, do not mount the RX65 directly behind windshield wipers or tinted areas. *Page 6*

Alphanumeric Matrix Display
RX65's display will show Highway, AutoScan, or City as its power-on indication. If you prefer, you can choose other power-on indications. *Page 12-14*

During an alert, the display will indicate radar band, and a precise bar graph of signal strength. *Page 10*

Note: In the Dark Mode the display will not light during an alert. *Page 9*

The display can also show Safety Radar text messages. *Page 22-23*

Rear Laser Port
Receives laser signals from behind the vehicle.

Earphone Jack
Accepts standard 3.5mm MONO earphone.

Brightness Button
Press to adjust display brightness. There are three brightness settings, plus Dark Mode.

In the Dark Mode, the power-on indication will be changed to a dim "AD," "HD," or "CD" (indicating AutoScan, Dark, Highway Dark, or City Dark). In the Dark Mode, RX65's meter will not display during an alert, only the audio will alert you. *Page 9*

Power Jack
Plug the SmartPlug into this connector. *Pages 6*

Volume / Mute Button
Press and hold to adjust the volume level.

Briefly press this button (above the display) to silence the audio for a specific alert. *Page 8*

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Power Connection

To power RX65, plug the small end of the SmartPlug, (telephone-type connector) into the modular jack on RX65's right side, and plug the lighter plug adapter into your vehicle's lighter socket or accessory socket.

RX65 operates on 12 volts DC negative ground only. The lighter plug provided is a standard size and will work in most vehicles. However, some vehicles may require the optional European sleeve to ensure a snug fit. If so, simply call our service department to order one. This sleeve slides over the SmartPlug's lighter plug adapter. Of course, your lighter socket must be clean and properly connected for proper operation.

Note: depending on your vehicle, the lighter socket power may either be continuously on, or it may be switched on and off with your ignition switch.

Optional power cords

See the Accessories section for details on our optional Direct-wire SmartPlug.

Mounting Location

WARNING: BELTRONICS cannot anticipate the many ways the RX65 can be mounted. It is important that you mount RX65 where it will not impair your view nor present a hazard in case of an accident.

Where to mount RX65

For optimum detection performance, we recommend the following:

• Using the Windshield QuickMount, mount your RX65 level, and high enough on your front windshield to provide a clear view of the road from the front and rear.

• Mount RX65 away from windshield wipers, other solid objects, and heavily tinted areas that might obstruct the radar antenna or laser lens.

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Windshield QuickMount

RX65's QuickMount windshield bracket is designed for unobtrusive and hassle-free mounting.

1 Depress the QuickMount button on the top of RX65 (by the word BELTRONICS) and slide the QuickMount bracket into the slot until it is locked into the position which best fits the angle of your windshield (there are four settings available). For extremely horizontal or extremely sloped windshields, the QuickMount bracket can be bent.

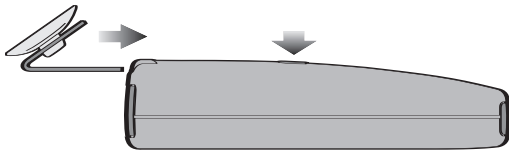
To ensure that the suction cups adhere to the windshield firmly, be sure to keep both your windshield and the suction cups clean.

2 To adjust RX65 on your windshield, use the QuickMount adjustment button located on the top of the RX65, and slide RX65 forward or backward to obtain a level horizontal position.

When installed and adjusted properly, the back top edge of the RX65 should rest solidly against your windshield.

Caution!

A few vehicles (including some Porsches) have windshields with a soft anti-lacerative coating on the inside surface. Use of suction cups will permanently mar this coating. Consult your dealership or the vehicle owner's manual to determine if your windshield has this coating.



User's Tip

You can leave the QuickMount bracket in place on your windshield, and easily remove the RX65 by pressing the adjustment button and sliding it off the mount. Again, be sure to position the bracket where it won't present a hazard in the event of an accident. Additional mounts are available.

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Power On / Off

To turn the RX65 on, press the PWR button on the left side of the top case. When you turn the RX65 on, it goes through a sequence of alerts.

If you prefer, you may program your RX65 for a shorter power-on sequence. See the Programming section for details.

Voice

The RX65 has our Digital Voice feature, which provides a digital voice announcement of the band being detecting.

If you prefer, you can turn the Digital Voice feature off in programming. See Programming section for details.

Power-on indication

After RX65's start-up sequence is complete, the alphanumeric display will show Highway, City, or AutoScan to indicate which sensitivity mode is selected.

If you prefer, you can select alternate power-on displays. See the Programming section for details.

AutoMute

Your RX65 has our patented AutoMute feature. After RX65 alerts you to a radar encounter at the volume you have selected, the AutoMute feature will automatically reduce the volume to a lower level. This keeps you informed without the annoyance of a continuous full-volume alert.

If you prefer, you can turn the AutoMute feature off. See the Programming section for details.

Volume / Mute Button

To adjust the alert tone volume, press and hold the Volume/Mute bar located on the top case.

The Mute button, located on RX65's top case, allows you to silence the audio alert during a radar encounter.

To mute the audio for a single specific signal, briefly press the Volume/Mute button. After that radar encounter has passed, the mute will automatically reset and the audio will alert you to the next encounter.

Highway / AutoScan / City Switch

The City button selects RX65's sensitivity mode. We recommend the AutoScan mode for most driving.

RX65's AutoScan mode provides long-range warning, with minimum false alarms. In this mode, RX65's internal computer continuously analyzes all incoming signals and intelligently adjusts the sensitivity.

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You can also select conventional Highway and City modes. When driving in urban areas where annoying X-band intrusion alarms and door openers are common, City mode can be engaged to lower X-band sensitivity and reduce X-band alerts. Full sensitivity is maintained on all other bands. You can customize RX65's City mode sensitivity. See the Programming section for details.

Brightness Button

RX65's BRT button selects the brightness of RX65's display. There are four settings: Maximum, Medium, Minimum, and Dark. Press the BRT button to select your preferred brightness.

Dark Mode

When you select the Dark mode with the BRT switch, RX65 changes to a very inconspicuous power-on indication: a very BRT AD, HD, or CD. (In this display, the A, H, or C indicates AutoScan, Highway, or City, and the D indicates Dark.)

When RX65 is in the Dark mode, the display will not show visual alerts when RX65 detects signals. Only the audible alert will tell you of detected signals.

Audible Alerts

For Radar signals:

RX65 uses a Geiger-counter-like sound to indicate the signal strength and type of radar signal being encountered.

When you encounter radar, a distinct audible alert will sound and occur faster as the signal gets stronger. This allows you to judge the distance from the signal source without taking your eyes from the road.

Each band has a distinct tone for easy identification.

X-band = chirping tone
K-band = buzzing tone
Ka-band = double-chirp tone
Ku-band = high pitched buzzing tone

For Laser signals:

Since laser signals are a possible threat no matter how weak, RX65 alerts you to all laser signals with a full laser alert.

For Safety signals:

RX65 will alert you to these signals with a double-buzz tone (and digital voice if programmed) with a corresponding text message. A complete listing of the text messages is on page 23.

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Power Connector

RX65's power jack uses a telephone-type connector. This new 6-pin connector only works with the included coiled SmartPlug, or the optional Direct-wire SmartPlug.

The coiled SmartPlug is a special power cord that has a power-on indicator (which only lights up when the RX65 is turned on), a bright alert light that warns of radar or laser, and a convenient mute button right on the plug. It's perfect for any car where reaching the detector's mute button on the windshield is a stretch.

For discreet night driving, put RX65 in the Dark mode, and use the SmartPlug for your visual alerts. Other drivers won't know you have a detector.

An optional Direct-wire SmartPlug is also available. This version includes a small display module, which can be wired directly into your electrical system, with a 10 foot straight cord to route to your RX65.

For more information or to order, call us toll-free at 1-800-341-2288.

Signal Strength Meter

RX65's alphanumeric display consists of 280 individual LEDs, to provide an intuitive ultra-bright display of signal strength and text messages.

RX65's standard bar-graph signal strength meter only displays information on a single radar signal. If there are multiple signals present, RX65's internal computer determines which is the most important threat to show on the bar-graph meter.

When RX65 detects radar, it displays the band (X, K, or Ka), and a precise bar graph of the signal strength. When RX65 detects a laser signal, the display will show "Laser."

NOTE: If you are operating RX65 in the Dark mode, the display will not light when a signal is detected – only the audio alert will be heard, and the flashing alert lamp on the SmartPlug.

Threat Display

RX65's Threat Display option is an advanced display for experienced detector users. Please use RX65 for a few weeks to get familiar with its other features before using Threat Display.

To use the Threat Display instead of the bar graph signal strength meter, you must select Threat Display in RX65's Programming (see pages 12-15).

RX65's Threat Display simultaneously tracks multiple radar signals and their relative signal strength.

Threat Display can help you spot a change in your normal driving environment; for example, a traffic radar unit being operated in an area where there are normally other signals present.

The Threat Display is actually a miniature spectrum analyzer. It shows what band each signal is and its signal strength.

```
Ka9 K2 X1
```

Above is the Threat Display if the RX65 was detecting a strong Ka-band, a weak K-band, and a weak X-band signal.

NOTE: If you use Threat Display, the brief signal shown in the power-on sequence when you turn on your RX65 will also be in Threat Display: an X with a decaying numeric signal.

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A few more examples will help you better see how the Threat Display works.

```
K9 X1
```

Here Threat Display shows a strong K-band signal, and a weak X-band signal.

```
Ka1 X9
```

Here Threat Display shows a weak Ka-band signal, and a strong X-band signal.

Threat Display Details

The band designators (X, K, Ka) will stay on the display for a few seconds after the signal has passed. This allows you to see what the unit detected, even on very brief signals.

Tech Display

BEL RX65's new Tech Display option is also for the experienced detector user. In this mode, RX65 will display the actual numeric frequency of the radar signal being received.

```
K 24.150
```

Tech Display shows one K-band signal at 24.150 gigahertz.

Note: Even long-time detector users will require a significant amount of time to get familiar with this new level of information about detected signals.

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Programming

There are 7 user-selectable options so you can customize your RX65 for your own preferences. The buttons labeled CITY and BRT are also used to enter the Program Mode, REVIEW your current program settings, and to CHANGE any settings as desired. The words PROGRAM, RVW, and CHG are located on the top of the detector, and are highlighted in colored graphics. Pages 14-16 explain each option in more detail.

How to use Programming

1 **To enter Program Mode, press and hold the CITY and BRT buttons for 2 seconds.** (The unit will beep twice, and will display the word "Program").

2 **Then press the RVW button to review the current settings**. (You can either tap the button to change from item to item, or hold the button to scroll through the items).

3 **Press the CHG button to change any setting.** (You can either tap the button to change from setting to setting, or hold the button to scroll through all the options).

4 **To leave the Program Mode, simply wait 8 seconds without pressing any button.** (The unit will display Complete, beep 4 times, and return to normal operation).

An example

Here is how you would turn RX65's AutoMute feature off.

1 Enter the Program Mode by holding both the CITY and BRT buttons down for 2 seconds. *The RX65 will beep twice and display* `Program`.

2 Then hold the RVW button down. *The RX65 will scroll through the categories, starting with Pilot (*`Pilot`*), then Voice (*`Voice`*), then Power-on sequence (*`PwrOn`*), then Signal strength meter (*`Meter`*), and then AutoMute (*`aMute`*).*

3 Release the RVW button when RX65 shows the AutoMute item. *Since the factory setting is for AutoMute to be on, RX65 will display* `aMute ON`.

(If you accidentally don't release the RVW button in time, and the RX65 goes to the next category, hold the RVW button down again, and after RX65 scrolls through all categories, it will begin again at the top of the list.)

4 Press the CHG button to change from `aMute ON` to `aMute OFF`.

5 To complete the Programming, simply wait 8 seconds without pressing any button. *The RX65 will display* `Complete`*, beep 4 times, and return to normal operation.*

Overview of Programming

Press the REVIEW button to go from one category to the next →

Press the CHANGE button to change your setting within a category →

PILOT (Power-on indication)	`Pilot HWY`	*Full word: Highway or AutoScan or
	`Pilot H`	Letter: H or A or C
	`Pilot V`	Vehicle voltage
VOICE	`Voice ON`	*Voice alerts on
	`Voice OFF`	Voice alerts off
POWER-ON SEQUENCE	`PwrOn STD`	*Standard power-on sequence
	`PwrOn FST`	Fast power-on sequence
SIGNAL STRENGTH METER	`Meter STD`	*Standard signal strength meter
	`Meter THT`	Threat Display
	`Meter TEC`	Tech Display
AUTOMUTE	`aMute ON`	*AutoMute on
	`aMute OFF`	AutoMute off
CITY MODE SENSITIVITY	`City STD`	*Standard City mode sensitivity
	`City LoX`	Low X band sensitivity in City Mod
	`City NoX`	No X band sensitivity in City Mode
BANDS	`Bands ALL`	*All bands enabled
	`Bands MOD`	One or more bands are disabled

Turn bands "ON" or "OFF" by pressing the VOLUME/MUTE butto

`X`	`ON` *or* `OFF`	
`K`	`ON` *or* `OFF`	
`Ka`	`USA` *or* `Intl` *or* `OFF`	
`POP`	`ON` *or* `OFF`	
`Ku`	`ON` *or* `OFF`	
`LSR`	`ON` *or* `OFF`	
`SWS`	`ON` *or* `OFF`	

* **Factory Default Settings**
To reset RX65 to its original factory settings, press and hold the "CITY" and "BRT" buttons while turning the power on. The RX65's display will provide a "Reset" message, accompanied by an audible alert, acknowledging the reset.

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Pilot (Power-on indication)

Note: When you are using the Dark mode, the display will only show HD, AD, or CD, (Highway-Dark, AutoScan-Dark, or City-Dark).

`Pilot HWY` (Full description)
In this setting, RX65 will display “Highway,” “City,” or “Auto” as its power-on indication. (factory default)

`Pilot H` (Letter)
In this setting, RX65 will display “H” for Highway, “C” for City, and “A” for AutoScan.

`Pilot V` (Vehicle voltage)
In this setting, RX65 will continually display “H” for Highway, “C” for City, and “A” for AutoScan, and the vehicle’s voltage. If the vehicle’s voltage drops below 10.5 volts, a low voltage warning is displayed, followed by an audible alert. A high voltage warning is also given if the voltage goes above 16.0 volts. The high-voltage warning is also followed by an audible alert.

Voice

`Voice On` (Voice alerts on)
In this setting, all radar, laser, and SWS (if programmed on) alerts will be accompanied by a digital voice.

`Voice Off` (Voice alerts off)
In this setting, only the audio tones will be heard during an alert or SWS message.

Power-on Sequence

`PwrOnSTD` (Standard)
In this setting, each time you turn on the RX65, it will display “BEL RX65,” “Laser,” “Ka-band,” “K-band,” “X-band,” “Safety,” and any changes to factory settings. (factory default)

`PwrOnFST` (Fast power-on)
In this setting, the RX55 will only provide a brief audible tone, and will display any non-factory settings.

Signal Strength Meter

`MeterSTD` (Standard meter)
In this setting, the meter displays the band of the received signal, and a bar graph shows the relative signal strength. (factory default)

`MeterTHT` (Threat Display)
In this setting, the meter simultaneously tracks multiple radar signals, including relative signal strength for each.

Note: The Threat Display feature is explained in more detail on pages 10-11.

`MeterTEC` (Tech Display meter)
In this setting, the meter displays the actual numeric frequency of the radar signal received.

Note: The Tech Display feature is explained in more detail on page 11.

AutoMute

`aMute ON` (AutoMute on)
In this setting, RX65’s audio alerts will initially be at the volume you set, but after a few seconds, the RX65 will automatically reduce the volume level, to keep you informed, but not annoyed. (factory default)

`aMuteOFF` (AutoMute off)
With AutoMute off, RX65’s audio alerts will remain at the volume you set for the duration of the radar encounter.

City Mode Sensitivity

`City STD` (Standard)
In this setting, when you put RX65 in the City mode, X-band sensitivity is significantly reduced, to reduce annoyance from X-band intrusion alarms and motion sensors. (factory default)

`City LoX` (Low X band sensitivity)
In this setting, when you put RX65 in the City mode, X-band sensitivity is reduced more than the standard setting. This will reduce X band alarms from other sources even further, but also significantly reduces range to X band traffic radar.

`City NoX` (No X band sensitivity)
In this setting, when you put RX65 in the City mode, it will not respond to any X band signals. **WARNING: Only choose this setting if you are absolutely certain that there are no X band traffic radar units where you drive.**

NOTE: These settings only apply when RX65 is operated in City mode. X-band sensitivity is not affected when used in “AutoScan,” or “Highway” modes.

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Bands

BandsALL

In this setting all radar, laser, and SWS frequencies are monitored. This is the factory setting, and it is highly recommended that you use your RX65 in this mode.

BandsMOD

In this setting, RX65 will warn you with an audible alert, and associated text message stating which band is turned off (i.e. “SWS OFF”). This warning is displayed during the start up sequence (standard or fast).

WARNING: Only modify bands if you are absolutely certain that there are no traffic radar units using that specific band in your area.

Features and Specifications

Operating Bands
- X-band 10.525 GHz ± 25 MHz
- K-band 24.150 GHz ± 100 MHz
- Ka-band 34.700 GHz ± 1300 MHz
- Laser 904nm, 33 MHz bandwidth

Radar Receiver / Detector Type
- Superheterodyne, GaAs FET VCO
- Scanning Frequency Discriminator
- Digital Signal Processing (DSP)

Laser Detection
- Quantum Limited Video Receiver
- Multiple Laser Diodes

Display
- 280 LED Alphanumeric
- Bar Graph, Threat Display, or Tech Display
- 3 Levels of Brightness, plus Dark Mode

Power Requirement
- 12VDC, Negative Ground
- SmartPlug (included)

Programmable Features
- Power-On Indication
- Voice Alerts
- Power-On Sequence
- Signal Strength Meter
- AutoMute
- City Mode Sensitivity
- Radar / Laser Bands

Sensitivity Control
- Highway, AutoScan and City

Auto Calibration Circuitry

VG2 Immunity

Dimensions (Inches)
- 1.25 H x 2.75 W x 4.75 L

Patented Technology

RX65 is covered by one or more of the following US patents.
6,836,238 6,693,578 6,614,385 6,587,068 6,400,305 6,249,218 6,069,580 5,668,554 5,600,132 5,587,916 5,559,508 5,365,055 5,347,120 5,446,923 5,402,087 5,305,007 5,206,500 5,164,729 5,134,406 5,111,207 5,079,553 5,049,885 5,049,884 4,961,074 4,954,828 4,952,937 4,952,936 4,939,521 4,896,855 4,887,753 4,862,175 4,750,215 4,686,499 4,631,542 4,630,054 4,625,210 4,613,989 4,604,529 4,583,057 4,581,769 4,571,593 4,313,216 D314,178 D313,365 D310,167 D308,837 D296,771 D288,418 D253,752
RX55 is also covered by one or more of the following Canadian patents:
2,330,964 1,295,715 1,295,714 1,187,602 1,187,586
European patent:
1,145,030
Other patents pending. Additional patents may be listed inside the product.

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Interpreting Alerts

Although the RX65 has a comprehensive warning system and this handbook is as complete as we can make it, only experience will teach you what to expect from your RX65 and how to interpret what it tells you. The specific type of radar being used, the type of transmission (continuous or instant-on) and the location of the radar source affect the radar alerts you receive.

The following examples will give you an introduction to understanding the RX65's warning system for radar, laser and safety alerts.

Alert	Explanation
The RX65 begins to sound slowly, then the rate of alert increases. The Signal Meter ramps accordingly.	You are approaching a continuous radar source aimed in your direction.
RX65 emits short alerts for a few seconds and then falls silent only to briefly alert and fall silent again.	An instant-on radar source is being used ahead of you and out of your view.
RX65 suddenly sounds a continuous tone for the appropriate band received. All segments in the Signal Strength Meter are lit.	An instant-on radar source or laser source is being used nearby. This kind of alert requires immediate attention!
A brief laser alert.	Laser is being used in the area. Because laser is inherently difficult to detect, any laser alert may indicate a source very close by.
RX65 receives weak signals. These signals may be a little stronger as you pass large, roadside objects. The signals increase in frequency.	A moving patrol car with continuous radar is overtaking you from behind. Because these signals are reflected (reflections are increased by large objects), they may or may not eventually melt into a solid point even when the patrol car is directly behind you.
RX65 alerts slowly for a while and then abruptly jumps to a strong alert.	You are approaching a radar unit concealed by a hill or an obstructed curve.
RX65 alerts intermittently. Rate and strength of alerts may be consistent or vary wildly.	A patrol car is traveling in front of you with a radar source aimed forward. Because signals are sometimes reflected off of large objects and sometimes not, the alerts may seem inconsistent.
RX65 alerts intermittently. Rate and strength of signal increases with each alert.	A patrol car is approaching from the other direction, sampling traffic with instant-on radar. Such alerts should be taken seriously.
RX65 gives an X-band, or K-band alert intermittently.	You are driving through an area populated with radar motion sensors (door openers, burglar alarms, etc.). Since these transmitters are usually contained inside buildings or aimed toward OR away from you, they are typically not as strong or lasting as a real radar encounter.
	CAUTION: Since the characteristics of these alerts may be similar to some of the preceding examples, overconfidence in an unfamiliar area can be dangerous. Likewise, if an alert in a commonly traveled area is suddenly stronger or on a different band than usual, speed radar may be set up nearby.

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How Radar Works

Traffic radar, which consists of microwaves, travels in straight lines and is easily reflected by objects such as cars, trucks, even guardrails and overpasses. Radar works by directing its microwave beam down the road. As your vehicle travels into range, the microwave beam bounces off your car, and the radar antenna looks for the reflections. Using the Doppler Principle, the radar equipment then calculates your speed by comparing the frequency of the reflection of your car to the original frequency of the beam sent out.

Traffic radar has limitations, the most significant of these being that it typically can monitor only one target at a time. If there is more than one vehicle within range, it is up to the radar operator to decide which target is producing the strongest reflection. Since the strength of the reflection is affected by both the size of the vehicle and its proximity to the antenna, it is difficult for the radar operator to determine if the signal is from a sports car nearby or a semi-truck several hundred feet away.

Radar range also depends on the power of the radar equipment itself. The strength of the radar unit's beam diminishes with distance. The farther the radar has to travel, the less energy it has for speed detection.

Because intrusion alarms and motion sensors often operate on the same frequency as X-Band radar, your RX65 will occasionally receive non-police radar signals. Since these X-Band transmitters are usually contained inside of a building, or aimed toward the ground, they will generally produce much weaker readings than will a true radar encounter. As you become familiar with the sources of these pseudo alarms in your daily driving, they will serve as confirmation that your RX65's radar detection abilities are fully operational.

How "POP" Works

"POP" mode is a relatively new feature for radar gun manufacturers. It works by transmitting an extremely short burst, within the allocated band, to identify speeding vehicles in traffic. Once the target is identified, or "POPPED," the gun is then turned to its normal operating mode to provide a vehicle tracking history, (required by law).

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How Laser (Lidar) Works

Laser speed detection is actually LIDAR (Light Detection and Ranging). LIDAR guns project a beam of invisible infrared light. The signal is a series of very short infrared light energy pulses, which move, in a straight line, reflecting off your car and returning to the gun. LIDAR uses these light pulses to measure the distance to a vehicle. Speed is then calculated by measuring how quickly these pulses are reflected given the known speed of light.

LIDAR (or laser) is a newer technology and is not as widespread as conventional radar, therefore, you may not encounter laser on a daily basis. And unlike radar detection, laser detection is not prone to false alarms. Because LIDAR transmits a much narrower beam than does radar, it is much more accurate in its ability to distinguish between targets and is also more difficult to detect. **AS A RESULT, EVEN THE BRIEFEST LASER ALERT SHOULD BE TAKEN SERIOUSLY.**

There are limitations to LIDAR equipment. LIDAR is much more sensitive to weather conditions than RADAR, and a LIDAR gun's range will be decreased by anything affecting visibility such as rain, fog, or smoke. A LIDAR gun cannot operate through glass and it must be stationary in order to get an accurate reading. Because LIDAR must have a clear line of sight and is subject to cosine error (an inaccuracy, which increases as the angle between the gun and the vehicle, increases) police typically use LIDAR equipment parallel to the road or from an overpass. LIDAR can be used day or night.

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How Safety Radar Works

Safety Warning System, or SWS, uses a modified K-band radar signal. The SWS safety radar system has 64 possible messages (60 currently allocated). The SWS messages your RX65 can display are listed on the facing page.

From the factory, your RX65 is programmed with SWS decoding OFF. If SWS is used in your area, your RX65 will display the safety messages associated with the signal. If you wish to detect this system, use the Programming feature to turn RX65's SWS decoding ON.

NOTE: Some of the safety messages have been condensed, so that each message can be displayed on one or two screens on RX65's eight-character display.

Since Safety radar technology is relatively new, and the number of transmitters in operation is not yet widespread, you will not receive Safety signals on a daily basis. Do not be surprised if you encounter emergency vehicles, road hazards and railroad crossings that are unequipped with these transmitters. As Safety transmitters become more prevalent (the number of operating transmitters is growing every day), these Safety radar signals will become more common.

For more information and details about SWS safety radar, visit their web site at www.safetyradar.com.

SWS Text Messages

Highway Construction or Maintenance

1 Work Zone Ahead
2 Road Closed Ahead/Follow Detour
3 Bridge Closed Ahead/Follow Detour
4 Highway Work Crews Ahead
5 Utility Work Crews Ahead
6 All Traffic Follow Detour Ahead
7 All Trucks Follow Detour Ahead
8 All Traffic Exit Ahead
9 Right Lane Closed Ahead
10 Center Lane Closed Ahead
11 Left Lane Closed Ahead
12 *For future use*

Highway Hazard Zone Advisory

13 Stationary Police Vehicle Ahead
14 Train Approaching/At Crossing
15 Low Overpass Ahead
16 Drawbridge Up
17 Observe Drawbridge Weight Limit
18 Rock Slide Area Ahead
19 School Zone Ahead
20 Road Narrows Ahead
21 Sharp Curve Ahead
22 Pedestrian Crossing Ahead
23 Deer/Moose Crossing
24 Blind/Deaf Child Area
25 Steep Grade Ahead/Truck Use Low Gear
26 Accident Ahead
27 Poor Road Surface Ahead
28 School Bus Loading/Unloading
29 No Passing Zone
30 Dangerous Intersection Ahead
31 Stationary Emergency Vehicle Ahead
32 *For future use*

Weather Related Hazards

33 High Wind Ahead
34 Severe Weather Ahead
35 Heavy Fog Ahead
36 High Water/Flooding Ahead
37 Ice On Bridge Ahead
38 Ice On Road Ahead
39 Blowing Dust Ahead
40 Blowing Sand Ahead
41 Blinding Snow Whiteout Ahead
42 *For future use*

Travel Information / Convenience

43 Rest Area Ahead
44 Rest Area With Service Ahead
45 24 Hour Fuel Service Ahead
46 Inspection Station Open
47 Inspection Station Closed
48 Reduced Speed Area Ahead
49 Speed Limit Enforced
50 Hazardous Materials Exit Ahead
51 Congestion Ahead/Expect Delay
52 Expect 10 Minute Delay
53 Expect 20 Minute Delay
54 Expect 30 Minute Delay
55 Expect 1 Hour Delay
56 Traffic Alert/Tune AM Radio
57 Pay Toll Ahead
58 Trucks Exit Right
59 Trucks Exit Left
60 *For future use*

Fast / Slow Moving Vehicles

61 Emergency Vehicle In Transit
62 Police In Pursuit
63 Oversize Vehicle In Transit
64 Slow Moving Vehicle

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Problem	Solution
RX65 beeps briefly at the same location every day, but no radar source is in sight.	• An X-band motion sensor or intrusion alarm is located within range of your route. With time, you will learn predictable patterns of these signals.
RX65 does not seem sensitive to radar or laser.	• Make sure that windshield wipers do not block RX65's radar antenna and that the laser lens is not behind tinted areas. • Determine if your vehicle has an Instaclear®, ElectriClear® or solar reflective windshield which may deflect radar or laser signals. • RX65 may be in City Mode.
RX65 did not alert when a police car was in view.	• VASCAR (Visual Average Speed Computer and Recorder) a stopwatch method of speed detection, may be in use. • Officer may not have radar or laser unit turned on.
RX65 did not provide a Safety signal while within range of an emergency vehicle.	• Safety transmitters may not be commonly used in your area.
RX65's display is not working.	• Press the BRT button to deactivate Dark Mode.
RX65's audible alerts are less loud after the first few alerts.	• RX65 is in AutoMute Mode. See page 8 for details.
RX65 bounces or sags on windshield.	• RX65 is not making contact with the windshield to provide stability. While holding down RX65's QuickMount button, slide RX65 toward the windshield so that the back top edge makes firm contact.
RX65's power-on sequence reoccurs while you are driving.	• A loose power connection or dirty lighter socket can cause RX65 to be briefly disconnected.
Your 14-year old son has changed all 7 of the Programming options.	You can return all of the programming options to the factory defaults by holding down the CITY and BRT buttons while you turn RX65 on.

Problem	Solution
RX65 will not turn on.	• Check that the power is ON. • Check that vehicle ignition is ON. • Check that vehicle lighter socket is functional. • Try RX65 in another vehicle.
RX65 feels very warm.	• It is normal for RX65 to feel warm.

Explanation of Displays

AD	Sensitivity control is in Auto mode, display is in Dark mode (page 9)
HD	Sensitivity control is in Highway mode, display is in Dark mode (page 9)
CD	Sensitivity control is in City mode, display is in Dark mode (page 9)
No display	RX65 is in the Dark mode, and is programmed for Dark All (page 9, 16)
PilotHWY	One of the many programming messages (pages 12-16)
WorkZone	One of the many Safety Radar messages (pages 22-23)
Caution	RX65 has detected a Safety Radar Signal, but the signal isn't yet strong enough to decode the specific safety message (page 22-23)
X5, *or* K5, *or* KA9 *etc.*	RX65 has been programmed in the Threat Display mode (page 10-11)
VG2	RX65 has detected a VG2 unit (radar detector detector)

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Service Procedure

If your RX65 ever needs service, please follow these simple steps:

1 Check the troubleshooting section of this manual. It may have a solution to your problem.

2 Call us at 1-800-341-2288. We may be able to solve your problem over the phone. If the problem requires that you send your RX65 to the factory for repair, we will provide you with a Service Order Number, which must be included on the outside of your shipping box.

Enclose the following information with your RX65:

- Your Service Order Number
- Your name and return address
- Your daytime telephone number
- A description of the problem you are experiencing.

Out Of Warranty Repairs

For out of warranty repairs, include prepayment in the amount you were quoted by the Beltronics Customer Service Representative. If the detector has been damaged, abused or modified, the repair cost will be calculated on a parts and labor basis. If it exceeds the basic repair charge, you will be contacted with a quotation. If the additional payment is not received within 30 days (or if you notify us that you choose not to have your RX65 repaired at the price quoted), your RX65 will be returned, without repair. Payment can be made by check, money order, or credit card.

Ship RX65 and Power Cord To:

BELTRONICS
Customer Service Department
Service Order Number _____
5442 West Chester Road
West Chester, Ohio 45069

For your own protection, we recommend that you ship your RX65 postpaid and insured. Insist on a proof of delivery, and keep the receipt until the return of your RX65.

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Register online: @ www.beltronicspro.com

Remove card along perforations

BELTRONICS® PRODUCT REGISTRATION CARD

If you purchased your detector directly from BELTRONICS, you do not need to fill this out.

If you did not purchase your detector directly from BELTRONICS, please fill out this section and return to us, or register online at our web address: www.beltronics.com.

1. First Name:_____ Middle Initial____ Last Name_____
   Address_____
   City_____ State_____ ZIP_____
   Phone Number (In case we have a question)_____
2. Product Purchased_____ Model_____ Serial Number_____
3. Place of Purchase_____ Date_____ Price_____
4. Primary reason for purchasing this BELTRONICS product_____
   _____
   _____

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FIRST-CLASS MAIL PERMIT NO 300 WEST CHESTER OH
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BELTRONICS INC
5442 WEST CHESTER RD
WEST CHESTER OH 45069-9789

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

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BELTRONICS One Year Limited Warranty

What this warranty covers: BELTRONICS warrants your Product against all defects in materials and workmanship.
For how long: One (1) year from the date of the original purchase.
What we will do: BELTRONICS, at our discretion, will either repair or replace your Product free of charge.
What we will not do: BELTRONICS will not pay shipping charges that you incur for sending your product to us.
What you must do to maintain this warranty: Show original proof of purchase from an authorized BELTRONICS dealer.
Warranty Exclusions: Warranty does not apply to your product under any of the following conditions: 1. The serial number has been removed or modified. 2. Your product has been subjected to misuse or damage (including water damage, physical abuse, and/or improper installation). 3. Your product has been modified in any way. 4. You do not supply original proof of purchase or your receipt or proof-of-purchase is from a non-authorized dealer or internet auction site including E-bay, U-bid, or other non-authorized seller or resellers. 5. You are not the original purchaser of the radar detector from an authorized dealer or did not receive it as a gift from the original purchaser of the radar detector from an authorized dealer.
To obtain service: 1. Contact BELTRONICS (1-800-341-2288) to obtain a Return Authorization number. 2. Properly pack your product and include: your name, complete return address, written description of the problem with your product, daytime telephone number, and a copy of the original purchase receipt. 3. Label the outside of the package clearly with your Return Authorization number. Ship the product pre-paid (insured, for your protection) to: Beltronics Inc, 5442 West Chester Rd., West Chester, OH 45069.
LIMITATION OF WARRANTY: EXCEPT AS EXPRESSLY PROVIDED HEREIN, YOU ARE ACQUIRING THE PRODUCT "AS IS" AND "WHERE IS," WITHOUT REPRESENTATION OR WARRANTY. BELTRONICS SPECIFICALLY DISCLAIMS ANY REPRESENTATION OR WARRANTY INCLUDING, BUT NOT LIMITED TO THOSE CONCERNING THE MERCHANTABILITY AND SUITABILITY OF THE PRODUCT FOR A PARTICULAR PURPOSE. BELTRONICS SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INCIDENTAL DAMAGES INCLUDING, WITHOUT LIMITATION, DAMAGES ARISING OUT OF THE USE, MISUSE OR MOUNTING OF THE PRODUCT. The above limitations or exclusions shall be limited to the extent they violate the laws of any particular state. BELTRONICS is not responsible for products lost in shipment between the owner and our service center.
Other legal rights: This Warranty gives you specific rights. You may have other legal rights, which vary, from state to state.

BELTRONICS Extended Service Plan

BELTRONICS offers an optional extended service plan. Contact BELTRONICS for details (1-800-341-2288).

Accessories

The following accessories and replacement parts are available for BEL Pro RX65.

Standard Coiled SmartPlug $29.95
Direct-wire SmartPlug $29.95
Accessory Kit.....$19.95
Visor Clip $4.00
Aluminum Travel Case $19.95

See all of our products and accessories at www.beltronicspro.com

Features, specifications and prices are subject to change without notice.