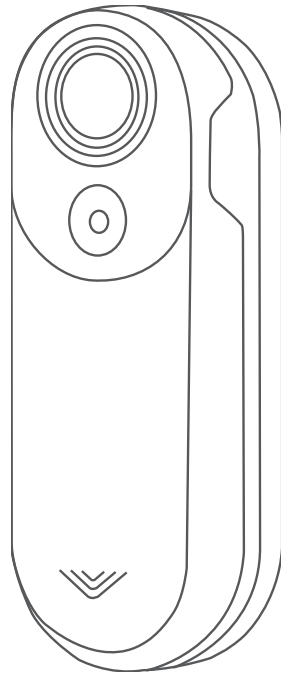


**GARMIN®**



# **VARIA™ RCT716**

---

## **Owner's Manual**

© 2022 Garmin Ltd. or its subsidiaries

All rights reserved. Under the copyright laws, this manual may not be copied, in whole or in part, without the written consent of Garmin. Garmin reserves the right to change or improve its products and to make changes in the content of this manual without obligation to notify any person or organization of such changes or improvements. Go to [www.garmin.com](http://www.garmin.com) for current updates and supplemental information concerning the use of this product.

Garmin®, the Garmin logo, ANT+®, Edge®, fēnix®, Forerunner®, and Venu® are trademarks of Garmin Ltd. or its subsidiaries, registered in the USA and other countries. Garmin Connect™, Garmin Express™, and Varia™ are trademarks of Garmin Ltd. or its subsidiaries. These trademarks may not be used without the express permission of Garmin. The BLUETOOTH® word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by Garmin is under license. microSD® and the microSD logo are trademarks of SD-3C, LLC. Wi-Fi® is a registered mark of Wi-Fi Alliance Corporation.

M/N: A04247

Country restrictions apply. 010-02476-00 is approved for operation in France and the United Kingdom. 010-02477-00 is approved for operation in Germany.

# Table of Contents

<b>Introduction.....</b>	<b>1</b>	<b>Other Compatible Devices.....</b>	<b>11</b>
Getting Started.....	1	Pairing the Varia RCT716 with a	
Tips for Installing the Device.....	1	Compatible Edge Bike Computer.....	11
Installing the Tail Light Mount.....	2	Pairing the Radar Device with a	
Device Overview.....	2	Compatible Garmin Watch.....	11
Varia RCT716 Device Status LED.....	3	<b>Device Information.....</b>	<b>12</b>
Varia RCT716 Camera Status LED.....	3	Charging the Device.....	12
Tail Light Modes and Intensity.....	4	Tips for Charging the Device.....	12
Turning Off the Device.....	4	Connecting the Device to Your	
<b>The Varia RCT716 and the Varia</b>		Computer.....	13
<b>App.....</b>	<b>4</b>	Videos and Photos on Your	
Pairing the Varia Radar Device with Your		Computer.....	13
Phone.....	5	Replacing the Memory Card.....	14
Viewing Radar on the Varia App.....	6	Device Care.....	15
Video Recording.....	6	Cleaning the Device.....	15
Viewing Videos and Photos on the		Radar Detection.....	15
Varia App.....	6	Varia RCT716 Specifications.....	15
Downloading Videos and Photos on		<b>Troubleshooting.....</b>	<b>16</b>
the Varia App.....	7	Resetting the Device.....	16
Deleting a Video or Photo on the Varia		Updating the Device Software With the	
App.....	7	Varia App.....	16
Saving Videos and Photos		Device Status LED for Software	
Manually.....	7	Updates.....	16
About Incident Recording.....	7	Product Updates.....	16
Varia App Device Settings.....	7	Updating the Software Using the	
Camera Settings.....	8	Garmin Express Application.....	16
Customizing the Varia App Alert		The radar device is not responding.....	16
Settings.....	8	Radar detection does not work	
<b>The Varia RCT716 and Your Edge</b>		indoors.....	17
<b>1040.....</b>	<b>8</b>	The radar device does not turn on.....	17
Pairing the Varia RCT716 with Your Edge		The status LED is flashing yellow.....	17
1040.....	9	The status LED turns red while	
Viewing Radar on Your Edge Bike		charging.....	17
Computer.....	9	The status LED turns red while updating	
Tone Alerts for Approaching		the software.....	17
Vehicles.....	9	The radar device disconnects from the	
Viewing Widgets.....	10	Edge bike computer.....	17
Customizing the Varia Device Settings		The radar device disconnects from the	
with Your Edge 1040.....	10	Varia app.....	17
Testing the Light Network.....	10	Replacement Parts.....	18
Light Network Settings.....	10	Getting More Information.....	18
Customizing the Radar Alert Settings			
with Your Edge 1040.....	11		



# Introduction

## ⚠ WARNING

See the *Important Safety and Product Information* guide in the product box for product warnings and other important information.

The device can improve situational awareness. It is not a replacement for cyclist attentiveness and good judgement. Always maintain awareness of your surroundings, and operate the bicycle in a safe manner. Failure to do so could result in serious injury or death.

Always consult your physician before you begin or modify any exercise program.

## Getting Started

You can use the Varia RCT716 with your compatible Garmin® device or a phone. This list provides an overview of the installation and setup tasks.

- Charge the device ([Charging the Device, page 12](#)).
- Install the tail light mount ([Installing the Tail Light Mount, page 2](#)).
- If you are using an Edge® 1030 series device, pair the devices ([The Varia RCT716 and Your Edge 1040, page 8](#)).
- If you are using your phone, download the Garmin Varia app to your phone, and pair the devices ([Pairing the Varia Radar Device with Your Phone, page 5](#)).
- If you are using another Garmin device, pair the devices ([Other Compatible Devices, page 11](#)).

## Tips for Installing the Device

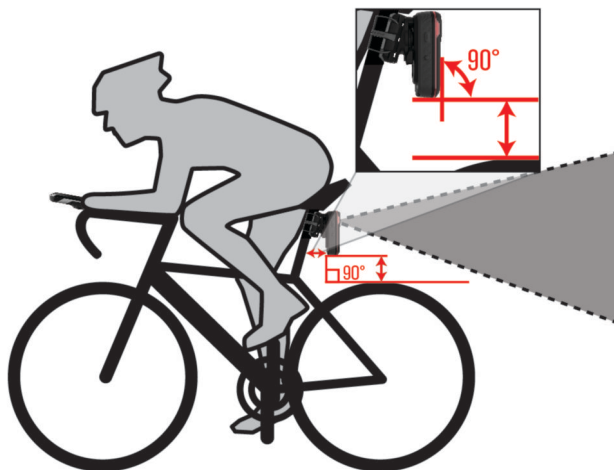
The Varia RCT716 device includes a tail light and micro radar that can detect approaching vehicles up to 140 meters away.

- Select a secure location to mount the device where it does not interfere with the safe operation of your bike.
- Mount the device as high on the seat post as possible for optimal light visibility and radar detection.

**NOTE:** The mount surface should be vertical. The mounts are designed to accommodate most seat post angles.

- Mount the device on the seat post 250 mm to 1200 mm above the road.
- Mount the Varia RCT716 device parallel to the longitudinal axis of the vehicle.
- Install the device correctly.

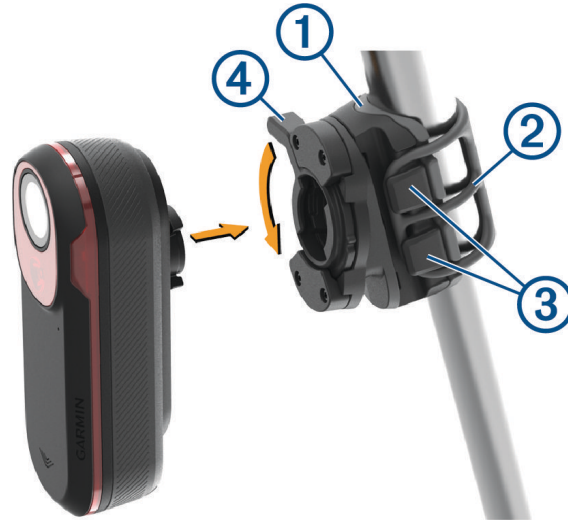
The device faces backward and is perpendicular to the road.



- Make sure there are no obstructions in front of the light.
- Go for a test ride during the day in a safe environment.

## Installing the Tail Light Mount

- 1 Select a rubber pad ① based on your seat post shape, and place the rubber pad on the back of the tail light mount.
- 2 Place the tail light mount on the seat post.



- 3 Attach the tail light mount securely using one band ②.
- 4 Align the tabs on the back of the device with the tail light mount notches ③.
- 5 Press the locking lever down ④ until it locks into place.

## Device Overview



① Device button	Hold for 1 second to turn the device on and enter active mode. When the device is off, hold for 2 seconds to enter pairing mode ( <i>Pairing the Varia Radar Device with Your Phone, page 5</i> ). Hold for 2 seconds to turn the device off.
② Device status LED	Changes color based on the battery level, pairing status, device modes, and charging status ( <i>Varia RCT716 Device Status LED, page 3</i> ).
③ Camera status LED	Changes color based on the camera status ( <i>Varia RCT716 Camera Status LED, page 3</i> ).
④ Camera button	Hold for 1 second to save a video or take a picture. Hold for 4 seconds to turn the camera on.
⑤ Microphone	Captures audio.

## Varia RCT716 Device Status LED

LED State	Status
Purple	The device is in active pairing mode.
Blue	The device is in smart mode and can be controlled by a paired compatible Garmin device.
Flashing green	The device is charging.
Solid green	The device is fully charged.
Flashing yellow	The device is in lock mode.
Flashing red	The device has approximately 60 or fewer minutes of battery life remaining. <b>NOTE:</b> You must charge the device as soon as possible.
Solid red	An error occurred. You may need to restart the device.

## Varia RCT716 Camera Status LED

LED State	Status
Solid red	The device is recording video.
Flashing red	The device is saving a video or photo.
Alternating red and yellow flashes	The memory card is low on space.
Flashing yellow	There is a problem with the memory card.
Solid green	The memory card is being formatted. The device is in mass storage mode.
Flashing green	The device is powering on. The memory card is being accessed.
Flashing blue	The device is in Wi-Fi® sharing mode.

## Tail Light Modes and Intensity

You can switch the Varia RCT716 tail light modes by pressing the device button ([Device Overview, page 2](#)).

Mode	Light Intensity	Radar Behavior when Vehicle Approaches
Solid (default)	High	The device detects vehicles.
Standby	Off	The device does not detect vehicles.

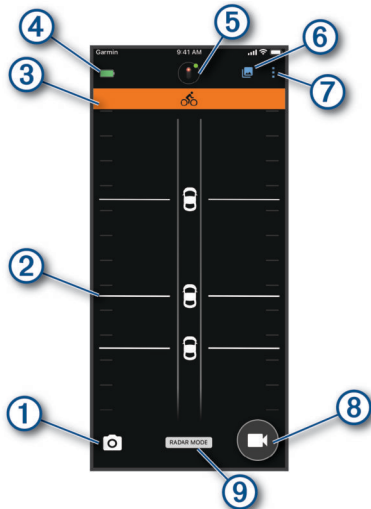
## Turning Off the Device

Hold the device button for 2 seconds ([Device Overview, page 2](#)).

**NOTE:** You can also hold both buttons for 4 seconds to lock the device, preventing it from turning on.

## The Varia RCT716 and the Varia App

The Varia app connects to your Varia RCT716 device using Bluetooth® technology. The app displays radar information, settings, videos, and photos.






- ① Select to take a photo.
- ② Displays radar information (*Viewing Radar on the Varia App, page 6*).
- ③ Displays a colored banner indicating the threat level posed by approaching vehicles.
- ④ Displays battery status of the paired Varia device.
- ⑤ Select to change the device and camera settings (*Varia App Device Settings, page 7*).
- ⑥ Select to open the video and photo gallery (*Viewing Videos and Photos on the Varia App, page 6*).
- ⑦ Select to update the sounds and alerts on your phone. (*Customizing the Varia App Alert Settings, page 8*).
- ⑧ Select to record video or save a video clip.
- ⑨ Displays your recording mode (*Changing Your Recording Mode, page 8*).

You can download the Varia app from the app store on your phone.

## Pairing the Varia Radar Device with Your Phone

The first time you connect the Varia RCT716 device to the Varia app on your phone, you must pair both devices. After the initial pairing, the Varia app automatically connects to the Varia RCT716 when you open the app and the radar device is active and within range.

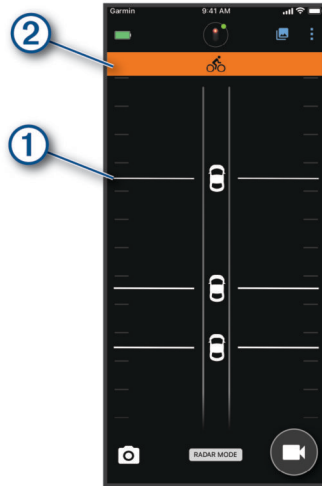
- 1 Bring your phone within range (3 m) of the radar device.
  - NOTE:** Stay 10 m away from other Bluetooth sensors while pairing.
- 2 On your compatible phone, enable Bluetooth technology.
- 3 From the app store on your phone, install and open the Varia app.
- 4 Select **Pair Now**.
- 5 While the Varia RCT716 device is turned off, hold the device button for 2 seconds to enter pairing mode. The device status LED flashes purple, and the tail light turns on. The device is in pairing mode for 5 minutes or until you press the device button.
- 6 Select **That's Mine**.

When the radar device is paired with your phone, the app displays the current radar status and .

## Viewing Radar on the Varia App

Go for a ride.

The radar information appears on the active data screen.



The vehicle position ① moves up the screen as a vehicle gets closer to your bike. The threat level banner ② changes color based on the potential level of threat. Green indicates no vehicle is detected. Amber indicates a vehicle is approaching. Red indicates a vehicle is advancing at a high rate of speed.

**TIP:** The line next to the vehicle also indicates the threat level. A straight line changes to jagged with a red threat level.

## Video Recording

### NOTICE

Some jurisdictions may prohibit or regulate the recording of video, audio, or photographs, or may require that all parties have knowledge of the recording and provide consent. It is your responsibility to know and follow all laws, regulations, and any other restrictions in jurisdictions where you plan to use this device.

The Varia RCT716 records video to the memory card ([Replacing the Memory Card, page 14](#)). By default, the camera is disabled when you turn the device on. To enable the camera, hold the camera button for 4 seconds. The camera continues recording until it is turned off. If the memory card is full, the device automatically overwrites the oldest unsaved video with new video.


You can save a video recording to prevent it from being overwritten or deleted. ([Saving Videos and Photos Manually, page 7](#))

**TIP:** After you save a video recording, you should download the recording to your phone ([Downloading Videos and Photos on the Varia App, page 7](#)) or transfer the recording to your computer or other external storage location for permanent storage ([Connecting the Device to Your Computer, page 13](#)).

## Viewing Videos and Photos on the Varia App

Before you can view videos and photos on the Varia app, you must download the app and pair it with your Varia RCT716 device ([Pairing the Varia Radar Device with Your Phone, page 5](#)).


**NOTE:** The device stops recording while you are viewing the gallery.

- 1 From the Varia app on your phone, select  > **Join Varia Wi-Fi Network**, and follow the on-screen instructions.
- 2 Select an option:
  - To view a saved video or photo, select **Locked**.
  - To view recent, unsaved video footage, select **Unlocked**.
  - To view a downloaded video or photo, select **Downloaded** ([Downloading Videos and Photos on the Varia App, page 7](#)).

## Downloading Videos and Photos on the Varia App

Before you can download videos and photos on the Varia app, you must download the app and pair it with your Varia RCT716 device ([Pairing the Varia Radar Device with Your Phone, page 5](#)).

**NOTE:** The device stops recording while you are viewing the gallery.


- 1 From the Varia app on your phone, select  > **Join Varia Wi-Fi Network**, and follow the on-screen instructions.
- 2 Select the **Locked** or **Unlocked** folder.
- 3 Select a video or photo from the thumbnail gallery.
- 4 Select **•••**, and select an option:
  - To download the video or photo and delete it from its current folder, select **Download & Delete**.
  - To download the video or photo and keep a copy in its current folder, select **Download**.

The video or photo appears in the Downloaded folder on the app.

## Deleting a Video or Photo on the Varia App



Before you can delete a video or photo on the Varia app, you must download the app and pair it with your Varia RCT716 device ([Pairing the Varia Radar Device with Your Phone, page 5](#)).

**NOTE:** The device stops recording while you are viewing the gallery.

- 1 From the Varia app on your phone, select  > **Join Varia Wi-Fi Network**, and follow the on-screen instructions.
- 2 Select the **Locked** or **Unlocked** folder.
- 3 Select a video or photo from the thumbnail gallery.
- 4 Select **•••** on the video or photo.
- 5 Select **Delete**.

## Saving Videos and Photos Manually

When the camera is enabled, the device is always recording and records in a circular video loop, overwriting the oldest video footage with new footage. You can also save video files and photos manually at any time.

- Press the camera button on the device ([Device Overview, page 2](#)).
- Select  or  on the Varia app ([The Varia RCT716 and the Varia App, page 4](#)).
- Select **Take a Photo** or **Save a Clip** on your compatible Edge bike computer.

The memory card has limited storage. After you save a video recording, you should download the recording to your phone ([Downloading Videos and Photos on the Varia App, page 7](#)), or transfer the recording to your computer or other external storage location for permanent storage ([Connecting the Device to Your Computer, page 13](#)). Saved recordings are automatically uploaded to the **Locked** folder when your paired phone is connected to a Wi-Fi network ([Viewing Videos and Photos on the Varia App, page 6](#)).

## About Incident Recording

By default, the device uses a sensor to detect possible incidents and saves video footage automatically before, during, and after the detected event ([Camera Settings, page 8](#)). The video footage is stamped with the time, date, and location (if available) of the event.

## Varia App Device Settings

On the Varia app, select the device icon at the top of the home screen ([Device Overview, page 2](#)).

**Camera:** Allows you to set up the camera, change recording mode, customize the video quality and audio, set recording time, and enable incident recording ([Camera Settings, page 8](#)).

**Storage:** Allows you to delete videos and photos in the gallery and format your memory card ([Deleting a Video or Photo on the Varia App, page 7](#)).

**Software Updates & Legal:** Displays the software version, regulatory information, user warnings, privacy policy, and more.

## Camera Settings

From the Varia app, select the device icon at the top of the home screen, and select **Camera**.

**Camera Setup:** Allows you to see the camera view for optimal placement on your bike.

**Recording Mode:** Sets the recording mode for the video camera, or turns off video recording ([Changing Your Recording Mode, page 8](#)).

**Video Quality & Audio:** Adjusts the video resolution, and turns on and off audio recording ([Turning Audio Recording Off, page 8](#)).

**Video Clip Length:** Sets the video recording time for saved video clips.

**Incident Recording:** Turns on and off incident recording ([About Incident Recording, page 7](#)).

**Data Overlay:** Sets the type of data that appears on videos and photos.

### NOTICE

The accuracy of the vehicle speed overlay depends on a number of factors, including GPS accuracy of the connected display, radar vehicle line-of-sight, and wireless connectivity between the display and the mobile device.

## Changing Your Recording Mode

- 1 From the Varia app, select the device icon at the top of the home screen.
- 2 Select **Camera > Recording Mode**.
- 3 Select an option:
  - Select **Continuous** to turn on camera recording when the device turns on.
  - Select **During Radar Activity** to record video only when the radar detects a vehicle.
  - Select **Off** to disable camera recording. The device continues to transmit radar data.

## Turning Audio Recording Off



The device records audio using the integrated microphone while recording video. You can turn off audio recording at any time.

- 1 From the Varia app, select the device icon at the top of the home screen.
- 2 Select **Camera > Video Quality & Audio**.
- 3 Select the **Record Audio During Ride** toggle switch.

## Customizing the Varia App Alert Settings

Before you can customize the radar alert settings with the Varia app, you must pair the devices.

You can enable vibration alerts on your phone so you can monitor those alerts while your phone is in your pocket, instead of mounted on the handlebar.

- 1 From the Varia app, select  or .
- 2 Select **Sounds & Alerts**.
- 3 Select an option.

## The Varia RCT716 and Your Edge 1040

You can remotely control your radar device and customize settings using your compatible Edge bike computer. This section contains instructions for the Edge 1040. Other compatible Edge bike computers contain similar settings and controls ([Other Compatible Devices, page 11](#)).

## Pairing the Varia RCT716 with Your Edge 1040

The first time you connect the Varia RCT716 to your Edge 1040, you must pair both devices using ANT+® technology. After the initial pairing, the Edge bike computer automatically connects to the radar device when you start your activity and the radar device is active and within range.

**NOTE:** The radar device is compatible with other Garmin devices ([Other Compatible Devices, page 11](#)).

1 Bring the Edge 1040 within range (3 m) of the Varia RCT716.

**NOTE:** Stay 10 m away from other sensors that use ANT+ technology while pairing.



2 Turn on the Edge 1040.

3 Select  > **Sensors** > **Add Sensor** > **Search All**.

4 While the Varia RCT716 is turned off, hold the device button for 2 seconds to enter pairing mode.

The status LED flashes purple, and the tail light turns on. The device is in pairing mode for 5 minutes or until you press the device button to exit pairing mode.

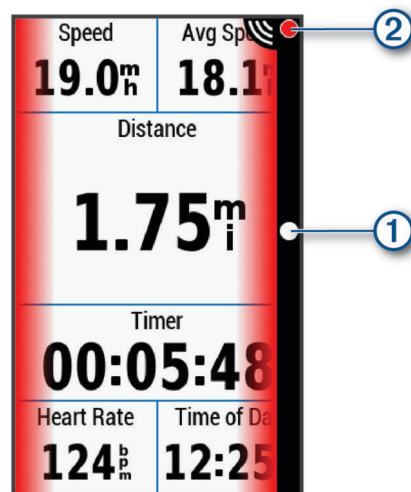
5 Select your sensor, and select **Add**.

When the radar device is paired with your Edge 1040, the sensor status is Connected. The  (radar) and  (bike light) status icons appear solid on the top banner of the home screen.

## Viewing Radar on Your Edge Bike Computer

Go for a ride.

The radar information appears on the active data screen.



The vehicle position LED ① moves up the column as a vehicle gets closer to your bike. The threat level LED ② changes color based on the potential level of threat. Green indicates no vehicle is detected. Amber indicates a vehicle is approaching. Red indicates a vehicle is advancing at a high rate of speed.

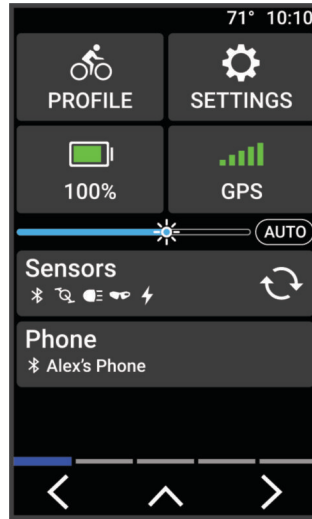
## Tone Alerts for Approaching Vehicles

The Edge device beeps if audible tones are turned on in the settings. Your device has alert tones for several features. The alert tone for approaching vehicles has a unique sound. The device beeps one time when the first vehicle is detected. After the threat is cleared, the device beeps again when another vehicle is detected.

## Viewing Widgets

Your device is preloaded with several widgets, and more are available when you pair your device with a phone or other compatible device.

- 1 From the home screen, swipe down from the top of the screen.




The settings widget appears. A flashing icon means the device is searching for a signal. A solid icon means the signal was found or the sensor is connected. You can select any icon to change the settings.

- 2 Swipe left or right to view more widgets.

The next time you swipe down to view the widgets, the last widget you viewed appears.

## Customizing the Varia Device Settings with Your Edge 1040

Before you can customize Varia RCT716 settings with your Edge 1040, you must pair the devices.

- 1 Select  > **Sensors** > **Lights**.
- 2 Select an option:
  - Select **Enable** to enable the light network.
  - Select **Network Options** > **Test Lights** to verify that each light in your network is set up correctly ([Testing the Light Network, page 10](#)).
  - Select a light to view device information and customize each light in your network ([Light Network Settings, page 10](#)).

## Testing the Light Network

- 1 From the **Sensors** menu, select **Lights** > **Network Options** > **Test Lights**.
- 2 Select a light to test.

The light blinks when it is connected.

## Light Network Settings

From the **Sensors** menu, select **Lights**, and select a paired light.

**Enable:** Turns on the light and allows you to control the light remotely with your Edge bike computer. You can disable a light to disconnect it from the light network.

**Light Mode:** Turns off the light.


**About:** Displays device, software, and battery information.

**Remove:** Allows you to delete a paired light from the network.

## Customizing the Radar Alert Settings with Your Edge 1040

Before you can customize the radar alert settings with your Edge 1040, you must pair the devices.

You can customize how the radar alerts sound and display on your Edge 1040.



- 1 From your Edge 1040, select  > **Sensors**.
- 2 Select your Varia RCT716.
- 3 Select **Sensor Details** > **Alert Settings**.
- 4 Select an option.

## Other Compatible Devices

### Pairing the Varia RCT716 with a Compatible Edge Bike Computer

This task is for the Edge 1040, 840, and 540 bike computers. If your Edge series is not listed, go to [buy.garmin.com](http://buy.garmin.com).

- 1 Bring the Edge bike computer within range (3 m) of the Varia RCT716.  
**NOTE:** Stay 10 m away from other sensors that use ANT+ technology while pairing.
- 2 Turn on the Edge bike computer.
- 3 From the **Sensors** menu, select **Add Sensor** > **Search All**.
- 4 While the Varia RCT716 is turned off, hold the device button for 2 seconds to enter pairing mode.  
The status LED flashes purple, and the radar tail light turns on. The radar tail light is in pairing mode for 5 minutes or until you press the device button to exit pairing mode.
- 5 Select your sensor.

When the radar device is paired with your Edge bike computer, the sensor status is Connected. The  (radar) and  (bike light) status icons appear solid on the top banner of the home screen.

### Pairing the Radar Device with a Compatible Garmin Watch

This task is for the Forerunner® 965, fēnix® 7 series, and Venu® 2 series watches. If your watch is not listed, go to [buy.garmin.com](http://buy.garmin.com).

**NOTE:** Not all Varia RCT716 features are available on all compatible watches. See your watch owner's manual.

- 1 Bring the watch within range (3 m) of the Varia RCT716.  
**NOTE:** Stay 10 m away from other sensors that use ANT+ technology while pairing.
- 2 Turn on the Garmin watch.
- 3 From the **Settings** menu, select **Sensors & Accessories** > **Add New** > **Search All**.
- 4 While the Varia RCT716 device is turned off, hold the device button for 2 seconds to enter pairing mode.  
The status LED flashes purple, and the tail light turns on. The device is in pairing mode for 5 minutes or until you press the device button to exit pairing mode.
- 5 Select your sensor.

When the radar device is paired with your Garmin watch, the radar and bike light status icons appear solid.

# Device Information

## Charging the Device

### NOTICE

To prevent corrosion, thoroughly dry the USB port, the weather cap, and the surrounding area before charging or connecting to a computer.

The device is powered by a built-in lithium-ion battery that you can charge using a standard wall outlet or a USB port on your computer.


**NOTE:** The device does not charge when outside the approved temperature range (*Varia RCT716 Specifications, page 15*).

- 1 Pull up the weather cap ① from the USB port ②.



- 2 Plug the small end of the USB cable into the USB port on the device.
- 3 Plug the large end of the USB cable into an AC adapter or a computer USB port.
- 4 Plug the AC adapter into a standard wall outlet.
- 5 Charge the device completely.  
The status LED flashes green while charging. The status LED is solid green when charging is complete.
- 6 Remove the USB cable, and close the weather cap.

### Tips for Charging the Device

- Connect the charger securely to the device.  
You can charge the device by plugging the USB cable in to a Garmin approved AC adapter with a standard wall outlet or a USB port on your computer. Charging a fully depleted battery takes about 5 hours using a computer and 3 hours using an AC power source.
- Remove the charger from the device when the status LED is solid green.
- View the remaining battery life  on your Edge 1030 settings widget (*Viewing Widgets, page 10*) or Varia app (*The Varia RCT716 and the Varia App, page 4*).



## Connecting the Device to Your Computer

You can connect the device to your computer to install software updates or transfer videos and photos to your computer.

- 1 Pull up the weather cap ① from the USB port ②.



- 2 Plug the small end of the USB cable into the USB port on the device.
- 3 Plug the large end of the USB cable into a USB port on your computer.

Depending on your computer operating system, the device appears as either a removable drive or a removable volume on your computer ([Videos and Photos on Your Computer, page 13](#)).

## Videos and Photos on Your Computer

**NOTE:** Some media players might not support high-resolution playback.

Videos and photos are stored in the DCIM directory on the memory card. Videos are stored in MP4 file format, and photos are stored in JPG format. You can view and transfer videos and photos by inserting the memory card into your computer or connecting the device to your computer ([Connecting the Device to Your Computer, page 13](#)).

The videos and photos are sorted into folders.

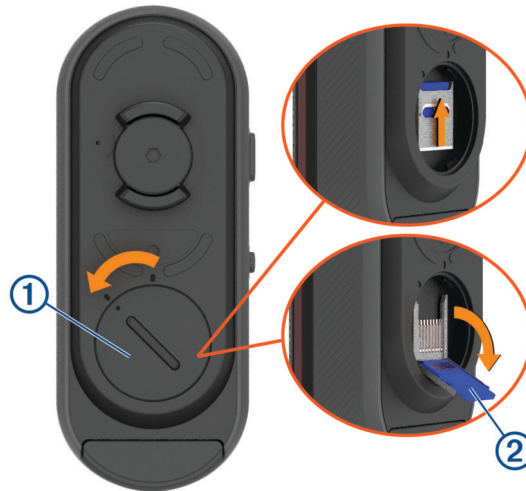
100EVENT	Contains videos saved automatically when the device detects an incident.
101PHOTO	Contains photos.
102SAVED	Contains videos saved manually by the user.
103UNSV	Contains unsaved video footage. The device overwrites the oldest unsaved video when the storage space for unsaved videos is full.

## Replacing the Memory Card

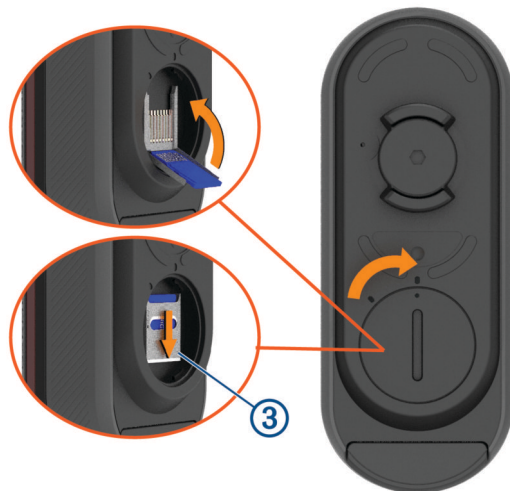
You can replace the memory card to increase the storage capacity or to replace a card that has reached the end of its useful life. The device requires an 8 to 128 GB microSD® memory card with a speed rating of Class 10 or higher.

**NOTE:** A memory card is included so your device is ready to use out of the box. All memory cards have a limited life and must be replaced periodically.

- 1 Open the cover ①.



- 2 Slide the card holder toward the mount, and lift up.
- 3 Pull open the card holder ②.
- 4 Insert the memory card into the memory card slot with the contacts facing the device.
- 5 Close and latch the card holder ③.



- 6 Close and latch the cover.
- 7 If necessary, connect to the Varia app to reformat the memory card.

## Device Care

### NOTICE

Do not store the device where prolonged exposure to extreme temperatures can occur, because it can cause permanent damage.

Avoid chemical cleaners, solvents, sunscreen, and insect repellents that can damage plastic components and finishes.

Secure the weather cap tightly to prevent damage to the USB port.

Avoid extreme shock and harsh treatment, because it can degrade the life of the product.

## Cleaning the Device

### NOTICE

Do not use a cloth or any material that can scratch the optical lens on the front of the device. Scratching the optical lens may cause poor radar performance.

- Clear mud and dirt from the weather cap area.
- While the weather cap is closed, hold the device under running water.

After cleaning, allow the device to dry completely.

## Radar Detection

### ⚠ WARNING

The device can improve situational awareness. It is not a replacement for cyclist attentiveness and good judgement. Always maintain awareness of your surroundings, and operate the bicycle in a safe manner. Failure to do so could result in serious injury or death.

- The radar detects approaching vehicles up to 140 m away.
- The radar detects approaching vehicle speed from 10 to 160 km/h (from 6 to 99 mph).  
**NOTE:** The radar does not detect vehicles traveling at the same speed as your bike.
- The radar beam width is 40 degrees. It provides radar coverage for typical bends in the road.
- The radar can detect up to eight approaching vehicles.

## Varia RCT716 Specifications

Battery type	Rechargeable, built-in, lithium-ion polymer battery
Battery life	Up to 5 hr. in solid mode, 1080p recording Up to 8 hr. in solid mode, camera off Up to 6 mo. in standby mode
Operating temperature range	From -15° to 45°C (from 5° to 113°F)
Charging temperature range	From 0° to 45°C (from 32° to 113°F)
Wireless frequencies	2.4 GHz @ 7 dBm maximum 24 GHz @ -11.3 dBm maximum
Water rating	IEC 60529 IPX7 <sup>1</sup>
LED luminous flux	5 lm (solid mode only) Certified for use in Germany

<sup>1</sup> The device withstands incidental exposure to water of up to 1 m for up to 30 min. For more information, go to [www.garmin.com/waterrating](http://www.garmin.com/waterrating).

# Troubleshooting

## Resetting the Device

You can reset the device if it stops responding.

Hold both buttons for 10 seconds until both LEDs turn off.

Resetting deletes the pairing connections from the device.

## Updating the Device Software With the Varia App

Before you can update the Varia device software, you must pair the device with the Varia app on your phone ([Pairing the Varia Radar Device with Your Phone, page 5](#)).

1 Bring your phone within range (3 m) of the Varia radar device.

2 Sync your Varia device with the Varia app.

When new software is available, your device alerts you to update the software.

3 Follow the on-screen instructions.

The device LED flashes blue and green to indicate the device is updating. When the update is complete, the tail light turns on and the LED flashes green 20 times.

## Device Status LED for Software Updates

LED Activity	Status
Alternating blue and green flashes	The device is uploading software.
Flashing green	The software update is complete and successful.
Flashing red	The software update failed.

## Product Updates

On your computer, install Garmin Express™ ([www.garmin.com/express](http://www.garmin.com/express)).

This provides easy access to these services for Garmin devices:

- Software updates
- Product registration

## Updating the Software Using the Garmin Express Application

Before you can update your device software, you must download the Garmin Express application.

1 Connect the radar device to your computer using the USB cable.

Garmin Express looks for software updates automatically and sends them to your device.

2 Follow the on-screen instructions.

3 Disconnect the device, and turn it on.

The radar LED flashes blue and green to indicate the device is updating. When the update is complete, the LED flashes green 20 times.

## The radar device is not responding

During a ride, if the radar device status LED is solid red, the device is in an error state.

- Make sure the device is within the approved operating temperature range ([Varia RCT716 Specifications, page 15](#)).
- Turn the device off, and turn it back on.  
You can check the battery level on the **Sensors** menu of your Edge device or on the Varia app.
- Avoid multiple sources of radar interference.

## Radar detection does not work indoors

The Varia RCT716 device is tuned to detect vehicles in an outdoor setting. If you turn on the device indoors, a saturation alert can occur. When you take the device outdoors, the device resumes normal operation.

## The radar device does not turn on

- Make sure the device is within the approved operating or charging temperature range ([Varia RCT716 Specifications, page 15](#)).
- Charge the device for 4 hours ([Charging the Device, page 12](#)).  
If the device does not turn on, disconnect the charger, and charge for another 4 hours.

## The status LED is flashing yellow

If the device status LED flashes yellow in a fast, continuous pattern while the taillight is on, the device is in demo mode. When the device is in demo mode, artificial data is generated for demonstration only.

To exit demo mode, select an option:

- Turn the device off, and turn it back on.
- Hold both buttons for 10 seconds to reset the device.

## The status LED turns red while charging

- Check the USB cable, connectors, and ports for damage.
- Make sure the power source is generating power.  
You can check this several ways. For example, you can check whether other devices powered by the source are functioning.
- Make sure the device is within the approved charging temperature range ([Varia RCT716 Specifications, page 15](#)).

## The status LED turns red while updating the software

- Check the USB cable, connectors, and ports for damage.
- Turn both devices off, and turn them back on.
- Make sure the device is within the approved operating temperature range ([Varia RCT716 Specifications, page 15](#)).

## The radar device disconnects from the Edge bike computer

### WARNING

If the radar device is not connected or sending radar data, Garmin recommends that you stop riding and check the devices in a safe location. Failure to do so could result in serious injury or death.

- Turn both devices off, and turn them back on.
- Pair the devices ([Pairing the Varia RCT716 with Your Edge 1040, page 9](#)).

The Varia RCT716 sends light and radar data to the Edge bike computer. The Edge bike computer displays  and  when connected.

## The radar device disconnects from the Varia app

### WARNING

If the radar device is not connected or sending radar data, Garmin recommends that you stop riding and check the devices in a safe location. Failure to do so could result in serious injury or death.

- Turn off Bluetooth technology from your phone settings, and turn it back on.
- Turn off both devices, and turn them back on.

The Varia RCT716 sends light and radar data to the Varia app. The Varia app displays  when connected.

## Replacement Parts

Replacement parts are available for this device. Contact your Garmin dealer or go to [garmin.com](https://www.garmin.com) for more information.

## Getting More Information

- Go to [support.garmin.com](https://support.garmin.com) for additional manuals, articles, and software updates.
- Go to [buy.garmin.com](https://buy.garmin.com), or contact your Garmin dealer for information about optional accessories and replacement parts.



