

BOOMERANG CYCLOTRAC V2 (3.0.195+) USER MANUAL



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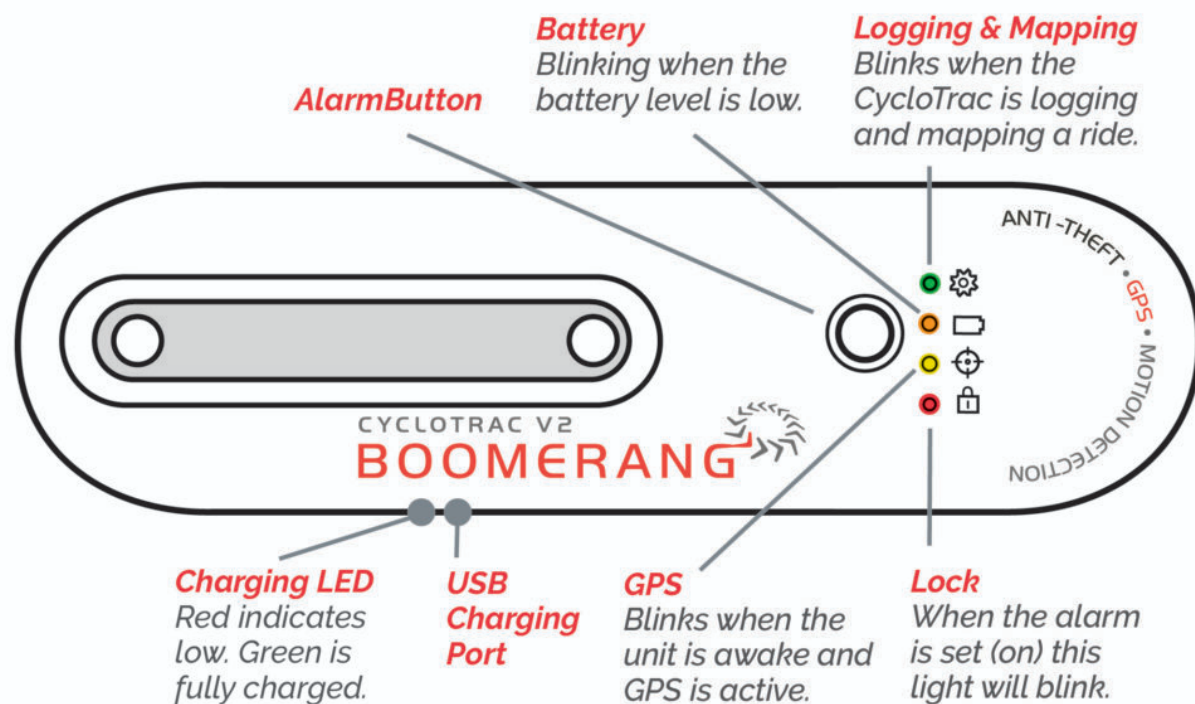
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WARNINGS AND PRECAUTIONS
The Cyclotrac V2 contains a rechargeable Lithium-ion battery. Rechargeable Lithium-ion batteries are potentially hazardous and can present a risk of FIRE , SERIOUS INJURY and/or PROPERTY DAMAGE if damaged, defective or improperly used. ... If the battery becomes hot, smokes, swells, or gives off an odor during charging, terminate charging immediately.
The Cyclotrac V2 is not waterproof. NEVER immerse the Cyclotrac V2 in liquid, spray it with liquid, or expose it to high moisture. DAMAGE will occur. Keep the rubber protective cover closed except when charging.
There are only two holes in the Cyclotrac V2. NEVER puncture, drill, screw into, or cut into the Cyclotrac V2's casing.
NEVER expose the Cyclotrac V2 to flame or extreme heat.

Introduction

This manual provides directions for use, maintenance, and troubleshooting of the Boomerang Cyclotrac V2.

Device Functions



General Description

The Boomerang Cyclotrac V2 combines a real-time GPS tracker with a motion-activated alarm to protect bicycles from theft.

The Cyclotrac is controlled wirelessly through the Boomerang Bike smartphone app. The app allows the user to monitor its location, set alarms, track trips, and perform other tasks. The app sends control commands over 4G cell networks.

Weather and impact protection is provided by an ABS plastic housing. It measures approximately 5- $\frac{3}{4}$ " (146 mm) in length and 1- $\frac{1}{2}$ " (81mm) in width. It can mount beneath the bottle cage of a bicycle with tamper-resistant screws.

Up to a week of battery life is provided by an internal rechargeable battery. The battery is charged using a micro-USB port on the side of the enclosure. A recessed reset switch is located next to the USB port.

Status indications are provided by four LEDs on the top of the enclosure, and a charge indicator LED in the USB charge port.

Basic Operation

The Cyclotrac is always on. It has two different modes: wake or sleep.

Wake mode

The Cyclotrac wakes up when it senses movement, such as a light tap or jolt. The gear and crosshair lights will flash when the Cyclotrac is awake.

When awake, the Cyclotrac:

- Tracks its GPS position and logs its location in the app.
- Logs a trip, a record of its movement.
- Listens for commands sent from the Boomerang app, like arming and disarming the alarm.
- Sounds the alarm if the alarm is armed.

NOTE: The Cyclotrac must be awake to be controlled with the app.

Sleep mode

The Cyclotrac enters sleep mode when it detects no movement within the last two minutes it has been awake. It will also enter sleep mode if it exhausts its battery.

In sleep mode, the Cyclotrac only monitors for movement. All other actions are performed when awake.

When it detects movement, the Cyclotrac exits sleep mode. If the battery is exhausted, it will remain in sleep mode until recharged.

Indicator LEDs

The Cyclotrac has four indicator LEDs and a charge LED.

LED	Behavior	Means...
Gear (System Status)	Blinking Blue*	Searching for Bluetooth Connection
	Solid Blue	Active Bluetooth Connection
	Blinking Green	Active tracking
	Pulsing (fading on/off) Green	Cyclotrac is in Firmware Update Mode
	Rapidly Blinking Blue †	Fault
Battery	Blinking Orange	Battery is low
	Solid Orange	Battery is exhausted or charging
Crosshair	Blinking Yellow	GPS position acquired
Lock	Blinking Red	Alarm armed
USB port (Charging)	Solid (Red/Green)	Charging/Charged (will remain on when fully charged)
	Blinking	Battery faulty †

*A blinking or solid Gear LED is a reliable indicator that the device is awake.

† Contact customer service.

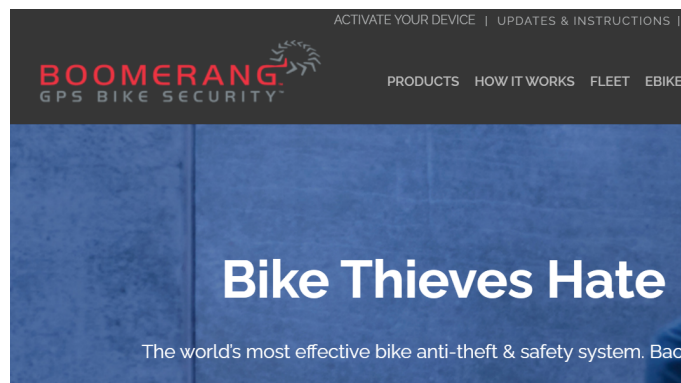
Setting Up the Cyclotrac

Activating the Cyclotrac

The Cyclotrac needs to be activated to function. Activation registers the Cyclotrac and account with Boomerang and connects it to the cellular network.

Activations are manually verified by Boomerang Bike. **Please allow for some delay between submitting an activation form and activation of the device. Activations are typically performed between Monday and Friday, 0000 - 0700 UTC.**

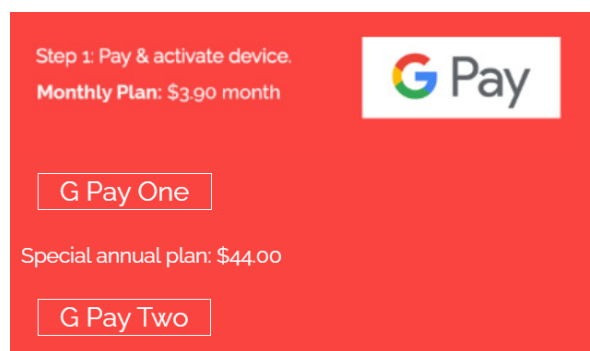
Step 1 - Navigating to the Activation Page



Visit: www.boomerangbike.com and click on 'Activate Your Device' to begin activation.

Step 2 - Signing Up for a Data Plan

The Cyclotrac requires a data plan to report its position. Options for the data plan will appear during activation.



NOTE: Save a copy of your data plan receipt for your records.

Step 3 - Filling Out the Activation Form

Follow the instructions on the activation form to fill in the fields. Boomerang will use the form to create an account and activate the device.

Upon receiving the activation form, Boomerang Bike will send an email to the provided address with login information. Activations are verified manually during Boomerang Bike's business hours.

Charging the Cyclotrac

Fully charge the Cyclotrac before its first use.

The Cyclotrac has a micro-USB port for charging. A micro-USB cable is included in the package.

To charge, connect the cable to any USB charger and to the Cyclotrac's USB charge port. A red light in the USB port will illuminate. It will glow green when charging is complete.

The Cyclotrac takes about 4 hours to fully charge. Regular Cyclotrac users should charge it at least once a week.

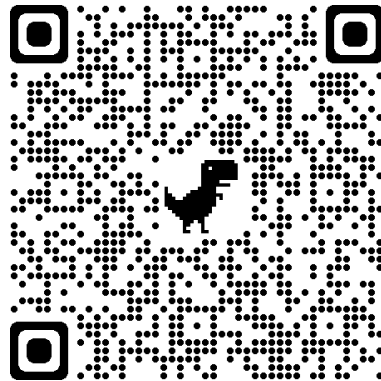
Installing the Mobile App

The Cyclotrac is controlled through Boomerang Bike's smartphone app. Follow the link or scan the QR codes provided to access the app.

NOTE: Approve the application's requests for access, such as Bluetooth and Notifications. Otherwise, the app will not function properly.

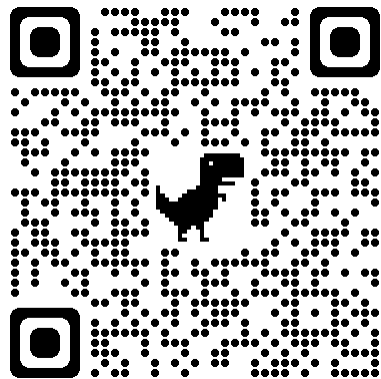
Android App

https://play.google.com/store/apps/details?id=com.system.boomerangbike&hl=en_US&gl=US



iOS App

<https://apps.apple.com/us/app/boomerangs-cyclotrac-gps-bike/id1124454045>



Signing into user Account

When the app is opened for the first time, it will prompt the user for a username and password. Enter the login information received in the activation email. Login information is **CASE SENSITIVE**, so ensure the username is input beginning with a **lowercase letter**.

Updating Firmware

Firmware is the Cyclotrac's onboard software. Boomerang periodically releases new firmware to add features and fix bugs.

Firmware updates use the app to send a command to the Boomerang cloud. Boomerang's servers send a firmware update to the device over cell networks.

NOTE: Updating firmware is critical to keeping the Cyclotrac running smoothly and up-to-date with all new features.

Step 1 - Gathering the required tools

To update firmware, gather:

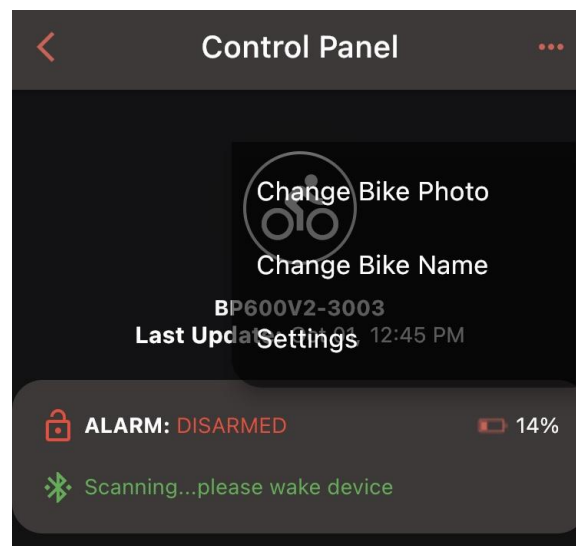
- The Cyclotrac V2 device
- A smartphone with Boomerang App installed
- The USB cable & USB charger

Step 2 - Preparing the device for the firmware update

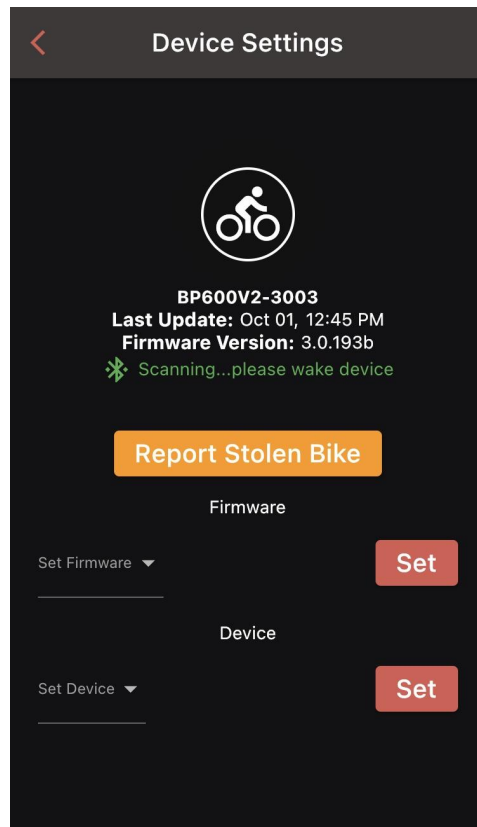
Connect the Cyclotrac to the USB charger. Tap the device to wake it up. Ensure the device is in an area with adequate cell coverage.

Step 3 - Executing the firmware update

First, select the device to update from the My Bikes menu. Tap the three dots at the top right corner of the screen to open the drop-down menu.



From the drop down menu, select “Settings”. This will open the firmware menu:



Use the drop down menu labeled “Firmware” to select the firmware version to install (the most recent is 195 as of 14 Jan 2022). Tap “Set”.

Tapping “Set” will be followed by a “Command Sent” banner at the bottom of the page.

Firmware updates may not execute immediately after a command is sent. Tapping “Set” multiple times may result in repeated firmware updates, which is undesirable. Leave the device plugged in for 2 hours after the firmware update. This provides time for updates to execute.

Step 4 - Verifying the firmware update

Lights on the device will flash to indicate an update in-progress. When the connection is established the firmware version will be displayed on the menu.

NOTE: “Report Stolen Bike” button sends an alert to Boomerang. Do not tap this button unless the bike has been stolen.

Mounting the Cyclotrac

Choosing Where to Mount the Cyclotrac

Mounting to Frame Studs (Standard)

The Cyclotrac V2 is designed to mount to bottle cage studs included on most bikes. This is the preferred way to mount the Cyclotrac.

Mounting it standalone (without a bottle cage on top) provides the best weather and tamper resistance. To retain a bottle cage, the Cyclotrac can be sandwiched in between the bottle cage and bike frame.

Mounting to a Frame Tube (Lock Mount)

Some bikes do not have frame studs. In this case, a Cyclotrac can attach to a frame tube using the lock mount (sold separately).

Mounting to a Cargo Rack (Rack Mount)

A Cyclotrac can also attach to a rear cargo rack with our rack mount (sold separately).

Standard Mounting

Gathering Required Tools

Mounting requires:

- A screwdriver which accepts hex bits
- The bit included with the Cyclotrac
- Any tools needed to remove existing items in the bottle cage studs

Removing Existing Items

Begin by removing any screws or plugs from the bottle cage studs. Remove the bottle cage if one is already mounted.

Placing the Screws

Place the Cyclotrac V2 onto the studs, button and lights facing away from the frame tube. Align the two mounting holes in the device with the studs.

To use a bottle cage, place it on top of the Cyclotrac and align its mount holes with those of the Cyclotrac.

Take the two countersunk screws supplied in the package and insert them through the mount holes of the bottle cage (if necessary) and Cyclotrac. Hand-tighten them into the studs.

Tightening the Screws



Use the supplied screwdriver bit to tighten the screws. Tighten the screws until the Cyclotrac and bottle cage are held securely to the frame and the screws cannot be loosened by hand. Take care not to overtighten screws, because that could damage the device or bike.

Mounting with the Lock Mount

Assembling the Lock Mount

The lock mount should include:

- Two tamper-resistant screws
- Two stainless-steel nuts
- A plastic bracket
- An OTTOLOCK cinch lock
- Rubber washers

Insert the two screws through the Cyclotrac's mounting holes. On the opposite side of the device, layer the rubber washers onto each screw.

Insert the two nuts into their slots on the backside of the plastic bracket. Align the plastic bracket to the two screws. Thread each screw into its respective nut, then firmly tighten them.

Securing the Lock Mount to the Frame

Place the plastic bracket against the frame tube. Slide the free end of the OTTOLOCK through the gap between the plastic bracket and the device. Wrap the OTTOLOCK around the frame tube and cinch it down.

The OTTOLOCK should be tightened as much as possible to keep it flush against the frame. Having the OTTOLOCK flush to the frame will make it more challenging for thieves to attack the strap.

App Functions

Navigating the App

The app has three main screens: Bike List, Trips, and Settings. Each of them has icons on the bottom of the screen. Switch between them by tapping on their icons.

Bikes List

From the Bikes List, the user can view all bikes, monitor their battery level, and see when they last updated.

Tapping on a bike in the bikes list will bring the user to its Control Panel. The Control Panel can set the alarm on and off, start and end trips, and view the bike's location. See "Tracking", "Trips", and "Alarm" for details on these functions.

Trips Menu

The trips menu displays recent trip recordings. See the "Trips" section below for more detailed use information. Tapping the "Stats" button at the top left corner will show the stats for the lifetime of all devices on account.

Settings

The Settings menu allows logging out of an account and changing the units of measure used to record trips.

Trips

Trip Recording

A trip is a record of a period of movement. The Cyclotrac logs its position, elevation, speed, and other stats during a trip for later viewing.

Each trip recorded is saved in the cloud to create a lifetime record of a Cyclotrac's movements.

Starting and Ending Trips

The Cyclotrac begins a trip automatically whenever it detects that it is moving. It will continue logging a trip until it receives a “stop trip” command, or is immobile for 10 minutes.

A trip does not populate the trip pane or the dashboard until it ends.

To start a trip manually, go to the bike’s Control Panel and tap the “start trip” button. To end a trip manually, go to the bike’s Control Panel and tap the “end trip” button.

Viewing Trips in the App

Navigate to the “Trip” Pane using the menu on the bottom of the screen.

The Trip menu displays previews of recent trips. To view a trip, simply tap on it. It will display ride stats and the route recorded during the trip.

Alarm

Alarm Functionality

The Cyclotrac includes a motion-triggered alarm for theft deterrence.

When the alarm is on, the Cyclotrac monitors for movement. It will still sleep when the alarm is on. Movement will wake the device and trip the alarm. 20 seconds after the first movement, it will sound a siren. (This 20-second delay gives a legitimate user time to turn the alarm off when handling their bike). The siren will sound for 10 seconds and the Cyclotrac will send an alert to the user’s phone that the alarm has been tripped. This cycle will repeat for as long as the alarm is on.

When the alarm is off, the device will still wake and track in response to motion, but it won’t sound a siren and alert the owner when movement is detected.

Turning the Alarm On and Off

Turning the alarm on and off requires an understanding of the Cyclotrac’s wake and sleep modes. Recall that the Cyclotrac only listens for commands when it is awake. The device must be awake when arming and disarming the alarm.

Arming the Alarm:

1. Wake the Cyclotrac.
2. Ensure the Cyclotrac is connected to the network. If the Cyclotrac was previously asleep, it could take 30-60 seconds from the first motion. Press the ALARM ON button on the app.
3. Verify that the lock LED is flashing red. If not, repeat these steps.

Disarming the Alarm:

1. Repeat steps 1 & 2 above.
2. Press the ALARM OFF button on the Control Panel
3. Verify that the lock LED is unlit.

Notes on the Alarm

The Cyclotrac must be awake to arm and disarm the alarm.

Even though the app can highlight “Alarm On” and “Alarm Off”, the app doesn’t really know whether the alarm is on or off. Think of the app like a TV remote: you can push a button to change the channel, but you have to watch your TV to know if the channel actually changed. If the TV doesn’t change the channel, then you push the button again.

In a similar way, the Cyclotrac’s lock LED is the ultimate authority on whether the alarm is on or off. For example, if you press ALARM ON and the LED doesn’t blink red, then wait a bit (10-20 seconds) and repeat. What the app says about the alarm being armed or disarmed is a prediction rather than an indicator.

Tracking a Bike

Navigating to Find Bike

To reach the Find Bike screen, go to the Control Panel of the bike to track and tap on the “Find Bike” button in the lower left corner.

Find Bike Pane

The app displays the Cyclotrac's location as a pin with a bicycle icon. It also displays the phone's location as a blue dot.

Tapping the crosshair button in the lower right corner centers the map on the user's location. Tapping the bicycle icon in the lower left corner centers the map on the Cyclotrac's location.

Troubleshooting

STOP: If issues arise, do the following steps before proceeding further.

- 1. Fully charge the Cyclotrac.**
- 2. UPDATE THE FIRMWARE. Any 180-series firmware (3.0.18x) is outdated.**
- 3. Wake the device (if not possible, proceed to chart)**

If a firmware update and/or waking the device, fail, proceed to the chart.

Symptom	Cause	Corrective Action
Cannot turn alarm off	Device not connected to cell	Wait for device to connect to network (see Indicator Sounds)
	Communications issue	Cycle between "Bike List" and "Control Panel" before sending additional arm/disarm commands. Wait 10 seconds between each attempt to allow latency in cellular networks. Reset the device using the RESET switch if this procedure fails repeatedly.
Cannot turn alarm on	Device not connected to cell	Wait for device to connect to network (see Indicator Sounds section of this manual)
Inaccurate location	Poor GPS signal	Ensure the Cyclotrac is outside with clear lines-of-sight to most of the sky. Obstacles, including buildings, trees, mountains, and other solid objects which block view of the sky can reduce GPS precision.
Outdated location (the Cyclotrac is showing a location where it has been previously)	Poor cell signal	Ensure the Cyclotrac is in an area with adequate cell coverage. Allow several hours for the system to synchronize.

	No cell data	The Cyclotrac's data plan may be out-of-date. Contact Boomerang.
	Failure to wake	The Cyclotrac may not have woken properly, or may have fallen asleep prematurely. This may occur if the Cyclotrac experiences low levels of motion/vibration, or if its battery is exhausted.
Cyclotrac is unresponsive (does not beep, no LEDs or blue Gear LED only)	In deep sleep / frozen	Repeat the procedure outlined in "Waking the Cyclotrac for the first time". If this does not restore the device, attempt a firmware update.
	Battery fault	Plug the Cyclotrac into a USB charger and look for the LED codes described in the "Indicator LED" section of this manual. If a battery fault is confirmed, contact Boomerang.
Firmware does not update	Poor cell signal	Verify the Cyclotrac has adequate cell coverage.
	Other fault (unresponsive)	Contact Boomerang
Works only when plugged in / does not hold battery charge	Battery fault	Contact Boomerang
Alarm siren and indicator beeps are quiet or garbled	Broken speaker	Contact Boomerang