BOOMERANG CYCLOTRAC V2 (3.0.193 +) USER MANUAL
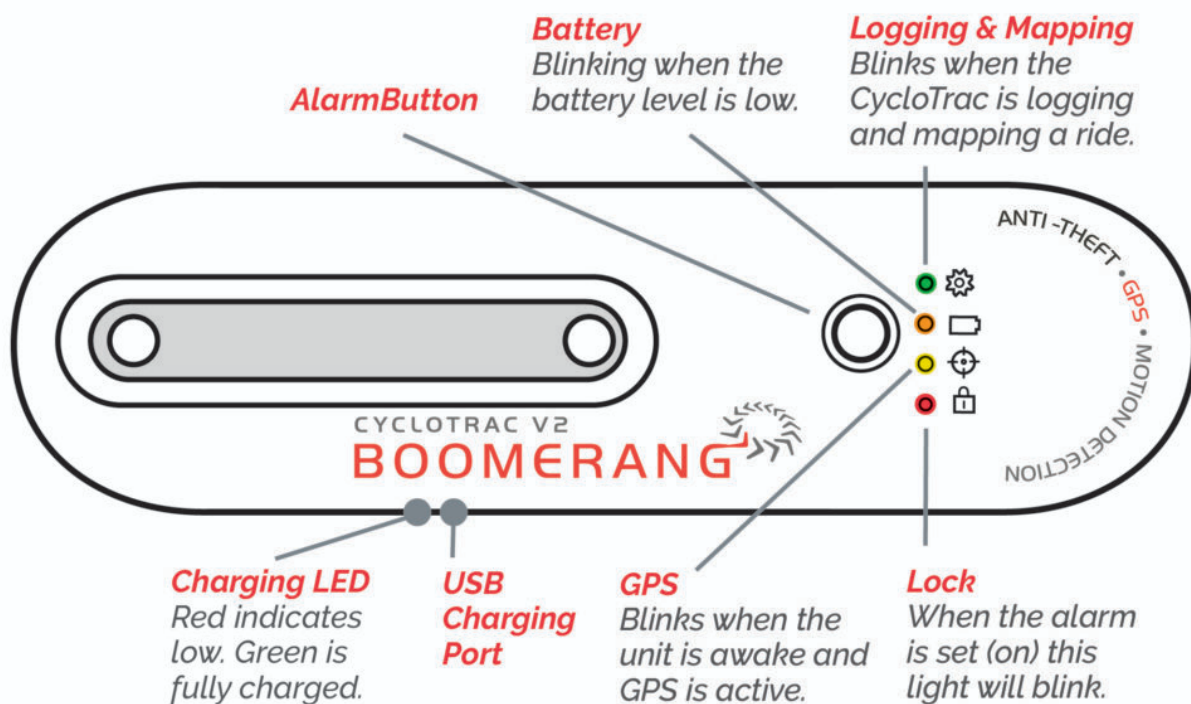
Table of Contents

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. Do not make more. **NEVER** puncture, drill, screw into, or cut into the Cyclotrac V2's casing.
Press the RESET button with no more force than is required to push the button. **DAMAGE** will result from pressing the RESET button with excessive force.
NEVER expose the Cyclotrac V2 to flame or extreme heat.

Introduction

Thank you for choosing the Cyclotrac V2. Boomerang Bike wants you to have the best experience possible with our device.

This manual provides full explanations of the Cyclotrac V2 and its basic functionality. Reading the manual in its entirety will give you a better understanding of how your Cyclotrac V2 works, and what to do if it isn't working properly.

Device Functions

AlarmButton

Battery
Blinking when the battery level is low.

Logging & Mapping
Blinks when the CycloTrac is logging and mapping a ride.

ANTI-THEFT • GPS • MOTION DETECTION

CYCLOTRAC V2
BOOMERANG

Charging LED
Red indicates low. Green is fully charged.

USB Charging Port

GPS
Blinks when the unit is awake and GPS is active.

Lock
When the alarm is set (on) this light will blink.

Description

The Boomerang Cyclotrac V2 combines a real-time GPS tracker with a motion-activated alarm to protect bicycles from theft. The Cylcotrac has few external buttons or switches to make it tamper-resistant. Instead, users control the Cyclotrac over cell networks through a mobile app.

It measures approximately 5-¾" (146 mm) in length and 1-½" (81mm) in width. It can mount beneath the bottle cage of a bicycle with tamper-resistant screws. An ABS plastic housing protects the device from weather, splashes, and impacts.

The Cyclotrac recharges from a micro-USB port on the side of the enclosure. A recessed reset switch is located next to the USB port.

The Cyclotrac also has four indicator LEDs on the top of the enclosure, and a charge indicator LED in the USB charge port.

Resetting the Cyclotrac

The Cyclotrac V2 has a recessed RESET button between the USB port and the rubber cover flap hinge. It requires a thin object, such as a paperclip or SIM key, to push.

The RESET switch is intended for occasional use, such as to wake the device from deep sleep, initiate firmware updates, or rescue a locked-up device.

[NOTE: the RESET button is fragile. Use only enough force to push the button, or damage could occur.]

RESET Button

Wake and Sleep Modes

The Cyclotrac is always on. It sleeps when it isn't moving to save battery.

Wake mode

The Cyclotrac wakes up when it senses movement, such as a light tap or jolt. When it wakes, it will make a "beep" sound and flash indicator LEDs.

When awake, it tracks and reports its position through cell networks, and arms and disarms the alarm.

A Cyclotrac will signal it is awake through indicator LEDs and indicator sounds.

NOTE: The Cyclotrac must be awake to perform most tasks.

Sleep mode

Sleep mode ensures the Cyclotrac V2 can track continuously without wasting battery when it is stationary. The device enters sleep mode when it detects no movement within the last two minutes.

In sleep mode, it does not track or report its position. It does not communicate or accept commands in any way, including alarm/disarm commands.

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. The chart below explains what they mean.

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 †	Battery faulty
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	Charging (will remain on when fully charged)
	Blinking	Battery faulty

A blinking or solid Gear LED is a reliable indicator that your device is awake.
† This will occur only when device is plugged in. Contact customer service.

Indicator Sounds

The Cyclotrac communicates through sounds. Their meanings are outlined below. Some customers find that they do not want indicator sounds other than the alarm. Boomerang can provide a command to deactivate indicator sounds at customer request.
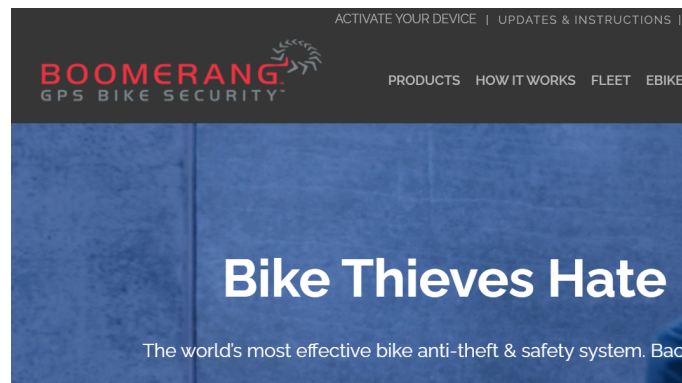
Description	Means...
Short, single beep	Awake
Short, rising tone	Connected to network
Siren	Alarm triggered

Setting Up Your Cyclotrac

Activating Your Cyclotrac

The Cyclotrac needs to be activated to function.

Step 1 - Navigating to the Activation Page

Visit: www.boomerangbike.com and click on 'Activate Your Device' to get started.

Step 2 - Signing Up for a Data Plan

Your Cyclotrac requires a data plan to report its position. You will be given options for the data plan when you begin activation. **NOTE: Save a copy of your receipt when you purchase a plan.**
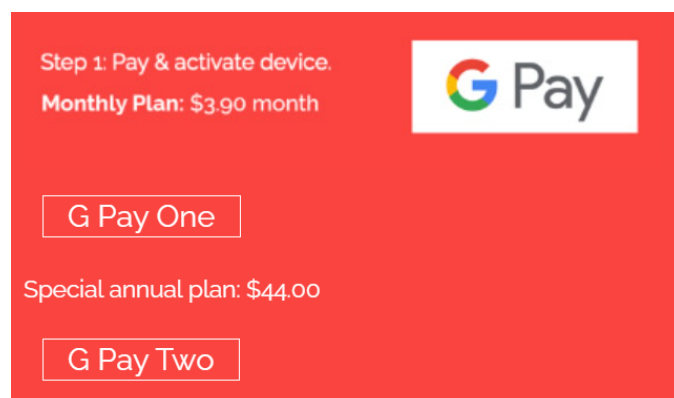
Step 3 - Filling Out the Activation Form

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. Activation is human-powered, so it may take up to 24 hours to complete.

Charging the Cyclotrac

Fully charge the Cyclotrac before 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.

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

Waking the Device for the First Time

Boomerang ships the Cyclotrac in a deep sleep. Waking the Cyclotrac requires pressing the RESET switch. (see Device Functions)

Gently insert a thin object (Boomerang includes a paperclip in the package) into the hole and press the reset switch.

NOTE: The reset switch is fragile. Be gentle when pressing the switch.

The Cyclotrac should immediately (within 2 seconds) wake after reset.

Updating Firmware

Boomerang periodically releases new firmware to add features and fix bugs. Cyclotracs bought from retail stores may not have the latest firmware. For the best experience, verify that the Cyclotrac's firmware is up to date.

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

Step 1 - Required equipment

To update your firmware, you will need:

- Boomerang Cyclotrac device
- Paper clip
- Micro USB cable
- Windows or Mac Computer with USB port and internet access

## Step 2 - Getting the firmware file

NOTE: If Boomerang Bike customer service has provided you with a different file to use, use that file and go directly to Step 3.

This will begin a short firmware file download.

Step 3 - Locating the firmware file on your computer

Use a File Explorer (Windows) or Finder (Mac) to locate the file on your computer.

On Windows and Mac machines, most web downloads will go into your Downloads folder.

info@boomerangbike.com / © 2021 Boomerang Bike
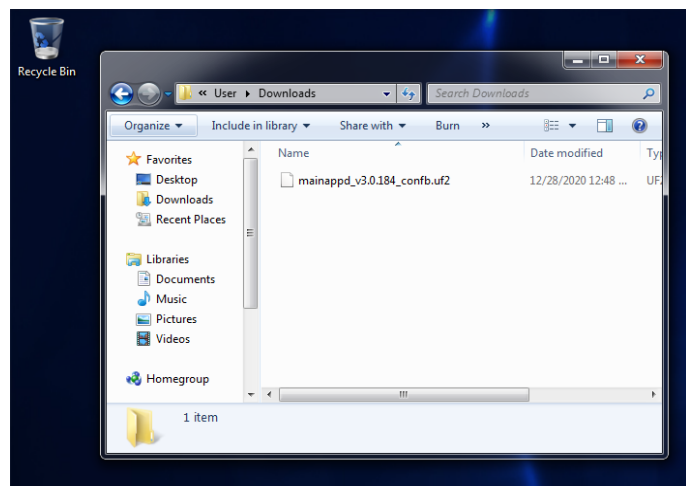
Step 4 - Preparing your Cyclotrac for update via USB

Using an unfolded paperclip, gently press the RESET button <u>twice within 1 second</u> (double-click the button).

Confirm that the Cyclotrac is ready for USB upgrade by observing the green light near the gear icon. The green light should smoothly fade on/off. No other lights should be on.
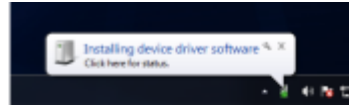
Step 5 - Connecting the Cyclotrac to the computer via USB

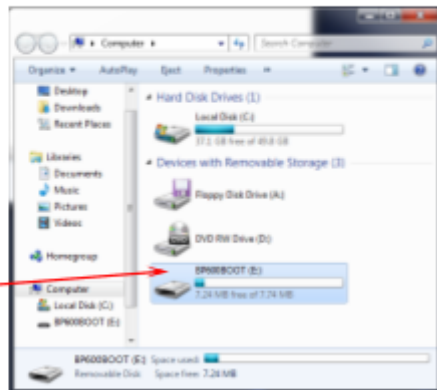Connect the Cyclotrac to your computer using the micro-usb cable.

Cyclotrac will be detected as a USB disk with the name "BP600BOOT". Your operating system may automatically install drivers to support the USB disk. This may take up to ~2 minutes.

Installing drivers...

BP600BOOT disk detected.

Step 6 - Performing the firmware update
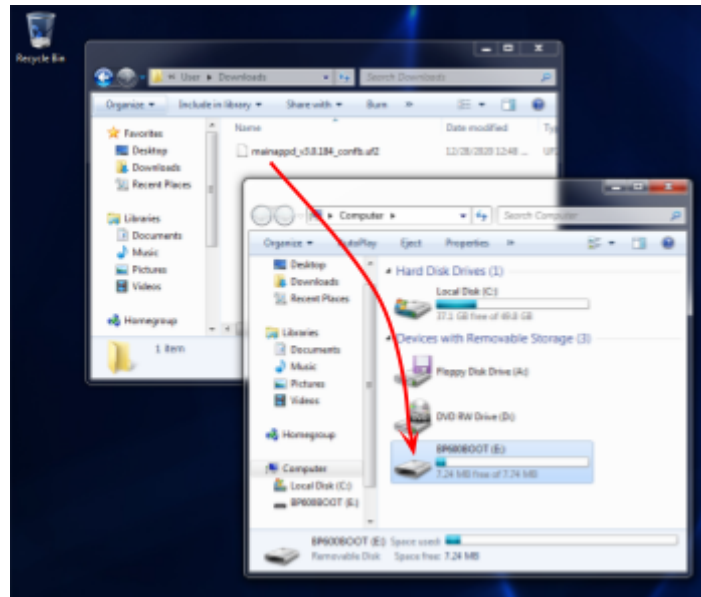
Drag-and-drop the firmware file onto the BP600BOOT disk.

The firmware update will be performed immediately -- it takes ~3 seconds to complete.
After the update, the BP600BOOT disk will disappear and your CycloTrac device will reboot and start running the new firmware. The CycloTrac may flash its lights and beep, this is normal and expected.

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 for your device.

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
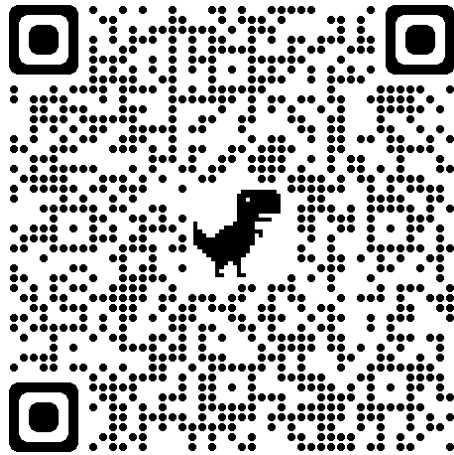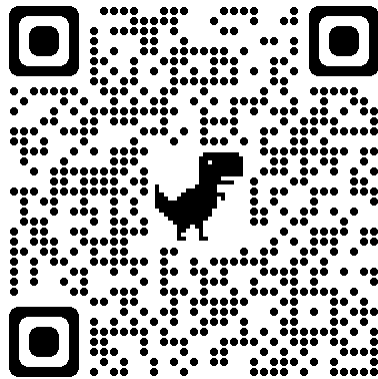
Signing into your Account

When you open the app for the first time, it will prompt you for your username and password. Enter the login information you received in your activation email.

Mounting the Cyclotrac

Standard Mounting

Choosing Where to Mount the Cyclotrac

Standalone Mounting

Some bicycles offer more than one set of bottle cage studs. If you can spare a set of studs without a bottle cage, then mounting standalone is the best option. The provided screws give the best weather and tamper resistance when flush to the top of the Cyclotrac. In addition, you'll be able to see the Cyclotrac's LED indicators more easily.

Sandwich Mounting with a Bottle Cage

If you don't want to give up a bottle cage, then the Cyclotrac mounts between the bottle cage and the frame tube.

Mounting the Cyclotrac

Removing Existing Screws or Plugs

Most bikes come with screws or plugs in the bottle cage studs to prevent moisture and contaminants from entering the frame through the studs.

Attaching the Screws

Tightening the Screws

Mounting with the Lock Mount

Using the App

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. You can switch between them by tapping on their icons.

Bikes List

From the Bikes List, you can view all of your bikes, monitor their battery level, and see when they last updated. "Last Update" isn't exact- if the last update is within 24 hours, your Cyclotrac is probably functional.

Tapping on a bike in the bikes list will bring you to its Control Panel. The Control Panel is where you turn the alarm on and off, start and end trips, and view your bike's location. See "Tracking", "Trips", and "Alarm" for details on how to use the control panel.

Trips Menu

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

Settings

The Settings menu allows you to log out of your account and change 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 your bike's Control Panel and tap the "start trip" button. To end a trip manually, go to your 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 you when it moves.

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 cannot communicate unless it is awake and connected to the cellular network. The alarm is controlled over the cell network, so the device must be awake when arming and disarming the alarm.

Arming the Alarm:

1. Wake the Cyclotrac.
2. Make sure the Cyclotrac is connected to the network. If the Cyclotrac was previously asleep, it will take 30-60 seconds from first motion. It will announce connection with a rising two-tone beep (see Indicator Sounds).
3. Press the ALARM ON button on the app.
4. 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 guess.

Tracking Your Bike

Navigating to Find Bike

To reach the Find Bike screen, go to the Control Panel of the bike that you wish 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.

Center the map on your location by tapping the crosshair button in the lower right corner. Center the map on the Cyclotrac's location by tapping the bicycle icon in the lower left corner.

Troubleshooting

STOP: If issues arise, do these 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 your device (if not possible, proceed to chart)**
If you cannot update firmware or wake the device, proceed to the chart.

Symptom	Issue	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 (your Cyclotrac is showing a location where it has been previously)	Poor cell signal	Ensure the Cyclotrac is in an area with good 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 Your Cyclotrac for the first time". If this does not restore your device, attempt a firmware update.
	Battery fault	Plug your Cyclotrac into a USB charger and look for the LED codes described in the "Indicator LED" section of this manual. If you confirm a battery fault, contact Boomerang.
Can't update firmware	Switch error	Review the "Updating Firmware" section of this manual. Ensure the Cyclotrac has successfully entered firmware update mode when connected to the computer.
	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	Blown speaker	Contact Boomerang