

BS Companion

User Guide

Bluetooth Base Station Controller

OrbitalZones

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1. Introduction

BS Companion allows you to control Bluetooth Low Energy (BLE) base stations directly from your iPhone. It supports two hardware generations:

- HTC Base Stations – legacy hardware (identified by names like “HTC BS 68EA41”)
- LHB Base Stations – newer hardware by Valve Corp. (identified by names like “LHB-3234A70”)

With BS Companion you can:

- Turn individual base stations or all of them on or off with a single tap
- Monitor the live power state of LHB base stations
- View detailed device information and manage device properties
- Assign channels to LHB base stations – manually or automatically
- Set the Device ID for HTC base stations
- Automate power control using Siri Shortcuts
- Manage your device cache – rename, disable, or delete stored devices

The app runs in dark mode and requires an iPhone with Bluetooth capability running iOS 14 or later.

2. Getting Started

2.1 Requirements

- iPhone running iOS 14 or later
- Bluetooth enabled on the device
- HTC or LHB base stations within Bluetooth range

2.2 Bluetooth Permission

On first launch, iOS will ask for permission to use Bluetooth. Tap Allow. Without this permission, BS Companion cannot scan for or communicate with any base station.

If you accidentally denied permission, go to Settings → BS Companion and enable Bluetooth access. The app will show an alert with a shortcut to the Settings app if Bluetooth access is missing.

2.3 First Launch

When you open BS Companion, it automatically begins scanning for nearby base stations. The scan takes approximately 0.5 seconds. If no devices are found, an alert gives you the option to retry or visit the About screen for help.

3. Main Screen – Base Stations

The main screen lists all discovered base stations and provides quick access to power control for each device as well as for all devices at once.

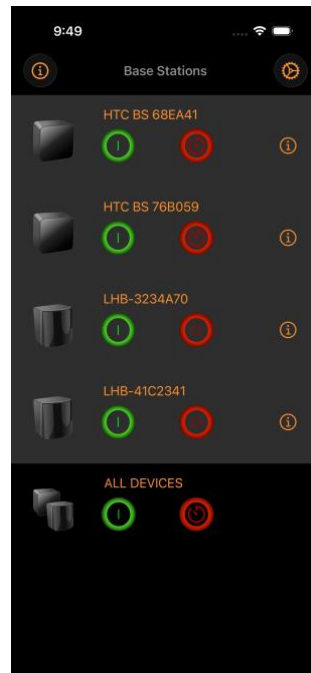


Figure 1 – Main screen showing four discovered base stations and the ALL DEVICES control

3.1 Navigation Bar

-  - opens the About screen
-  - opens the Settings screen

3.2 Device List

typical contents of a row:

-  icon for HTC devices or LHB devices
-  default icon for LHB devices
-  icon for LHB devices when display power state is enabled in settings
- **device name** - the local Bluetooth name, or a custom alias if one has been set
-  default on button - turns the base station on
-  default off button - turns the base station off
-  timer off button – turns off HTC base stations after one minute
(with HTC devices only, whose Device ID has not yet been set, see Section 4.3)
-  device info button - opens the Device Detail view

For HTC base stations, the OFF button shows a clock/timer icon until the Device ID is set correctly. If you tap that button in this timer state, it will take exactly one minute after HTC devices are turning off.

Once a valid Device ID is entered the icon changes to the standard power-off symbol and the related HTC base station turns off immediately.

3.3 ALL DEVICES Row

At the bottom of the list there is an **ALL DEVICES** row. Tapping its ON or OFF button sends the command to every discovered base station simultaneously. The row's device icon adapts to the mix of device types present in the list (HTC only, LHB only, or mixed).

3.4 Power State Indicators (LHB Only)

When “display standby state” is enabled in Settings (see Section 6.3), BS Companion polls the power state of LHB base stations every 250 milliseconds and shows a color-coded LED next to each device. The possible states are:

Indicator Color	Meaning
green	fully on
blue blinking	booting
white	starting
blue fading	sleep / off
yellow	Not yet polled / unreachable

Note: Power state polling requires a continuously active Bluetooth connection to each LHB base station. This is automatically paused and devices are disconnected when the app moves to the background and resumes on foreground return.

3.5 Refreshing the Device List

Pull down on the device list to trigger a new Bluetooth scan and refresh the list of discovered base stations. The list of devices is also refreshed when you return to the main screen from any other view or when BS Companion is returning from background.

4. Device Detail View

On the main view, tap the orange info button on any device row to open its Detail view. The information shown depends on the device type and whether “advanced detail view” is enabled in Settings.

4.1 HTC Base Station Detail

For HTC base stations in basic mode (“advanced detail off”), the Detail view shows:

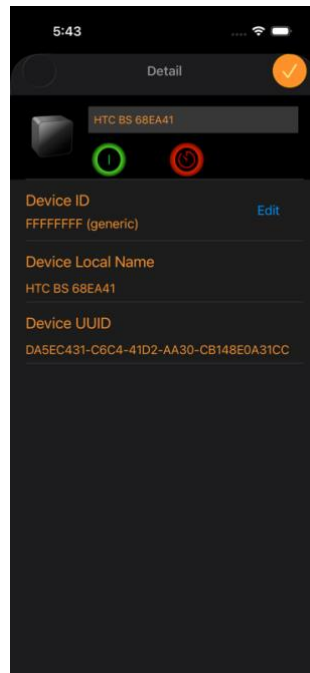


Figure 2 – HTC base station detail showing Device ID, UUID, manufacturer and model information

- Device Icon, Device name field (**editable – tap to set a custom alias**) , ON / OFF power buttons
- Device ID – the four-byte identifier used for the off command. **Tap Edit to change it (see Section 4.3)**
- Device Local Name – the Bluetooth advertisement name
- Device UUID – the system-assigned Bluetooth peripheral identifier

With “advanced detail view” enabled in Settings, following additional properties are shown:

- Manufacturer Name, Model Number, System ID – read from the device’s Bluetooth GATT table

4.2 LHB Base Station Detail

LHB base stations information in basic mode (advanced detail off):

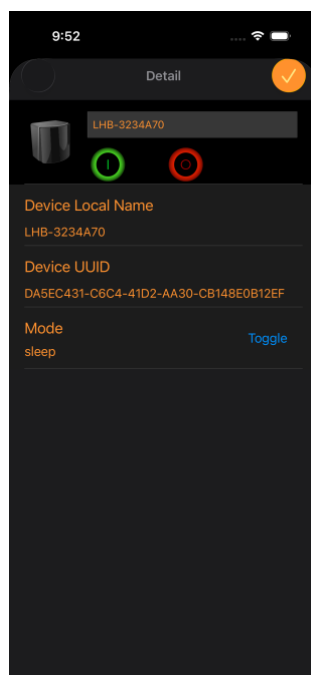


Figure 3 – LHB base station detail in basic view

- Device name field (editable)
- ON / OFF power buttons
- Device Local Name
- Device UUID
- Mode (sleep or standby) with a Toggle button

With “advanced detail view” enabled in Settings, additional properties are shown:

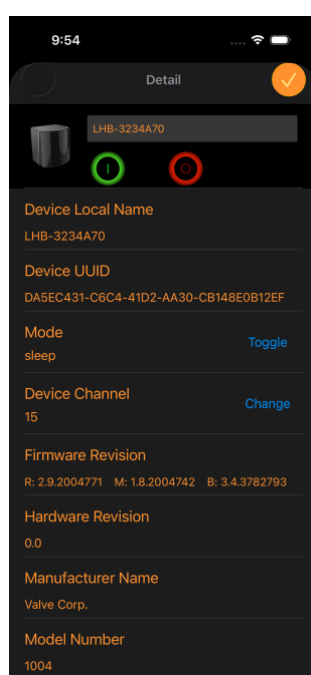


Figure 4 – LHB base station detail in advanced view showing channel and firmware information

- Device Channel – with a Change button to navigate to the Channel Management screen
- Firmware Revision – the radio, motor and bootloader firmware versions
- Hardware Revision
- Manufacturer Name and Model Number

4.3 Setting the Device ID (HTC Base Stations)

HTC base stations require a Device ID to receive targeted OFF commands. The Device ID is printed on the label on the back of the physical unit. You need to enter the first four hex digits shown in the device's identifier (for example, if your label shows "D268EA41", you scroll the picker to match those digits). Until the correct ID is entered, the main screen shows a clock/timer icon on the OFF button – once the ID is set, it switches to the standard power-off icon.



Figure 5 – Set ID screen with a drum-roll picker. Align the digits to match the label on your HTC base station.

To set the Device ID:

- In the Detail view, tap Edit next to Device ID
- The Set ID screen opens, showing a multi-column drum-roll picker
- Scroll the picker columns to match the first four hex digits from the base station label (the identifier suffix shown in the device name)
- Tap the checkmark button to confirm and save the ID

Important: If the Device ID is still the default value FFFFFFFF (not yet configured), the OFF button on the main screen shows a clock/timer icon. The base station will not power off immediately – it will enter sleep mode after approximately 60 seconds instead. Once you enter the correct Device ID from the label, the timer icon changes to the standard power-off icon and the device responds to OFF commands right away.

4.4 Toggling Standby / Sleep Mode (LHB Base Stations)

LHB base stations support two power-off modes:

- Sleep mode – the device lasers turn off and the motors stop. The unit draws minimal power.
- Standby mode – the device lasers turn off but the motors continue to run. The unit is ready to turn on faster.

Tap Toggle in the Mode row to switch between sleep and standby for the selected device. The new mode is saved and applied the next time the device is powered off.

Note: Standby mode indication requires Base Station firmware v2.0 or later. Enabling standby mode for an LHB base station blocks Bluetooth access from other apps while BS Companion is in the foreground.

5. Channel Management (LHB Base Stations)

LHB base stations support channels 1 to 16. Each base station in a setup must be on a unique channel. BS Companion lets you set channels manually or assign them automatically.

To open Channel Management, tap Change in the Device Channel row of any LHB detail view.

5.1 Manual Channel Assignment

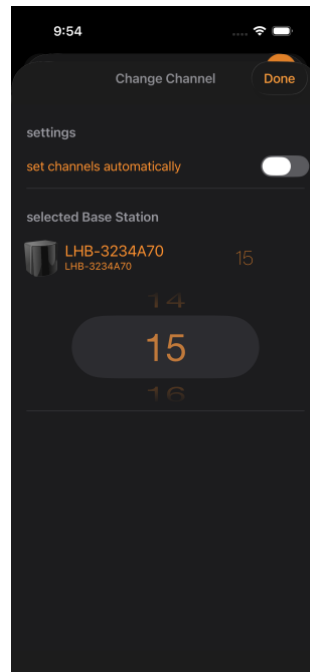


Figure 6 – Change Channel screen in manual mode. Scroll the picker to select a channel for the selected device.

With “set channels automatically” switched off:

- The currently selected base station is shown below the settings section
- Scroll the drum-roll picker to choose a channel from 1 to 16
- Tap Done to apply the new channel to the base station

5.2 Automatic Channel Assignment

Enable the “set channels automatically” toggle to enter automatic mode. In this mode BS Companion shows all currently discovered LHB base stations and proposes conflict-free channel assignments.

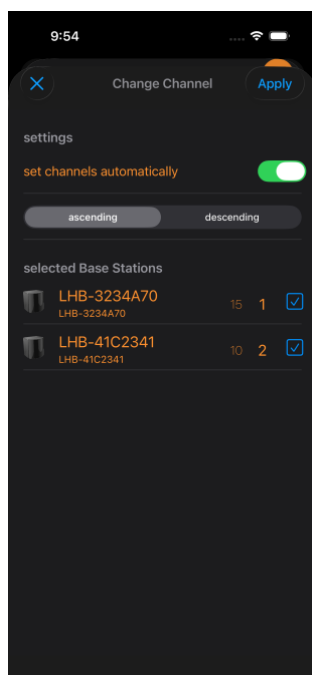


Figure 7 – Automatic channel assignment, ascending order

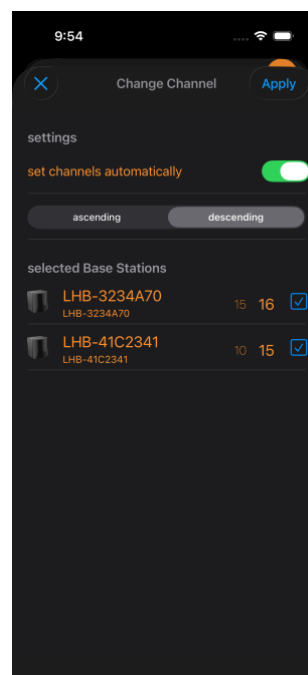


Figure 8 – Automatic channel assignment, descending order

- The ascending/descending segmented control selects the direction of channel numbering
- Each row shows the device's current channel (in gray) and the proposed new channel (in orange)
- Tap Apply to write the proposed channels to all listed base stations simultaneously
- Tap the X button to cancel without making changes

Note: Changing a channel will cause the base station to wake up from standby or sleep mode.

6. Settings

Tap the gear icon in the top-right corner of the main screen to open Settings.

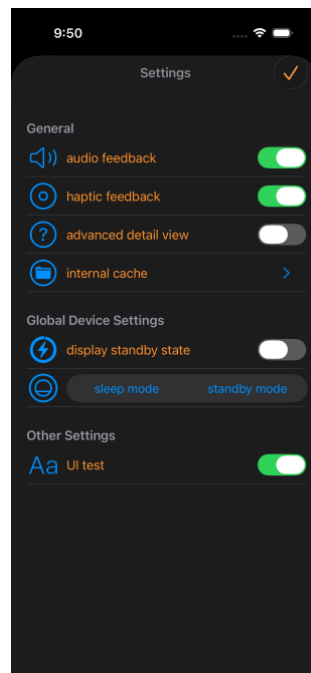


Figure 9 – Settings screen

6.1 General Settings

Audio Feedback

When enabled, BS Companion plays a system sound when a power command is sent. Default: on.

Haptic Feedback

When enabled, the iPhone vibrates briefly when a power command is sent. Default: on.

Advanced Detail View

When enabled, the Device Detail view shows extended properties for LHB base stations (channel, firmware revision, hardware revision, manufacturer, and model). Default: off.

Internal Cache

Tapping this row opens the Internal Cache screen where you can review, disable, or delete stored device records. See Section 7 for details.

6.2 Global Device Settings

This section is shown only when LHB base stations were discovered in the last scan.

Display Standby State

Enables live power state polling for LHB base stations. When turned on, a progress alert explains that a new scan is required; close Settings to trigger it automatically. See Section 3.4 for the color reference.

Sleep Mode / Standby Mode

A segmented control that sets the default power-off behaviour applied to all LHB base stations. Choosing Standby Mode will prompt for confirmation before applying the change to all stored devices.

6.3 Closing Settings

Tap the checkmark button in the top-right corner to close Settings and return to the main screen. The app rescans if any setting change requires it (for example, toggling UI test mode or clearing the cache).

7. Internal Cache

BS Companion stores a record for every discovered base station in an on-device database (Core Data). This cache holds custom aliases, Device IDs, standby mode preferences, and enables Siri Shortcuts to reference your devices by name.

Open the cache by tapping Internal Cache in the Settings screen.

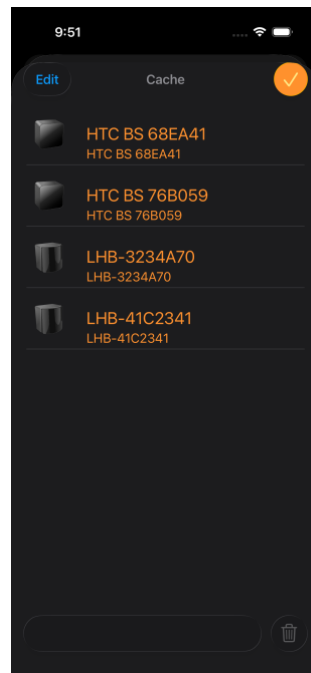


Figure 10 – Internal Cache showing four stored devices

7.1 Viewing the Cache

Each entry displays the custom alias (top, orange) and the Bluetooth local name (bottom, gray). The device icon indicates whether it is an HTC or LHB unit.

7.2 Disabling a Device

If a base station is temporarily not in use, you can disable it rather than delete it. Disabled devices are excluded from Siri Shortcut device lists but remain in the cache for future use.

To disable a device:

- Swipe left on a device row
- Tap Disable

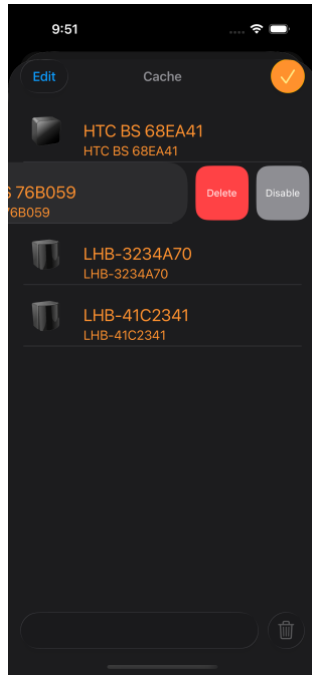


Figure 11 – Swipe left to reveal Delete and Disable actions

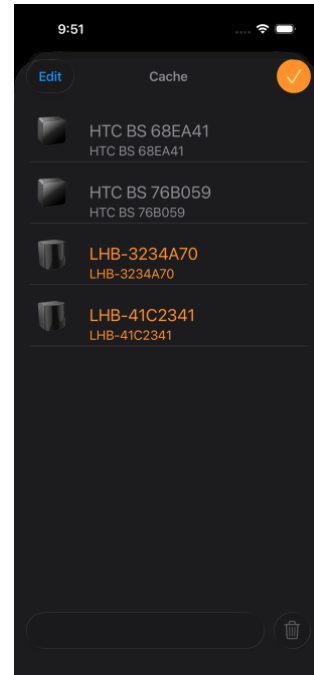


Figure 12 – Disabled devices are shown in gray; enabled devices remain in orange

Disabled devices appear grayed out in the list. Swipe left again and tap Enable to re-enable them.

7.3 Deleting a Device

To permanently remove a device record from the cache:

- Swipe left on the device row and tap Delete, or
- Tap Edit in the top-left corner to enter edit mode, select one or more devices with the checkboxes, and tap the trash icon at the bottom of the screen

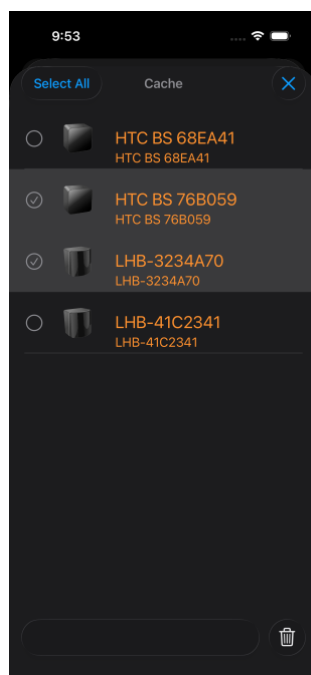


Figure 13 – Multi-select edit mode: tap Select All or pick individual checkboxes, then tap the trash icon to delete

Important: Deleting a device record removes its custom alias, Device ID, and standby mode preference permanently. The device will appear with its default Bluetooth name if it is discovered again.

7.4 Closing the Cache

Tap the orange checkmark button to close the cache and return to Settings.

8. App Shortcuts (Siri)

BS Companion provides two Siri Shortcuts that allow you to turn base stations on or off hands-free using Siri or the Apple Shortcuts app. Shortcuts run independently of the main app – you do not need to have BS Companion open.

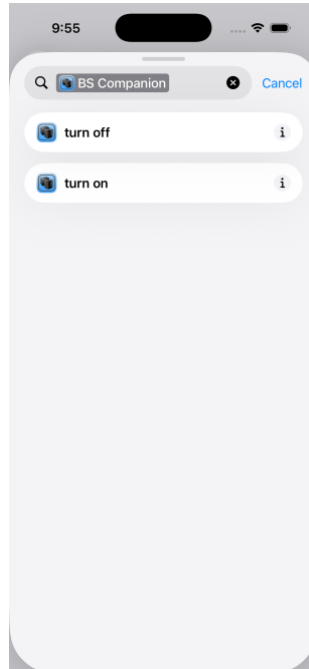


Figure 14 – Searching for BS Companion in the Shortcuts app reveals the “turn on” and “turn off” actions

8.1 Available Shortcuts

- Turn On – sends a power-on command to one or more selected base stations
- Turn Off – sends a power-off command to one or more selected base stations

8.2 How Shortcuts Are Suggested

BS Companion donates shortcut interactions to the system each time you tap a power button in the app. After a few uses, Siri will start suggesting the “turn on” and “turn off” actions on the lock screen and in Spotlight. You can also add them manually in the Shortcuts app.

8.3 Setting Up a Shortcut

To create a shortcut in the Apple Shortcuts app:

- Open the Shortcuts app and tap the + button to create a new shortcut
- Tap Add Action and search for “BS Companion”
- Select “turn on” or “turn off”
- Tap select devices to choose which base stations the shortcut should control

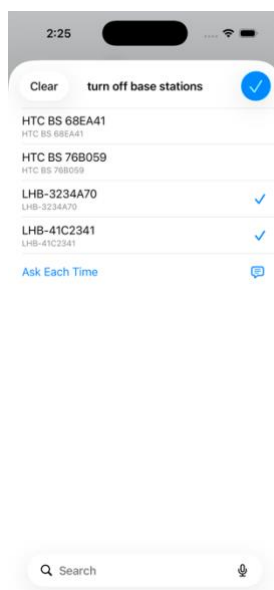


Figure 15 – Searching for BS Companion in the Shortcuts app reveals the “turn on” and “turn off” actions

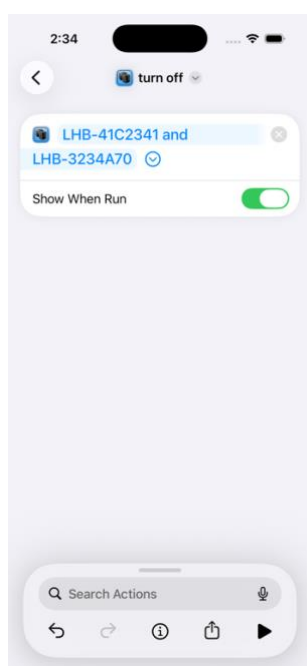


Figure 16 – The turn off action with “Show When Run” enabled – the Shortcuts app will open briefly while the command executes

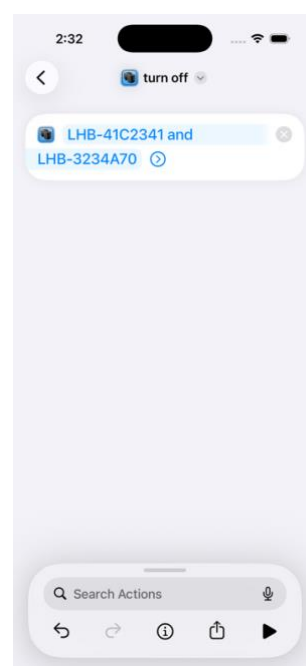


Figure 17 – With “Show When Run” disabled, the command runs silently in the background

8.4 Device Grouping via Shortcuts

You can create individual shortcuts with different base station pairs selected. This allows you to group base stations and control them separately.

8.5 Show When Run

Click on the  button to expose the Show When Run toggle inside the shortcut action.

This controls whether the Shortcuts app is brought to the foreground while the command executes:

- Enabled – the Shortcuts app opens briefly and shows a progress indicator. Useful for debugging or confirming the shortcut ran.
- Disabled – the command runs entirely in the background. Recommended for normal use and Siri voice activation.

8.6 Disabled Devices in Shortcuts

Devices marked as Disabled in the Internal Cache are automatically excluded from the device selection list when you configure a shortcut. They will also be skipped at runtime even if they were selected before they were disabled.

8.7 Invoking a Shortcut with Siri

After adding a shortcut you can invoke it by saying “Hey Siri, turn off” or “Hey Siri, turn on” – or any custom phrase you assigned to the shortcut. Siri will confirm success or report a failure if any base station was unreachable.

9. About Screen

Tap the info button (circle with “i”) in the top-left corner of the main screen to open the About screen.

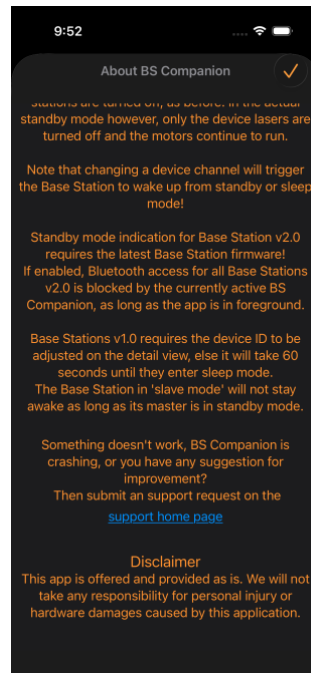


Figure 18 – About screen (scrolled to bottom) showing additional notes, support link and disclaimer

The About screen contains:

- What's New – release notes for the current version
- Additional Information – important notes about standby mode, firmware requirements, and HTC Device ID behaviour
- Support – a link to the support home page where you can submit feedback or bug reports
- Disclaimer – the app is provided as-is; Orbital Zones accepts no liability for hardware damage or personal injury

Close the About screen by tapping the checkmark button. The app will restart power state polling and re-initiate a scan if necessary.

10. Troubleshooting

No Base Stations Found

- Ensure Bluetooth is enabled on your iPhone
- Make sure you are within Bluetooth range of your base stations (typically up to 10 meters)
- Pull down to refresh the device list or close and reopen the app
- Check that another app or device is not blocking the BLE connection of the Base Stations

OFF Button Does Not Work (HTC)

- Verify the Device ID matches the label on the back of the base station
- Open the Device Detail view, tap Edit next to Device ID, and enter the correct value
- **The generic ID FFFFFFFF sends a broadcast off command that will power off HTC devices approximately after 60 seconds!**

Important: If you enter a wrong device ID for a HTC base station, it will not respond at all! You then could either correct the device ID, reset the HTC device IDs in the settings or delete the related HTC device from the internal cache!

In some rare cases it turned out that the users owned refurbished HTC base stations, where the ID at the label on the back is not correct! In that case you have to read the correct IDs from the SteamVR system report.

Power State Not Showing (LHB)

- Enable “display standby state” in Settings → Global Device Settings
- Close Settings – the app will rescan and begin polling automatically
- Power state is only available for LHB base stations
- LHB Base Stations do not responde or power LEDs not changing – make sure the Base Stations have the latest firmware!

Important: LHB base stations require the latest firmware; otherwise, the Bluetooth commands sent by BS Companion will not work! In the app settings, enable the “Advanced Details” option and check the current firmware in the device detail view.

Firmware Revision

R: 2.9.2004771 M: 1.8.2004742 B: 3.4.3782793

Figure 19 – The correct firmware version that will work with BS Companion

Siri Shortcut Returns an Error

- Ensure the base stations are powered on and in range
- Open BS Companion and retry the power command from the main screen to re-donate the interaction
- Check that the devices involved have not been disabled in the Internal Cache

Device Name Is Wrong or Outdated

- Go to Settings → Internal Cache
- Swipe to delete the stale record and rescan from the main screen
- The next scan will recreate the record with the current Bluetooth name

— *End of BS Companion User Guide* —