



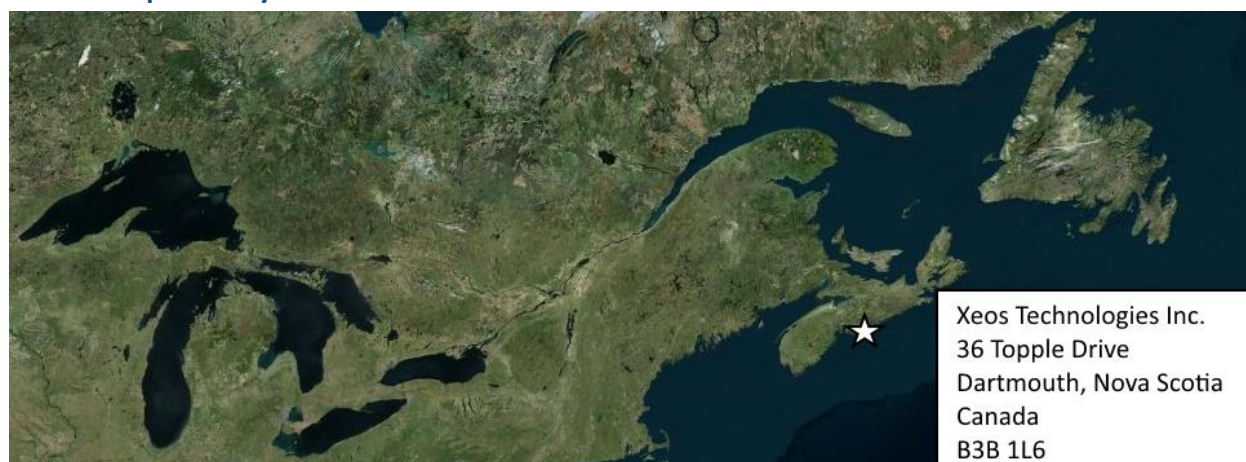
Xeos
Technologies Inc.

Bluetooth App Guide

Bluetooth Low Energy Communication



Developed By



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Version History

Version No.	Date	Description
1.0	October 2018	Base Document
1.1	February 2019	Link back to manuals page
2.0	November 2019	Overhaul due to app changes
3.0	August 2020	Overhaul due to further app changes

Regular checks for the latest manual are suggested. Be sure to check [Xeos Technologies' manuals page](#) to compare versions and download the latest version.

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Overview

Select Xeos products can be configured locally using the Xeos Beacon App. This method of communication requires no disassembly, with the exception of adding power to the beacon.

Requirements

Using the App with your beacon has a few prerequisites:

- A Xeos beacon with Bluetooth-enabled firmware. These products are the Apollo, Hades, Rover, OSKER, XMI, and their variants.
 - Using the Bluetooth Dongle, 12 Volt Onyx variants can also use the application.
- An Android Smartphone compatible with Bluetooth Low Energy devices.
- The [Xeos Beacon Android App](#).
 - The file can be downloaded as an .apk to install manually on an Android device, contact Xeos for more details on this.

Turning on Bluetooth

Before attempting to connect to your Xeos device, make sure it is powered on and Bluetooth functionality is enabled. The latter can be done in one of two ways for devices natively using Bluetooth hardware:

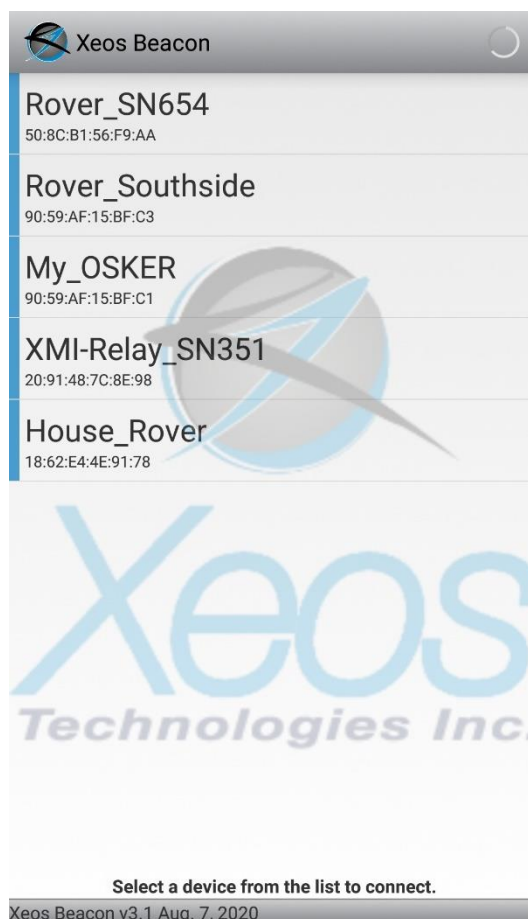
- Power cycle the device with a magnet or temporary battery cap removal
- Send the device the following command over Iridium: **\$btpwr 1**

Bluetooth Dongles always advertise when not connected over Bluetooth.

Connecting

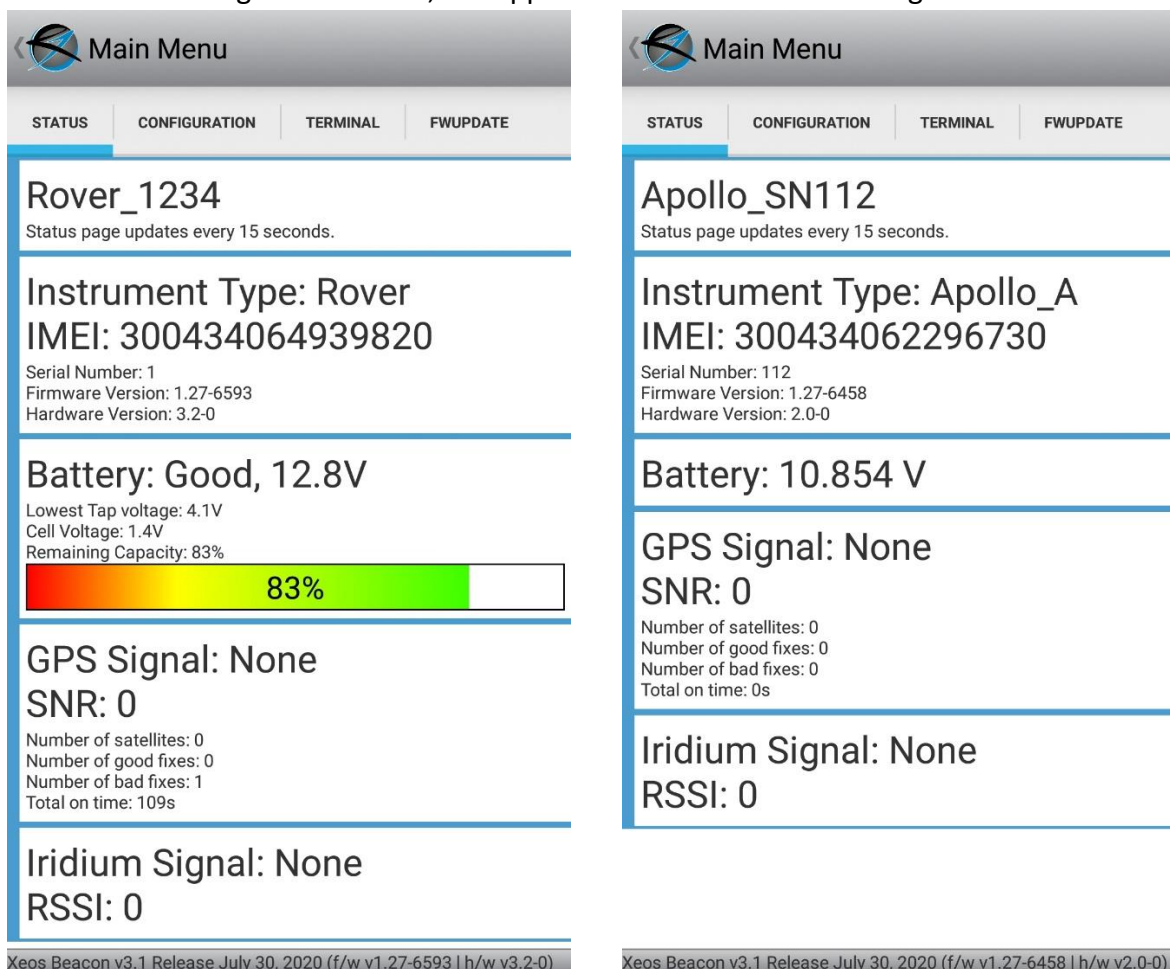
When the Xeos Beacon App is first opened, the user is presented with the Connection Page.

The app will list the name of any Bluetooth-enabled device within range. By default, the Bluetooth name will be the name installed at the factory. Tap the target device's name to connect.



Status Page

When first connecting to the device, the app will default to the Status Page



The Status Page shows all relevant information regarding the current state of your beacon, including:

- Current firmware and hardware information
- Battery voltage (more details for Rover)
- GPS statistics since the last power-up, with most recent SNR Level
- Iridium RSSI strength of latest Iridium session

This page updates automatically every 10 seconds to keep this information as up to date as possible.

Note: Only the Rover displays the graphical battery display since it is only designed to be powered at one voltage level. The other models are capable of other voltage configurations.

Configuration Page

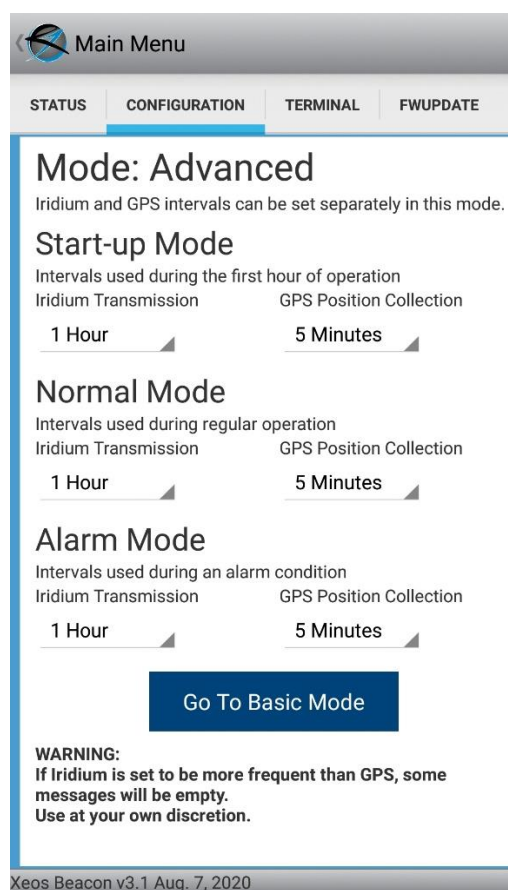
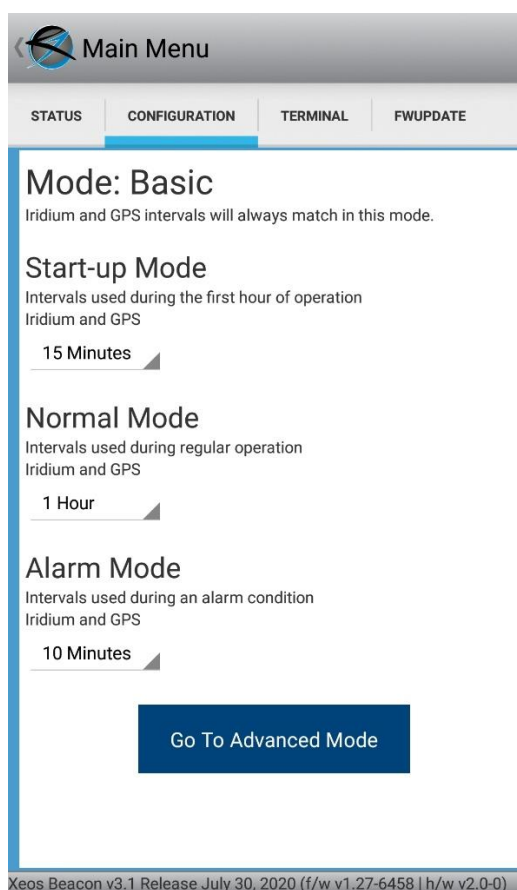
The configuration page can be used to quickly change the timing intervals of GPS and Iridium without typing in the command, to typically used settings.

There are two modes for this page; **Basic** and **Advanced**.

In **Basic** mode, changes made to the displayed timers will change **both** the Iridium and GPS to the same intervals for that timer. This is useful for keeping the intervals for both systems synced.

In **Advanced** mode, Iridium and GPS intervals can be configured separately. This is useful for situations where multiple GPS positions are desired per Iridium message (faster GPS rate than Iridium rate), or less GPS positions to save on data usage (slower GPS rate than Iridium rate).

Tap an interval for a drop-down menu of timings. The list of offered intervals is scrollable and initially takes a position in the list that matches the current settings of the connected Xeos instrument. To change an interval, choose one from the list and the change will be made on the instrument.

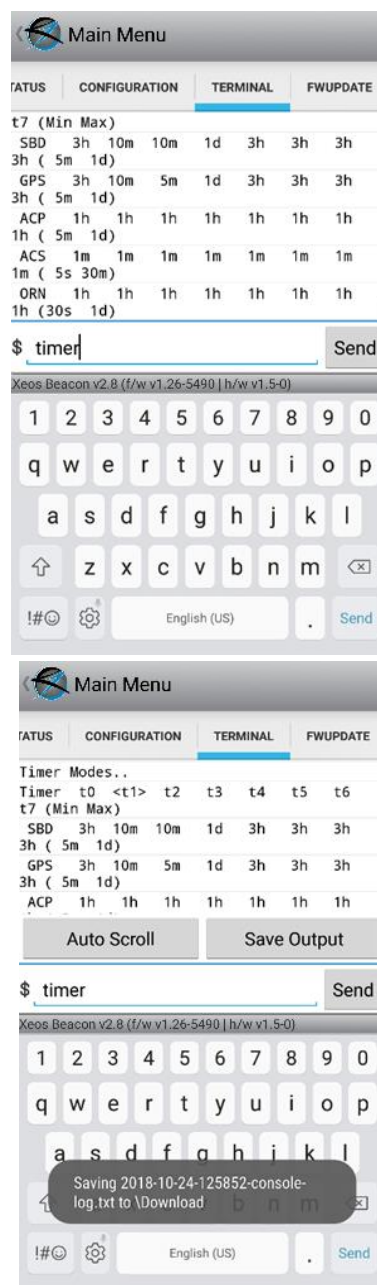
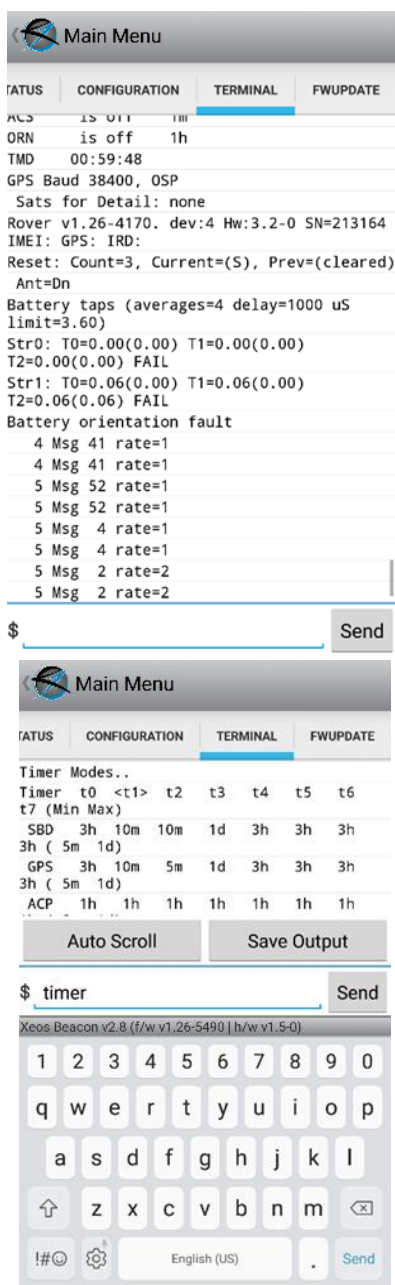


Terminal Page

The **Terminal Page** functions identically to a serial connection to the beacon. Commands can be entered at the bottom of the page. Tap **Send** to transmit the command.

Auto-Scroll can be disabled by tapping the diagnostic output. Diagnostic output can be reviewed by scrolling through the log. Taping the **Auto Scroll** button re-enables output to stream in real time.

Output from the Terminal page can be saved to the handheld device in the form of a text file by tapping the diagnostic output, and tapping **Save Output**. The saved file will appear in your device's **Downloads** directory.



Firmware Update Page

The Xeos Beacon App has the ability to upgrade the connected Xeos device with the offered firmware if the beacon does not possess the latest production build. Messages a user should know about the device will be present, as well as a link to the Xeos User Manuals page.

If a firmware update is available for the device, pressing the **Update** button will begin the transfer of the new build.

The application will upload a new firmware image at roughly 500 bytes per second. Once the upload is complete, the application will prompt the user to reset the device through the Reset button, or if no action is taken, the application will force the reset. This action will allow the connected device to load the new firmware on its next power-up. If the update is interrupted for any reason, simply restart the process. Failed updates will not cause issues with the device.

Following firmware updates, Xeos products do not retain their given Bluetooth name, and will need to be re-instated or changed to the user's needs. This can be done through the terminal tab with the following commands:

\$engmode 2009	Enables ability to change Bluetooth name
\$btname X	Give the device a name to broadcast; where X is the new name (no spaces allowed in name)
\$btpcycle	Power cycle the Bluetooth; the new name will display on the next connection attempt. Communication will disconnect for a few seconds.

After sending these commands, move back to the device list page by hitting the back button on the handheld device to allow the beacon to broadcast its new name.

