

EtherREGEN Firmware Update Guide

These instructions will guide you through a simple procedure to update the code that gets loaded into the main switch chip of your EtherREGEN when it starts up. Such updates are issued to improve function and performance of the EtherREGEN. Please read this entire guide first and then **follow these instructions carefully and in exact order.**

To perform the update you will need the following items:

- **A computer with a USB port and a display that you can see and control.** It can be a Windows, Linux, or Macintosh computer, as long as you are familiar with it and have the ability to move files with it.
- **The new firmware file from UpTone.** Its filename begins with “EtherREGEN_firmware_” followed by a date and ending with the extension “.uf2”. This file was inside the .ZIP file which you either downloaded from the UpTone website or were provided with directly.
- **A Torx T10 size screwdriver or driver tip bit**—to remove just the rear plate of the EtherREGEN. [Any hardware store will sell these. A Torx T9 size may also be used, but do not attempt to use a hex (“Allen”) key as such will not remove and will damage the screws.]
- **A standard USB ‘A’ to microUSB cable.** [microUSB cables often are included with mobile phone chargers. Just be sure it has data wires and is not just a thin 2-wire power-only charging cable.]
- **The EtherREGEN itself and a suitable AC>DC power adapter.** [The power adapter shipped with every EtherREGEN would be most appropriate.]

Once you have the above items, proceed as follows:

- 1) Unplug the DC power cable and all Ethernet cables from your EtherREGEN.
- 2) Bring both the EtherREGEN and its power supply to the desk where your computer is located.
- 3) Completely remove the knurled stainless steel Ground screw from the back (‘B’ side) of the EtherREGEN. [It is 13mm long so it will take a few turns to remove.] If you have installed a fiber optic module in the SFP cage on the ‘A’ side, remove it now.
- 4) Using a Torx T10 screwdriver, remove only the two screws at the left and right of the ‘B’ side of the EtherREGEN. [This is the side with the power LED, DC jack, Ground screw, etc.] If you wish to stand up the EtherREGEN—on its ‘A’-side front—to make screw removal easier, please place the unit on some padding so you do not damage the protruding SFP cage or scratch your desk. These screws are also somewhat long.
- 5) Once the end panel is removed, carefully slide the entire EtherREGEN circuit board out of its case. [It will slide out easily as long as you pull evenly.] Set the board on a soft/padded surface so that the pins on its underside do not scratch your desk.
- 6) Attach the ‘A’ plug of your USB cable to an available USB port on your computer. **It is important that your computer be powered on before the next steps.**
- 7) Locate the microUSB jack that stands vertically on the EtherREGEN’s circuit board. It is located between the back of the SFP cage and the largest square heat sink. Under good light, look closely at both the tab inside the microUSB jack and the opening of the microUSB plug of your cable. The plug will fit only if you have it turned to mate correctly. Gently insert the plug into the jack. It does not take much force to insert it. The jack on the board is not a deep one and the plug inserts just 4mm. If it does not insert easily, check again the orientation. Once inserted, be sure that the cable is supported and not pulled on—so that the jack and circuit board do not get damaged.

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Before the next step, you must confirm that the USB cable is already attached both to your running computer and to the microUSB port of the EtherREGEN as detailed on the previous page.

- 8) Apply power to the EtherREGEN by plugging the DC cable—of its supplied AC>DC adapter—into the black DC-barrel jack located near the edge of the circuit board, next to the power LED. [Be sure that no undue force is placed on the DC power jack; A torn off DC jack is not repairable and not covered under warranty.] The power LED should light.
- 9) As soon as you apply power to the EtherREGEN (with the USB cable attached beforehand), a virtual drive volume will be mounted on your computer, much as a USB flash/thumb drive normally would.
- 10) At your computer screen, open a file system window (*File Explorer* in Windows, *File Manager* in Linux, and *Finder* in macOS). Look for a mounted drive volume named “**EREGENBOOT**”.
- 11) Click on or highlight the ‘EREGENBOOT’ volume so that you can see its contents. Observe that it contains 3 files with the following names: CURRENT.UF2, INDEX.HTM, and INFO_UF2.TXT. **Do not move, alter, or attempt to open these files.**
- 12) While leaving the EREGENBOOT volume and files visible, **open a new file system window** and navigate to the folder containing the new firmware file you received or downloaded. Again, its name is “EtherREGEN_firmware_” with a date and the extension “.uf2”.
- 13) Highlight and drag the new firmware file into the EREGENBOOT virtual drive volume, as if you were trying to copy it to that folder/drive.

The new file will be copied into the EREGENBOOT volume but you will not see it there! The way you will know that you successfully copied the updated firmware is that the EREGENBOOT volume will instantly un-mount and the window with the 3 files you saw before will disappear.

With many common operating systems the EREGENBOOT volume will reappear almost immediately. [You may also get a message saying that the device was not properly ejected; that is okay.]

Unfortunately, you will not be able to look at or in any the 3 files of the EREGENBOOT volume to confirm that the new firmware was installed (no version numbers are contained). Again, you will not ever see the file named “EtherREGEN_firmware_XX-XX-XX.uf2” in the virtual drive volume. **As long as you saw the volume briefly un-mount/disappear, then you have successfully installed the new EtherREGEN firmware.**

If you are unsure, you can repeat the drag-and-“copy” operation again. It is not necessary to un-power/repower the EtherREGEN between copy attempts.

- 14) Unplug the microUSB cable from the EtherREGEN circuit board.
- 15) Unplug the DC power cable from the EtherREGEN’s power jack.
- 16) Carefully slide the circuit board back into the case, being sure that it is right side up. [It will go in easily as long as you keep it even at each side.]
- 17) Align the back panel with the jacks of the board and reattach with the two screws using a Torx T10 screwdriver.
- 18) Insert the Ground screw back into the hole located to the right of the DC power jack and tighten.
- 19) **Check to be sure the CLOCK INT/EXT switch is set correctly** (to INT for most people) before applying power to the EtherREGEN.
- 20) Reconnect the EtherREGEN in your music system and enjoy!