



RadioMaster TX16S Mark II – Upgrade EdgeTX Manually

This edition of Flight Notes will walk through the process of upgrading EdgeTX on a RadioMaster TX16S Mark II. The Mark II version of the TX16S comes with EdgeTX preinstalled; the original version came with OpenTX.

This document has two major sections. The first is about upgrading the EdgeTX software. The second is about upgrading the firmware on the MULTI-Module (4-in-1 radio module). Typically you will upgrade both pieces at the same time to ensure that everything works as well as possible.

Section 1 – Upgrade EdgeTX

I'm going to go through the process of upgrading EdgeTX in a very manual way, without any extra software tools. Doing it this way gives you the most control over what the upgrade will change, and also help you understand what's really going on.

There are other ways to upgrade EdgeTX. For example, the EdgeTX project is actively supporting "EdgeTX Buddy", a tool that you can run through Google Chrome rather than installing it. While a tool like that helps manage some of the details behind copying files, it does require you to hook up the transmitter via USB and then grant access to it from Chrome. It also requires a certain hardware driver to be working correctly, which it probably is not going to be without a little extra work. (Mine didn't work right away.)

If you would rather not install software that you don't truly need on your computer, this manual process is the best way to go.

Models are not lost in an upgrade, so don't worry about that.

Backup the Contents of the SD Card

Before doing anything, you'll want to backup the contents of the SD card.

Connect the transmitter to a PC via USB. The transmitter will ask you what to do; select "Storage".

Two new drives will appear on the PC. One has lots of folders – that's the SD card. The other is called "RM TX16S"; ignore that one and DO NOT CHANGE IT!

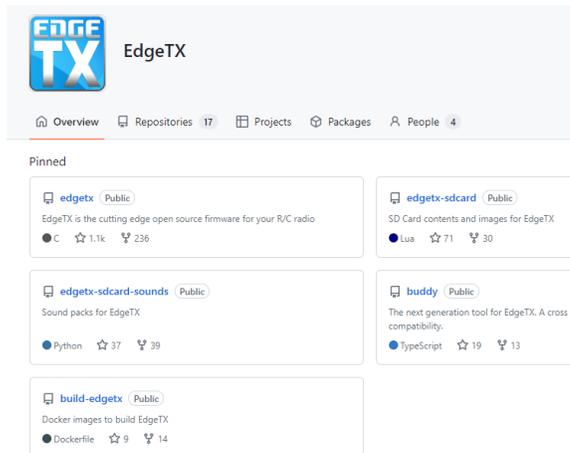
- 📁 FIRMWARE
- 📁 IMAGES
- 📁 LOGS
- 📁 MODELS
- 📁 RADIO
- 📁 SCREENSHOTS
- 📁 SCRIPTS
- 📁 SOUNDS
- 📁 TEMPLATES
- 📁 THEMES
- 📁 UTILITIES
- 📁 WIDGETS
- 📄 edgetx.sdcard.version
- 📄 Multi.txt

Using Windows Explorer, simply copy all of the contents of the SD card to a folder on your PC. That's all you need to do in order to make a backup.

Get New Version of EdgeTX

New versions of the EdgeTX software are posted on the EdgeTX GitHub site at: <https://github.com/EdgeTX>

There you'll see several pinned projects and more below them.

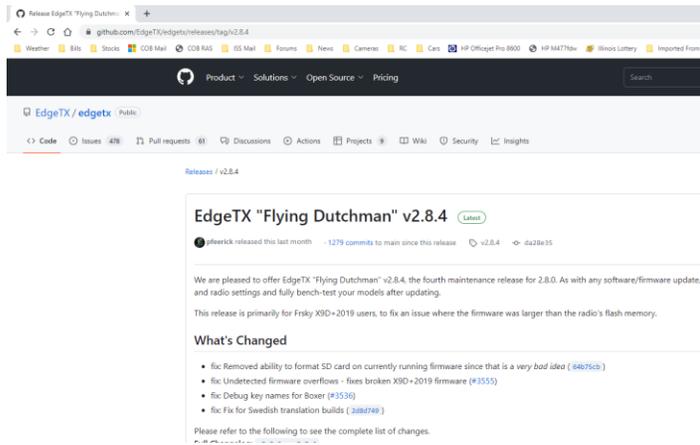


Start by selecting the “edgetx” project. Click on “edgetx”.

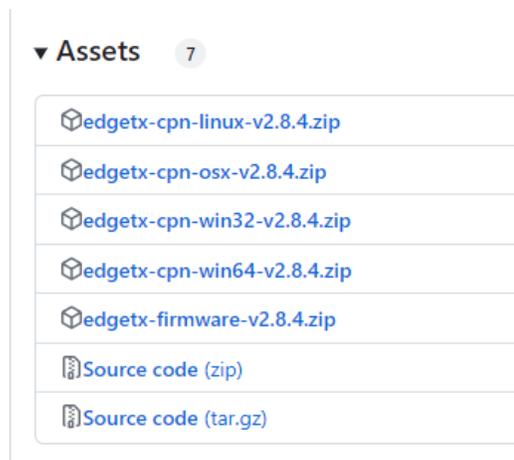
In the right-hand column, you'll see a box called “Releases”, which features the most recent release version of the project.



Click on the title of the release, and it will take you to the full page about that release.



Scroll down the page to the section titled “Assets”.



There are two useful files here. One is the edgetx-cpn ZIP file, which is the EdgeTX Companion software. Get the version that’s correct for your operating system. The second is the edgetx-firmware ZIP file. Get that as well.

You don’t need to have the EdgeTX Companion for this upgrade process, but you may want it for another reason in the future. Download it now so you have the correct version on hand if you ever need it.

Go back to the main EdgeTX project page, and look for the edgetx-sdcard-sounds project.

Just like the edgetx project, look for the latest release in the right-hand column and go to that page. Scroll down to “Assets”.

- [edgetx-sdcard-sounds-en-2.8.0.zip](#)
- [edgetx-sdcard-sounds-en_gb-libby-2.8.0.zip](#)
- [edgetx-sdcard-sounds-en_gb-ryan-2.8.0.zip](#)
- [edgetx-sdcard-sounds-en_us-guy-2.8.0.zip](#)
- [edgetx-sdcard-sounds-en_us-michelle-2.8.0.zip](#)
- [edgetx-sdcard-sounds-en_us-sara-2.8.0.zip](#)

You'll see several files with the "en" designation for English. The normal file is "edgetx-sdcard-sounds-en", also known as "Irene". You may choose to use one of the other variations instead. Download the one(s) you'd like to use or try out.

Go back to the main EdgeTX project page again, and look for the edgetx-sdcard project.

You need some information from the Readme for the project before jumping to the latest release. You need to know which SD card image to use based on the type of screen installed in the radio.

Platforms

The contents of this repository are organised by color type and screen size, v type and screen size.

- [c480x272.zip](#) (480x272 pixel landscape orientation color screen radios)
 - [TX16s / TX16s mkII](#)
 - [T16](#)

The TX16S uses the "c480x272" version of the SD card.

Now click on the latest release on the right, and then go to Assets.

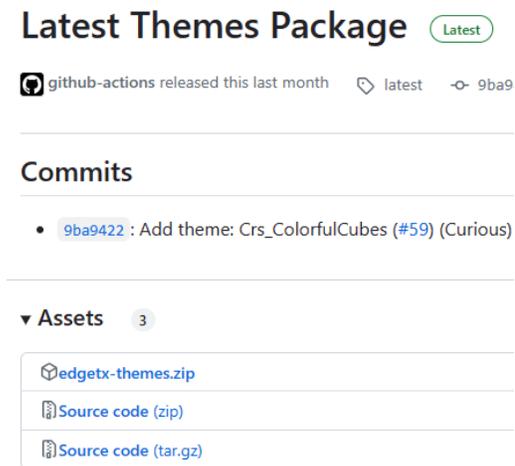
▼ **Assets** 8

- [bw128x64.zip](#)
- [bw212x64.zip](#)
- [c320x480.zip](#)
- [c480x272.zip](#)
- [c480x320.zip](#)
- [sdcard.json](#)
- [Source code \(zip\)](#)
- [Source code \(tar.gz\)](#)

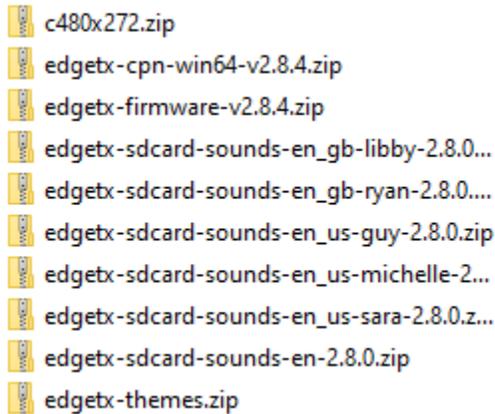
Get the "c480x272.zip" file.

Go back to the main EdgeTX project page again, and look for the themes project.

The Readme for the themes project shows examples of the various themes. Go to the latest release, and then download “edgetx-themes.zip”.



That’s everything you need to download to upgrade EdgeTX. You should have wound up with a folder full of things that may look something like this:



Copy Software to the SD Card

Attach the TX16S to the computer in a special way – in “bootloader mode”. This is a way to access the filesystem on the SD card without having EdgeTX running.

To do that, turn off the transmitter if it’s on. No USB cables should be plugged in.

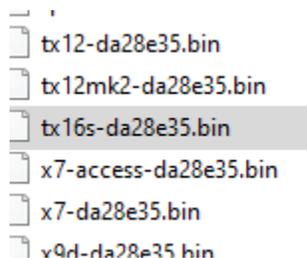
Press and hold the T1 and T4 trimmers in toward the center of the radio, and power on the radio while doing that. Keep holding the trimmers and power button until the screen flashes like it just got power (you won’t see anything appear on the screen), and then you can let go.

You'll then see an EdgeTX Bootloader screen.



At this point, connect the USB cable, and then the SD card will be accessible from the computer.

Start by opening the edgetx-firmware ZIP file. You'll need one file from it – the tx16s file.



Copy that file to the FIRMWARE folder on the SD card. If you have other firmware files with similar names, be sure to note the hex build number in the filename so you can pick it from a list later. Or, if you'd like to move the existing files in the FIRMWARE folder out of the way to avoid confusion, you can put them in a subfolder. However, the bootloader cannot install firmware that's located in a subfolder, so don't put anything new in a subfolder.

Next, open the edgetx-sdcard-sounds-en ZIP file. You'll see one folder in it – SOUNDS. Simply drag that SOUNDS folder from the ZIP file over to the root of the SD card. Windows will be smart enough to merge the new contents of SOUNDS with the existing contents on the SD card. You may be prompted to overwrite existing files – yes, do that.

Next, open the c480x272 ZIP file (the SD card contents file). There will be a number of folders in there, matching folders that already exist on the SD card. As with the sounds, simply drag the folders from the ZIP file over to the root of the SD card. (You can select all of them at once.) Windows will make the copy, and you'll be asked to overwrite existing files (yes).

Next, open the edgetx-themes ZIP file. Copy the one folder, THEMES, to the root of the SD card.

Flashing New Firmware

So far, all that has happened is that new files have been copied to the SD card, with a firmware file teed up in the FIRMWARE folder. Now it's time to install that firmware file.

Unplug the USB cable, and the Bootloader screen will go back to offering an option to Write Firmware. Go ahead and press the roller wheel button to select that option.

That will take you into the contents of the FIRMWARE folder, where you can choose a file to install. Find the file that you just copied out of the edgetx-firmware ZIP file (tx16s-.....bin) and select it.

The radio will display the "fork" ("edgetx"), the version, and the radio ("tx16s") from the firmware file. If that's all correct, long press (press and hold) the roller wheel to begin the write process.

The progress bar is red while it's working, and will turn green and say "Writing Completed" at the bottom of the screen when the write is complete. It takes less than a minute to write it.

As directed, press the RTN button to back out to the main Bootloader screen, and then choose the "Exit" option from the main screen to reboot the radio.

You can go to the System Settings menu and the VERSION page to verify that the new version is displayed.

How to Roll Back an Upgrade

Simply restore all of the contents of the SD card from the backup, and then flash the firmware back to the version of EdgeTX you had on the SD card.

Section 2 – Upgrade the MULTI-Module (4-in-1 Radio Module)

Go to this Web site for MULTI-Module firmware:

<https://downloads.multi-module.org/>

For the module, select “RadioMaster TX16S Internal Module (4-in-1)”. The Module Type is “STM32 4-in-1”, and the Radio Type is “Serial”.

MULTI-Module Selection

Select a specific MULTI-Module to load a set of default firmware file filters. Change the filters to refine (or expand) the list of files.

RadioMaster TX16S Internal Module (4-in-1) x ▾

Link: <https://downloads.multi-module.org/?rmtx16s>

File Filters

Use the filters to show firmware files matching specific criteria.

Firmware Version: 1.3.3.20 (Latest stable) ?

Module Type: STM32 4-in-1 x ▾ ?

Radio Type: Serial x ▾ ?

Channel Order: Show all ▾ ?

Show Pre-releases: ?

Show Debug Builds: ?

Download the desired BIN file for STM32 Serial with AETR channel order. Also download the “Multi.txt” file and the “MultiLuaScripts.zip” file.

Copy the BIN file to the FIRMWARE folder on the transmitter. (Note that nothing is ever applied automatically from this folder; firmware is always updated manually.)

Place the “Multi.txt” file in the root folder of the SD card. It’s not supposed to be needed for EdgeTX, but the TX16S came with that file installed.

Unzip the contents of the “MultiLuaScripts.zip” file. Place the files in the correct location on the SD card (/SCRIPTS/TOOLS). You can do this like the EdgeTX upgrade by copying the “SCRIPTS” folder in the ZIP to the root of the SD card, and Windows will merge it with the existing SCRIPTS folder.

To apply the firmware upgrade on the radio, go into System Settings, then the SD-HC CARD page, and select “FIRMWARE”.

Highlight the correct BIN file you would like to install and press the roller wheel.

Choose “Flash Internal Multi”. If the module matches a signature in the BIN file, the radio will proceed to install it. If it worked, you’ll get a “Flash Successful” message. Press the RTN button to exit.

If you get a “No Sync” error, then there is no bootloader on the module, and you’ll have to use the Flash Multi tool one time before this process will work on the radio. (More about the Bootloader: <https://www.multi-module.org/advanced-topics/bootloader>)

Revision 1 – July 2023