

SECTION 11: UPGRADING FIRMWARE

How to Upgrade Your Firmware

Your laser system is capable of having its operational firmware upgraded. The firmware is the command software in your laser system that controls how your laser system operates. A firmware upgrade reprograms your laser system to take advantage of new capabilities or enhancements to the system. The steps for upgrading the Fusion Edge firmware are explained below.

Note: Choose a time that's convenient for you to update the firmware, updates can take up to 10 minutes depending on the size of the update file.

Upgrading your laser is a two-step process:

1. Download the new firmware to your computer and unzip it.
2. Transfer the new firmware from your computer to your laser.

Downloading New Firmware onto Your Computer

Start by checking your current firmware version by powering on the laser. The current version is displayed on the **Settings** menu, which is accessible by pressing the **gear icon** in the upper right corner of the screen. Then click on **"Version"** to view the current Firmware version number.

Downloading: From the Epilog website download the new firmware under **Support + Service > Driver and Firmware Downloads** and save the Fusion Edge firmware file.



You can also join our Driver Notification mailing list on the download page to be automatically notified when new versions of firmware or the driver become available.

When you download the firmware it comes as a compressed file in the following format: **X.X.X.zip**. The X's designate the actual version of the firmware. Once downloaded, unzip the file by right-clicking on the file and selecting **"Unzip To"** or **"Extract To"**.

You will need to pay attention to the folder it is extracted to:



Important! Keep track of the folder where you saved the extracted **.swu update file**. You will need to access this file again in the next step.

Transferring New Firmware from Your Computer to Your Laser

When transferring the updated firmware file to your laser you have two options:

1. Transfer by USB (FAT32 Format)
2. Network Transfer by Ethernet Cable or Wi-Fi

FIRMWARE UPDATES 1.0.9.0 & UP

The following steps are for updating firmware versions 1.0.9.0 and above. To update to 1.0.9.0 you **MUST** be updated to firmware version 1.0.8.8 first, or the update will fail. To view updating firmware steps for any version before 1.0.9.0 please see **"FIRMWARE UPDATES VERSIONS 1.0.8.8 & BELOW"** on page 221.

USB Transfer

1. Load the .swu update file onto a USB drive from your computer. **We recommend using an empty USB drive** to find the update file easily.



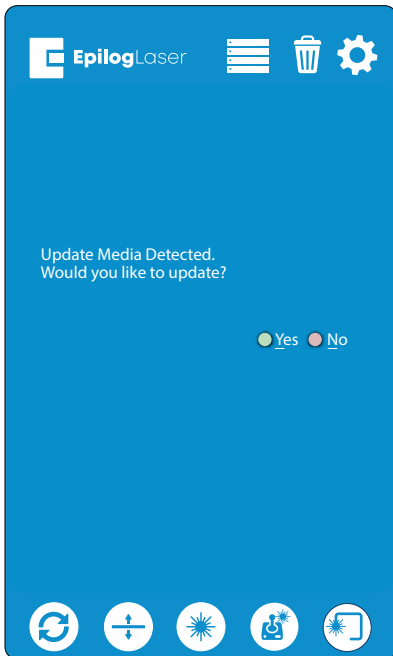
Note: The USB drive must be formatted to FAT32 format.

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Note: It's easiest if you put the update file in the root directory of your USB drive. If the update file is not located in the root directory of the USB drive, the machine may not detect the update file automatically. If you decide to put the update file into its own folder, make sure the folder name contains no spaces.

2. Eject the USB Drive with the update file from your computer.
3. Plug the USB drive into the Fusion Edge and it will detect the drive as it powers on. The machine will ask if you would like to update. Press **“Yes”**.



4. Select the update file and then select **“Update”**.



5. The update should begin and may take up to 10 minutes, depending on the size of the update file. Keep track of the time the update begins.



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If updating on the Fusion Pro 32 or 48, a dialog may pop up to notify you of the screen turning off for 5-10 minutes, if so, press “Continue”.



Important: The screen may turn off temporarily while updating, sometimes for several minutes. Please **DO NOT** turn off the machine in the middle of an update! The update is still active if the **LED light number 4** is flashing on the system status light panel located on the right side of the machine.



6. Once the update has completed you will see “Success” on the screen. Click “OK”.

7. The next screen will prompt you to power cycle in order to boot into the new firmware. Turn the machine off, unplug the USB drive, and then turn the machine back on again.



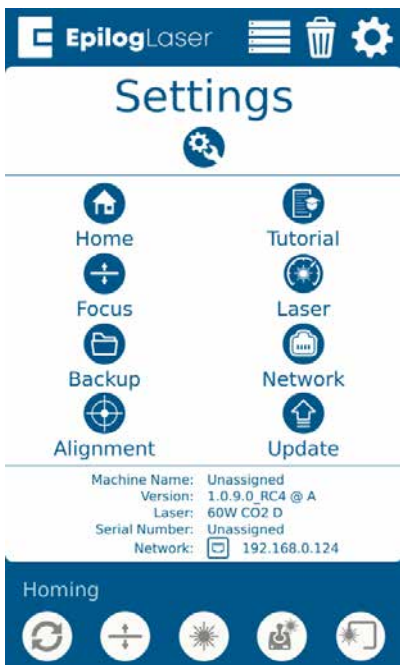
8. Your firmware update should now be complete once the machine boots up.

Network Transfer

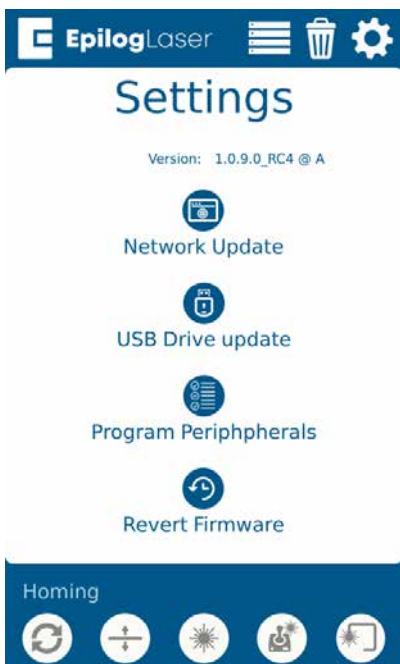
1. With an Ethernet cable or Wi-Fi connection you may transfer the firmware update file (.swu) directly from your computer to the machine. Please make sure the Ethernet cable is plugged in completely on both ends.

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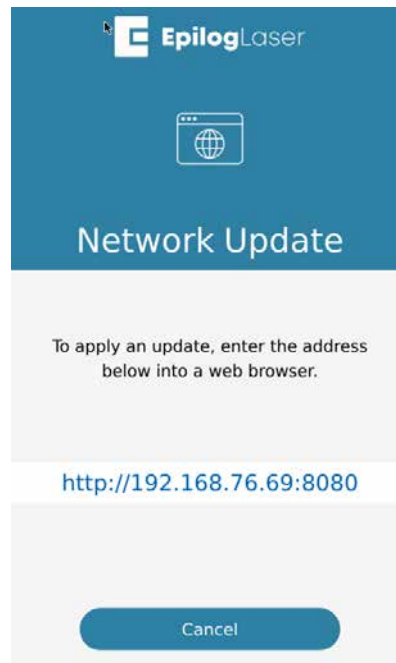
2. In the **Settings Menu**, select “Update” in the bottom right corner of the menu.



3. Select “**Network Update**” from the Update Menu.



4. The next screen will display the IP address needed at your computer to connect to the machine.



5. Open your web browser and in the search bar, type “**http://**” followed by the IP address currently displayed on the screen and hit “**Enter**”. **Example:** http://192.168.3.4:8080
6. A screen will load on your computer’s web browser with a box to drag and drop the update file into.

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- Put the .swu file in the upload box and this will initiate the update. The update should begin and may take up to 10 minutes, depending on the size of the update file. Keep track of the time the update begins. A dialog may pop up to notify you of the screen turning off for 5-10 minutes, if so, press "OK".



Important: The screen may turn off temporarily while updating, sometimes for several minutes. Please **DO NOT** turn off the machine in the middle of an update! The update is still active if the **LED light number 4** is flashing on the system status light panel located on the right side of the machine.

- Once the update has completed you will see "Success" on the screen. Press "OK".
- The next screen will prompt you to power cycle the machine in order to boot into the new firmware. Turn the machine off and then back on again.



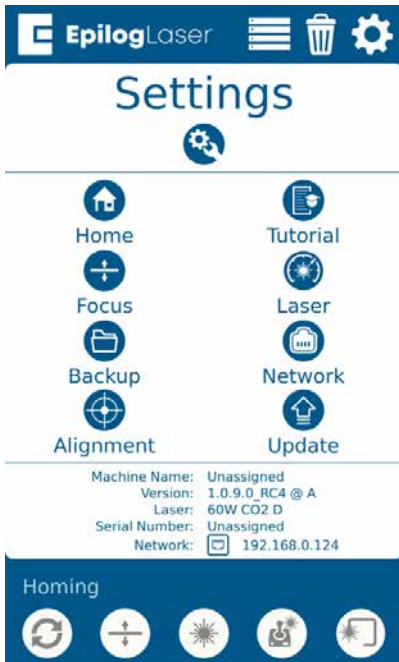
- Your firmware should now be updated and be ready to use once the machine boots up.

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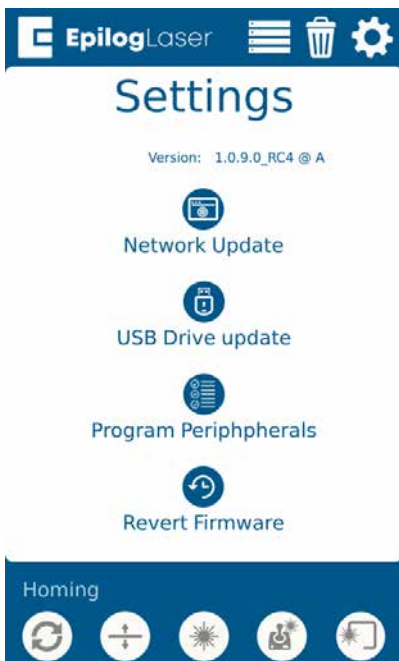
REVERTING FIRMWARE

Once you have updated to firmware version 1.0.9.0 or higher, you will have the option to revert back to the most recently installed version.

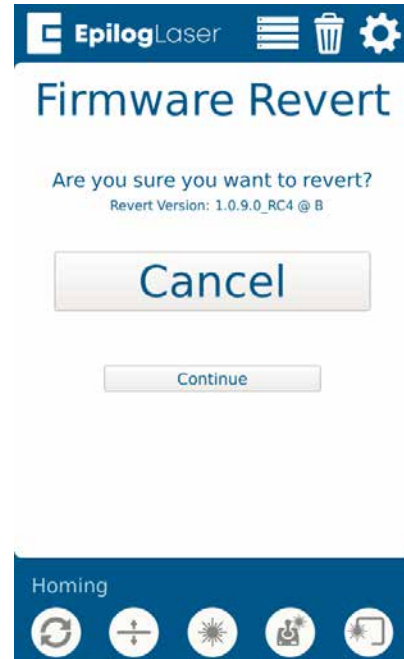
1. In the Settings Menu, select **“Update”**.



2. In the Update Menu, select **“Revert Firmware”**.



3. On the next screen press **“Continue”** at the bottom of the screen to proceed with the firmware revert process.



4. Once the revert process is complete you will need to reboot the machine. It will revert to the most recent installed version of firmware on the machine before updating.



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FIRMWARE UPDATES VERSIONS

1.0.8.8 & BELOW

USB Transfer

1. Load the .swu update file onto a USB drive from your computer. **We recommend using an empty USB drive** to find the update file easily.

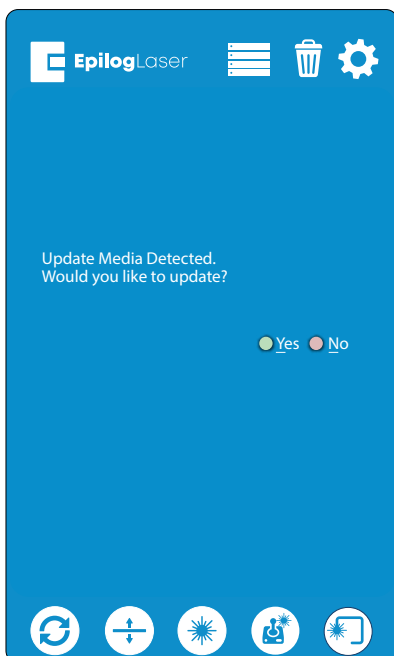


Note: The USB drive must be formatted to FAT32 format.



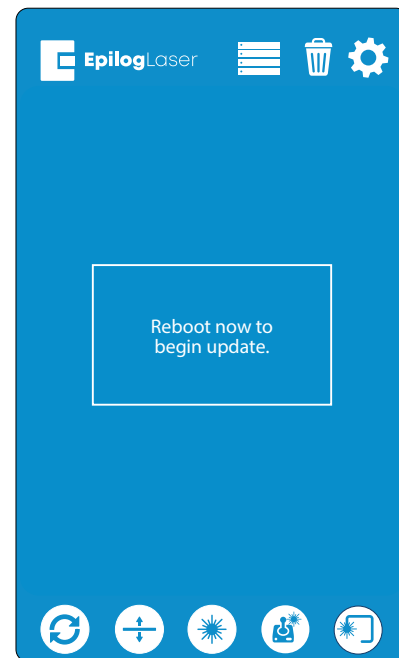
Note: It's easiest if you put the update file in the root directory of your USB drive. If the update file is not located in the root directory of the USB drive, the machine may not detect the update file automatically. If you decide to put the update file into its own folder, make sure the folder name contains no spaces.

2. Eject the USB Drive with the update file from your computer.
3. Plug the USB drive into the Fusion Edge and it will detect the drive as it powers on. The machine will ask if you would like to update. Press **“Yes”**.



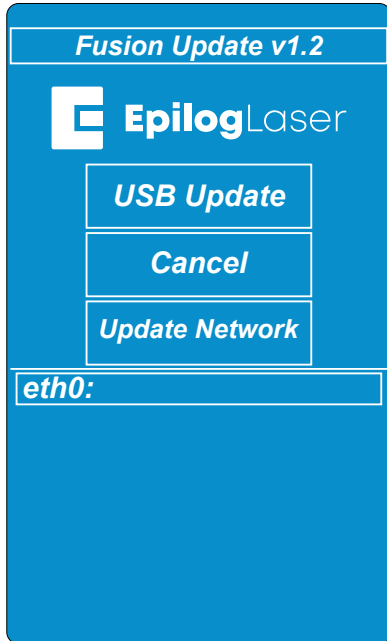
Note: If this screen does not appear after plugging in your USB drive, the update file is not being automatically detected by the machine. You may power off your machine, then press down both the **joystick** and **Go/Stop** button and power on the machine, waiting until the screen goes blank. Once the screen goes blank you may let go of both the button and joystick. This will cause the machine to boot into **Update Mode**.

4. The machine will need to reboot to run in **Update Mode**. Turn the machine off and then back on again.



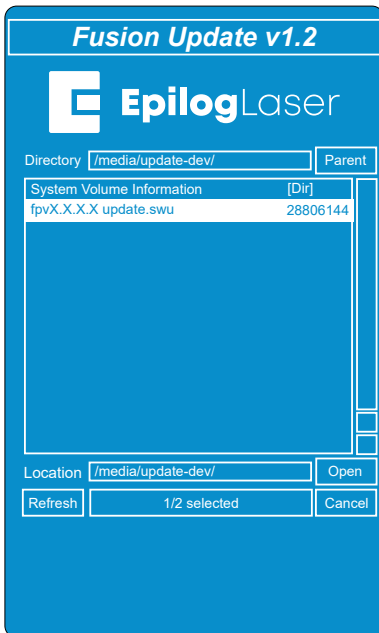
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- Once the machine has booted back up, you will see a screen with three options: USB Update, Update Network, or Cancel.



Note: Canceling will prompt you to power cycle the machine to reboot into the current firmware version you have loaded on the machine.

- Select **“USB Update”** and a directory folder should appear showing your .swu update file. Select the file **fpvX.X.X.X.update.swu** and then select **“Open”**.

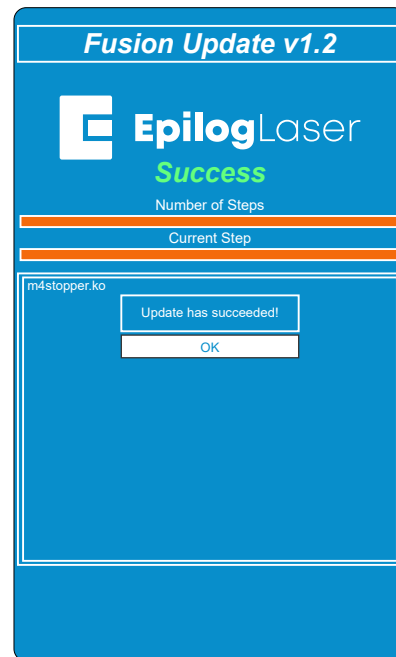


- The update should begin and may take up to 10 minutes, depending on the size of the update file. Keep track of the time the update begins. A dialog may pop up to notify you of the screen turning off for 5-10 minutes, if so, press “OK”.



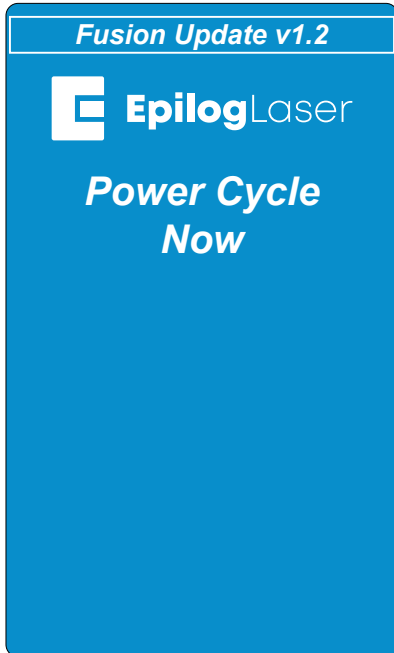
Important: The screen may turn off temporarily while updating, sometimes for several minutes. Please **DO NOT** turn off the machine in the middle of an update! The update is still active if the **LED light number 4** is flashing on the system status light panel located on the right side of the machine.

- Once the update has completed you will see “Success” on the screen. Click **“Ok”**.



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9. The next screen will prompt you to power cycle in order to boot into the new firmware. Turn the machine off, unplug the USB drive, and then turn the machine back on again.

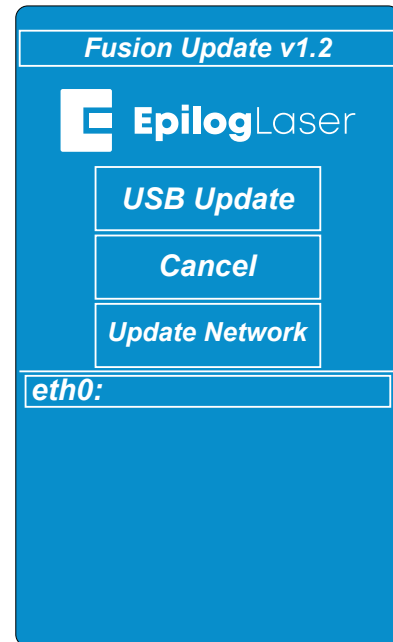


10. Your firmware update should now be complete once the machine boots up.

Network Transfer

1. With an Ethernet cable or Wi-Fi connection you may transfer the firmware update file (.swu) directly from your computer to the machine. Please make sure the Ethernet cable is plugged in completely on both ends.

2. Press down both the **joystick** and **Go/Stop** button and power on the machine, waiting until the screen goes blank. This will cause the machine to boot into **Update mode**.



3. Select "Update Network".
4. Open your web browser and in the search bar, type "**http://**" followed by the IP address currently displayed on the screen next to "eth0:". After the IP address, add "**:8080**" and hit "**Enter**".

Example: `http://192.168.3.4:8080`

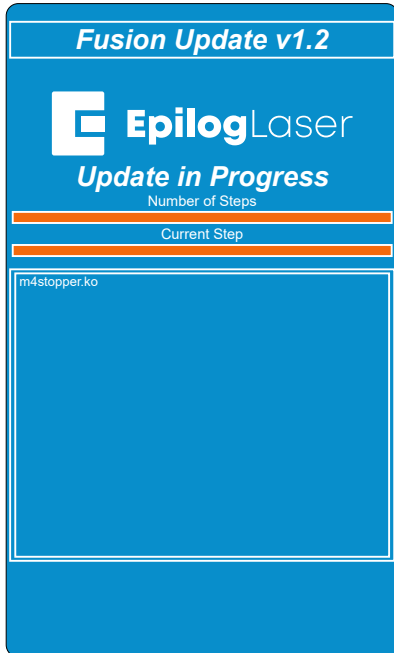


Note: If there is no IP address next to "eth0:", Ethernet transfer will not work.

5. A screen will load on your computer's web browser with a box to drag and drop the update file into.

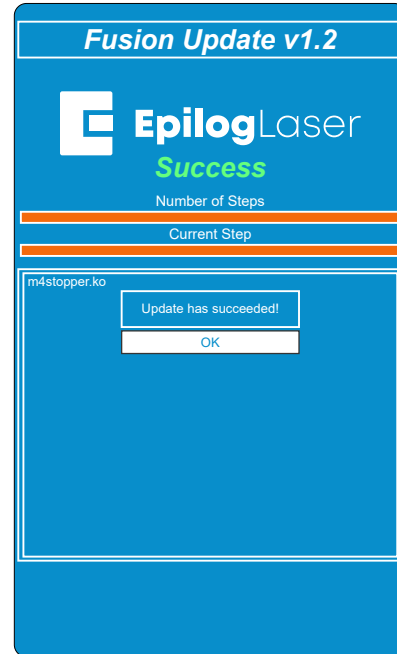
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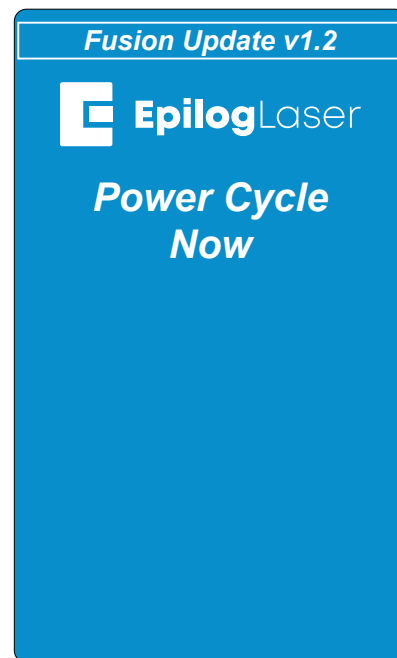


Important: The screen may turn off temporarily while updating, sometimes for several minutes. Please **DO NOT** turn off the machine in the middle of an update! The update is still active if the **LED light number 4** is flashing on the system status light panel located on the right side of the machine.

- Once the update has completed you will see "Success" on the screen. Press "OK".



- The next screen will prompt you to power cycle the machine in order to boot into the new firmware. Turn the machine off and then back on again.



- Your firmware should now be updated and be ready to use once the machine boots up.