

How to Update the Flash on Your Eggfinder LCD

Occasionally, we publish updates to the Eggfinder LCD software. Typically, this is to fix (hopefully) minor bugs, or to add new features that have been suggested to us. The Eggfinder LCD's software can be updated using the same serial cable that you use for downloading and programming an Eggtimer Flight Computer... it's a standard USB-TTL serial cable. The one that we sell for use with the Eggtimer uses a Prolific PL2303 chip, but cables (or dongles with a cable) using the USB-serial chips by FTDI (FT232RL) or Silicon Labs (CP2102). Updates are easy, and it takes about 1-2 minutes.

Caveat: Currently, we only support updates from Microsoft Windows PCs. Sorry Apple/Linux fans... it's because Win-AVR only runs on Windows. You MAY get it to work on an Apple/Linux hypervisor, but that's way out of our league...

1) Download and install Win-AVR.

You will need a current version of the Win-AVR program for your Windows PC. You can get it by clicking on the link on the Eggtimer support page under Knowledge Base. This only needs to be installed once.

2) Plug the USB-Serial cable into your PC.

3) Note that COM port that you use; it will be the same one that you use when you use the cable to program/download your Eggtimer. You can find it in Device Manager under Ports, the USB-Serial cable will show up as "USB Serial Port" or something like that.

4) Download the update package, then unzip it to your C: root (C:\). You should see two files extracted, one called "Eggfinder_LCD_v_m.hex" and "Eggfinder_LCD_v_m_Upload.bat" (where v is the major version and m is the minor version).

5) Start a Command prompt on your PC, either by selecting Command from Start/Accessories or by typing "cmd" in the Run dialogue box.

6) Type "CD \" to change to the root of your C: drive.

7) If your COM port was COM2, you can skip this step. Otherwise, open the .bat file with Notepad, look at the line that starts with "avrdude ". If the COM port number does not match your USB-serial cable's COM port, change it. For example, if the COM port that you got in Device Manager was COM3, change COM2 to COM3. Be careful not to change anything else on the line, or the update script won't work. Close Notepad, saving the file when prompted. If you mess up, you can always extract the zip file again, so don't be too nervous.

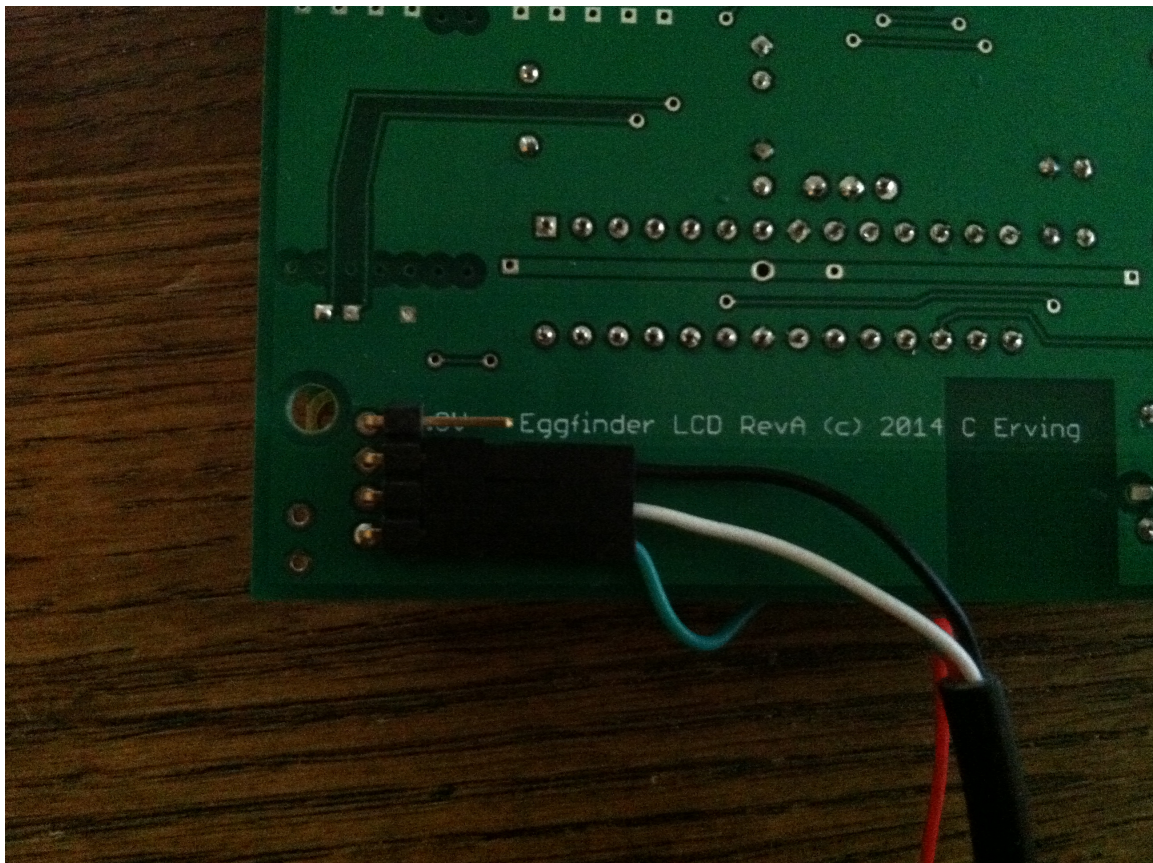
8) If you have a Bluetooth module connected to your Eggfinder LCD, disconnect the cable from the Eggfinder LCD's 4-pin serial header (on the bottom of the board). Connect your Serial Cable to your Eggfinder LCD's serial header as follows (the colors are for the Prolific cable that we sell, if you have another cable make sure you match up the PIN functions, NOT the colors).

DO NOT CONNECT ANYTHING TO THE PIN ON THE HEADER MARKED 3.3V!

GND on Cable (BLACK) -- GND pin on 4-pin header

TX on Cable (WHITE) -- TX pin on 4-pin header

RX on Cable (GREEN) -- RX pin on 4-pin header



Note: It MAY be possible to use your Bluetooth-serial module instead of the USB cable, since it's essentially acting as a virtual serial port on your PC. We've had mixed results with this, sometimes it works great and sometimes it can be very cranky. If you already have an HC-06 Bluetooth module on your board, and you don't have an Eggtimer USB-serial cable (we can't imagine why you wouldn't, though...), you can give it a try and see how it works. If you can't get it to work, visit www.EggtimerRocketry.com and you can buy a cable that we know will work.

9) Get a small paperclip or piece of wire (like a cut-off resistor lead) and short the two pads marked "RST", located at the corner of the circuit board right next to the 4-pin serial connector. Turn on your Eggfinder LCD, if the RST pins are shorted you shouldn't hear the startup beep tone; if you do, check your jumper.

*** READ THE NEXT STEPS CAREFULLY **BEFORE** CONTINUING ***

10) Type “Eggfinder_LCD_x_xxx_Upload.bat”, replacing the “x”s by the version number (i.e. “Eggfinder_LCD_1_6_Upload.bat”). You will see some heading stuff, then it will display a line starting with “avrdude: Send: 0...” repeatedly at about two second intervals.

11) After the FIRST “avrdude: Send: 0...” line, quickly remove the shorting jumper that you placed across the RST pads. If it “takes”, you will start to see a lot of stuff scroll rapidly across your screen. This means that it’s uploading, this is good. After about a minute or so it will stop and the window will close, your Eggfinder LCD will reset, and it will go into the normal operational mode (you’ll hear a long beep). Turn it off and disconnect the serial cable. Turn it back on, and confirm that the version on the LCD display matches the uploaded software version. If it does, you’re done!

Sometimes the update won’t “take” on the first try. If that happens, repeat steps 9 through 11. The timing can be a little tricky sometimes, the key thing is that you need to keep the Reset shorted until you see the first “avrdude: Send: 0...” message. If you release it too early, the bootloader won’t see the communications prompt from AVRDude to upload the program; if you release it too late, the bootloader won’t know that an upload is in progress and will ignore it.

If for some reason it halts in the middle of the update, this may appear to “brick” your Eggfinder LCD, i.e. it will appear to be dead when you power it up. Since the bootloader can’t be erased by the update, however, all you need to do to get it back is to redo the update. Trust us, it works... we’ve rescued many “dead” devices by simply reflashing them.

If you have any problems updating your Eggtimer, drop us a line at support@eggtimerrocketry.com ... we’ll get back to you as soon as possible.