

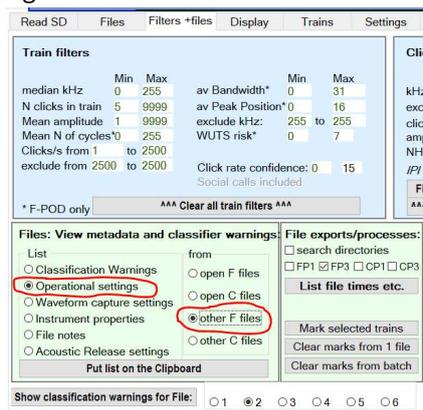
# How to update firmware and apply settings on FPODs less than 6800

## Firmware Boot Loading Instructions

1. Insert both battery stacks and connect with the spring clip.
2. Format a 32GB micro SD card.
3. Copy the attached firmware.hex file onto the SD card and insert into the FPOD.
4. There will be various flashing colours that will continue for between 2 and 7 minutes.
5. When you see a continuous double green or double yellow light push the SD card to eject, no need to remove the SD card.
6. After a couple of seconds push the SD card back in.
7. The lights will flash or pulse for between 1m and 10m.
8. When the process has finished the lights will go out or there will be continuous yellow lights (depends on when the FPOD was manufactured).
9. Push the stop button and eject the SD card.
10. Your FPOD has now been upgraded to the new firmware.

## Obtain your FPOD's specific gain value from an existing FP1 file

1. Open FPOD.exe desktop software and go to the Filters +Files tab
2. Under the heading "Files: view metadata and classified warnings" select "List: Operational settings" and "from: other F files"



3. Then click "Put list on the clipboard" and browse to a recent FP1 file for this FPOD and select it.
4. The meta data is now in the clipboard, open a new sheet in Excel and paste in the data.
5. Look for the column heading "Fixed amplifier gain" and use this value in F\_INITS.CHE as follows.

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Operational settings	File	POD ID	Actual Start time	Mins OFF (between Mins ON)	KERNO Mins OFF..ON)	Minute click limit	Months OFF	High pass filter code	Fixed amplifier gain	Dea	Band	MinNo/Cycles, bar
2	Operational settings	Harbour 2024 04 25 FPOD_test file0.FP1	100025	25/04/2024 15:20		0	0	16384 none	1.80	120		5	
3													
4													
5													
6													
7													

6. Open the attached F\_INITS.CHE file in a text editor e.g. Notepad and change the gain value from 120 to the value from the spreadsheet, this value can be 1, 2 or 3 digits in length

```
File Edit Format View Help
/F_INITS.CHE/
D/
gain=120; Gain
serial_1=00; first two digits of Housing Number
serial_2=61; next two digits of Housing Number
serial_3=82; last two digits of Housing Number
date_msb=177; Date of calibration MSB
date_lsb=169; Date of calibration LSB
preamp_ver=4; Preamp version
hydrophone_ver=1; Hydrophone version
main_board_ver=7; MainBoard version
housing_type=1; HousingType 1=Shallow 50=Deep
```

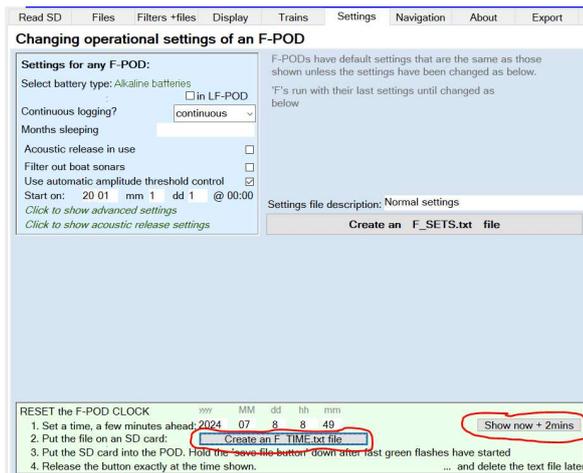
7. With F\_INITS.CHE still open edit the 3 pairs of 2 digit serial numbers (these allow for a serial number up to 999999) to reflect the serial number of your FPOD, the image shows the values that would be entered for an FPOD of serial number 6182 so the first 2 digits are 00.

```
File Edit Format View Help
/F_INITS.CHE/
D/
gain=120; Gain
serial_1=00; first two digits of Housing Number
serial_2=61; next two digits of Housing Number
serial_3=82; last two digits of Housing Number
date_msb=177; Date of calibration MSB
date_lsb=169; Date of calibration LSB
preamp_ver=4; Preamp version
hydrophone_ver=1; Hydrophone version
main_board_ver=7; MainBoard version
housing_type=1; HousingType 1=Shallow 50=Deep
```

8. Save the F\_INITS.CHE file

### Apply F\_SETS, F\_INITS and F\_TIME settings

1. Insert both battery stacks and connect with the spring clip
2. Format a 32GB micro-SD card
3. Copy the edited F\_INITS.che file onto the micro-SD card
4. Create your F\_SETS.txt with the FPOD.exe software by going to the Settings tab and clicking "Create an F\_SETS.txt file" and save it the file to the micro-SD card. This will install the default settings your FPOD originally shipped with, if you require different settings please make sure to change them here.
5. When you are ready to install the settings create the F\_TIME.txt file using the FPOD.exe software (make sure you have the latest downloaded from Chelonia.co.uk). With the same micro-SD card still in your computer go to the FPOD.exe Settings tab, go to the bottom section named "RESET the F-POD CLOCK" and click "Show now + 2 mins" then click "Create an F\_TIME.txt file" and browse to your micro-SD card and save the file there. After a few seconds the button name will return to "Create an F\_TIME.txt file", at this point eject the card and insert it into the FPOD.



6. After a few seconds of red, blue and bright blue the green lights to start flashing rapidly.
7. A few seconds before the time you have set in FPOD.exe is reached, hold down the FPOD button and release exactly on the second that the minute starts.
8. There will be a series of different coloured flashing lights ending in several rapid double green flashes.
9. The settings have now been installed and you can now insert a blank micro-SD card when you are ready to test or deploy.