

# **The FUNcube Dongle**

## **Firmware Update**



### **Caution**

As delivered, the FCD may not have the latest version of firmware installed however it has been fully tested prior to despatch. As of February 2011, all production FCDs have been shipped with firmware release 18b.

It is strongly recommended that you test, verify and become familiar with the FCD's operation before proceeding with any update.

Please see "Setting up Spectravue with the FUNcube Dongle" on the FCD website "Downloads" page.

If you experience any problems please seek advice before proceeding.

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## Downloading the Required Files

We will assume that a new folder called “FCD” has been created on your PC to contain the files required to perform the update and that we are updating to firmware version 18f.

Download the following files from the FCD website to your new folder:

"Windows fully functional front end" - File name: FCHid003.zip

"Boot loader with source code" - File name: FCHIDBL001.zip

FCHid003.zip contains only one file – “FCHid.exe”.

Extract this file.

FCHIDBL001.zip contains a number of files. The only one required is “FCHIDBL.exe”.

Extract this file.

The two zip files can now be deleted if you wish.

Download the firmware binary file from the FCD website to your folder:

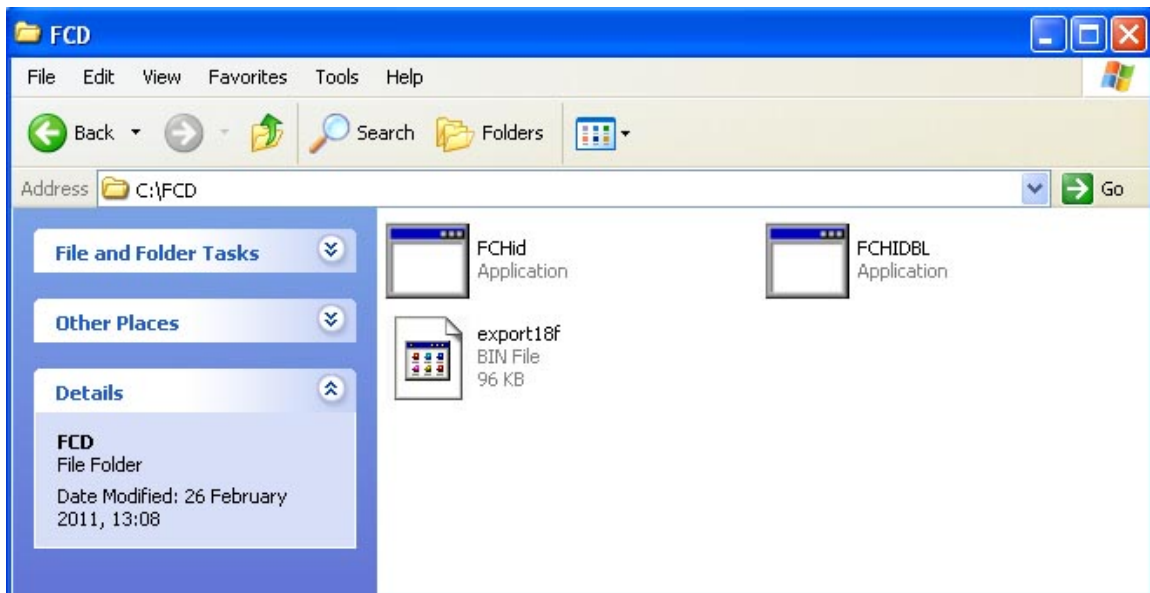
"Firmware v18f (New!)" - File name: export18f.bin

Note: The method for doing this may vary between Browsers.

Internet Explorer will open a “File Download” menu window.

FireFox will open the file and you must select “Save Page As” from the “File” menu.

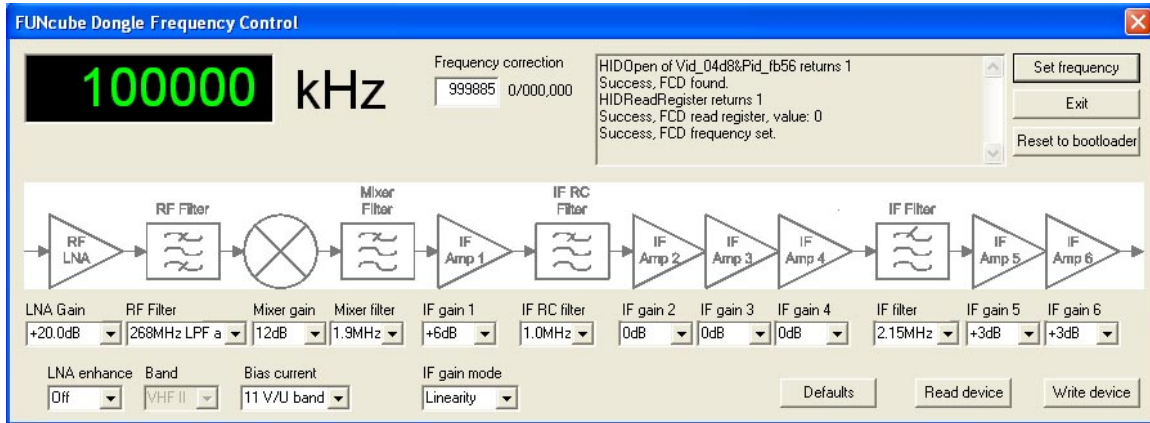
Having completed these steps the contents of your folder should appear as shown below.



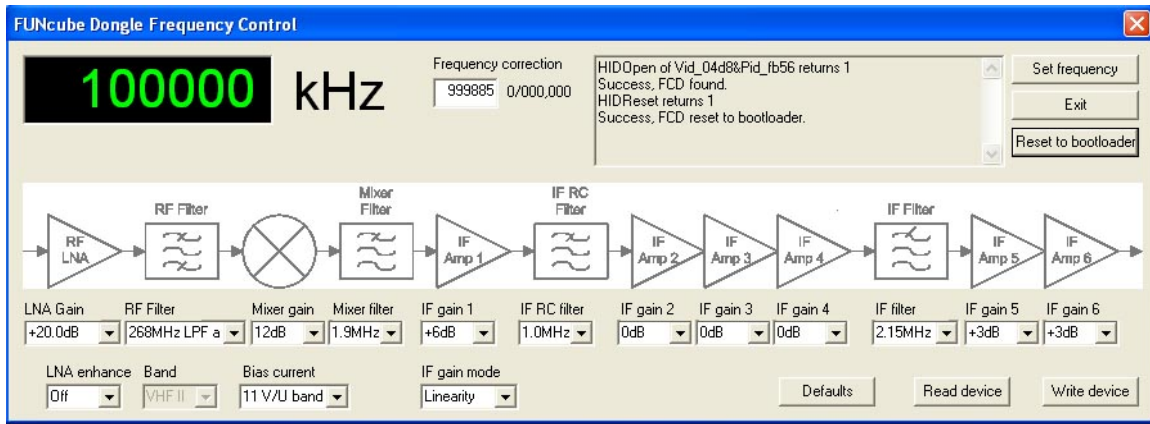
## Performing the Firmware Update

Connect the FCD to your PC and run FCHid.

To confirm correct operation enter a frequency of 100000, click on “Set frequency” and ensure that the response appears as shown.



Click on “Reset to Bootloader”. The information should change as shown.



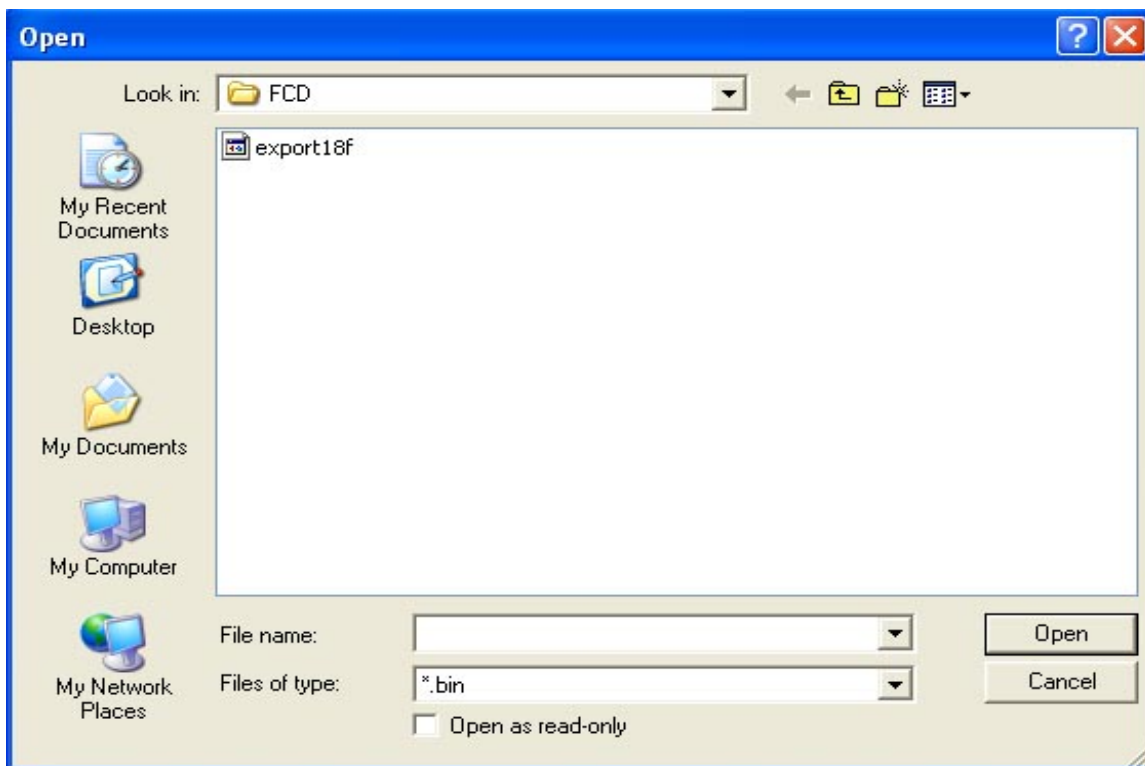
Click on “Exit”, the application will close.

Run the Bootloader program – FCHIDBL.

The following window will open.



Click on “Open file”, the following window will open allowing you to navigate to the location in which you saved the firmware binary file.



Select the file and click “Open”



Your firmware update is complete but you MUST reset your FCD to its SDR (or application) mode.

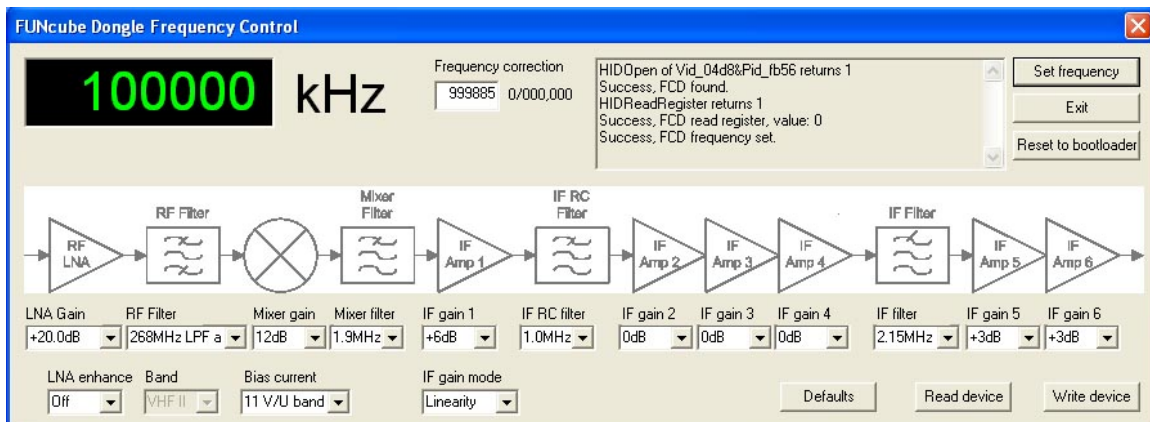
Click on “Reset to app”, the following will be seen.  
(The error is correct as the FCD is no longer in Bootloader mode)



Notice the fourth line down in the text box: “Query message: FCDAPP 18.06”  
This identifies the firmware version loaded, in this case 18.06 = v18f.  
For more information see “Using the Bootloader to Identify Firmware Version” below.

Click on “Exit” to close the Bootloader program.

Run FCHid, enter 100000 as the frequency and check that the FCD responds as before.



Your FCD is now updated and ready for use.

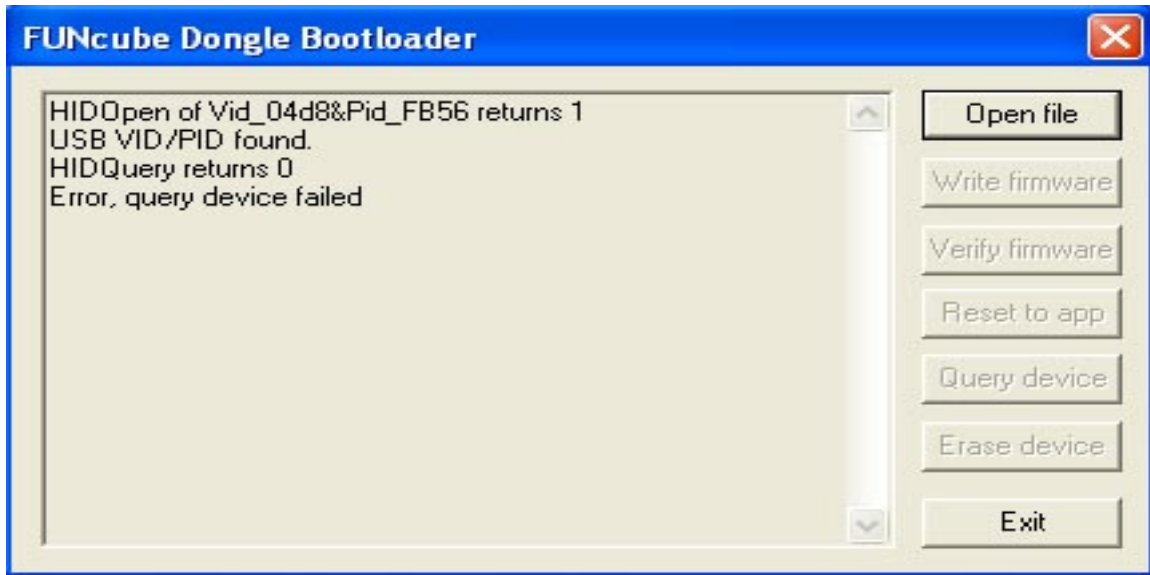


## Using the Bootloader to Identify FCD Firmware Version

This function can be used to identify the firmware loaded in an unknown FCD.

Run the Bootloader program with the FCD in application mode.

If the FCD has firmware 18b or 18c loaded the following will be seen.



If the FCD has firmware 18d or later loaded it will appear as below.



Line 4 indicates the firmware version installed.

“FCDAPP 18.04” - version 18d

“FCDAPP 18.05” - version 18e

“FCDAPP 18.06” - version 18f

New firmware releases are designed to be backward compatible so installing them should not break anything you were doing previously.

The updates have been made available to provide a much more comprehensive Application Programming Interface (API) for third party developers, so please refer to any release notes or prerequisites for the host software.