UPDATING THE FIRMWARE IN THE CS-BFD

This document goes into painstaking details on how to update the firmware in the CS-BFD. For those of you who are familiar with computers, most of this will be an overkill. These instructions assume your radio is bricked. We have another set of instructions that show how to do the same thing if your CS-BFD is not bricked.

1. Remove the five Philip head screws holding the back cover on and you should see the following:



You will notice there are four jumper blocks.

The four-pin jumper block that does not have a jumper on is used for firmware debugging.

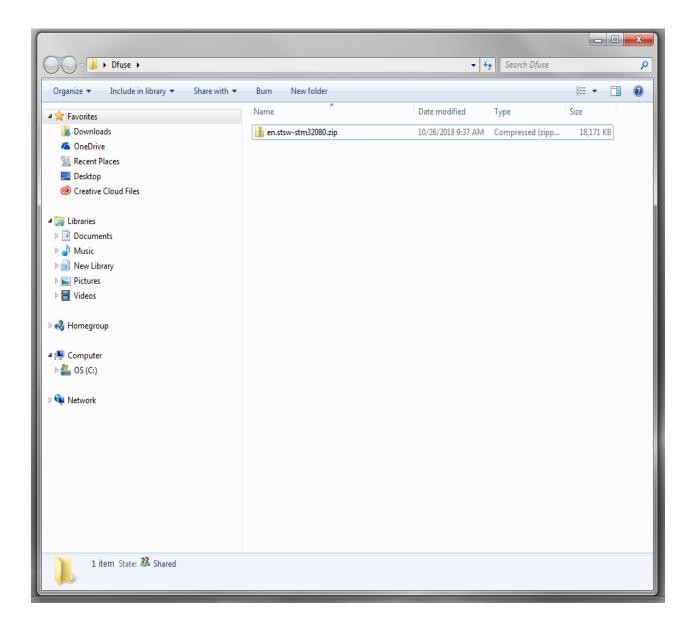
The jumper block closest to external power jack is used to determine the source of its power. If the jumper is between the center pin and the pin closest to the top of the display, then the power is derived from the radio. If the jumper is between the center pin and the bottom of the display, then the power is derived from an external power supply.

The jumper block that is closes to the middle of the board and located near the square inductor is used to supply power to the keyboard backlight. If the jumper is between the middle pin and the pin closest to the power supply jumper block, then the backlight for the keys are always on. If the jumper

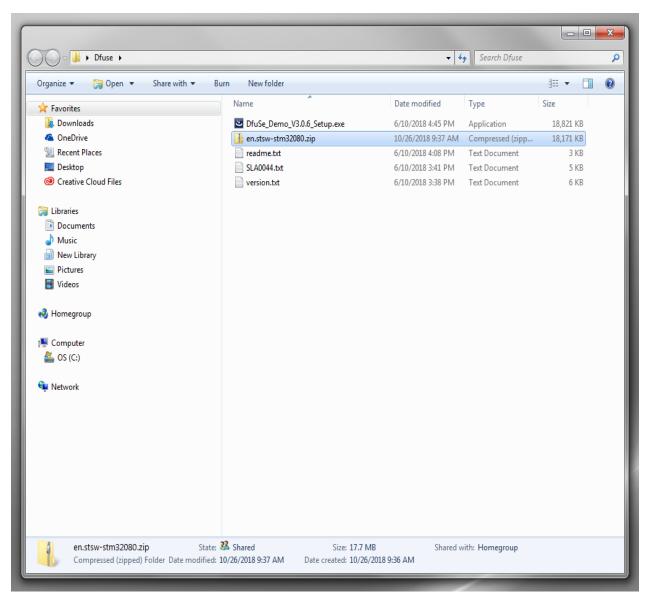
The jumper block closest to the four-pin jumper block is used to set the computer in boot mode. If the jumper is between the center pin and the pin closest to the four-pin jumper, then the computer is in boot mode. If the jumper is between the center pin and the bottom of the bottom of the display, then the computer is in normal mode. 2. Make a directory on your computer called Dfuse. For those who are more advanced, the name is not important. You can share these programs with directories that already exist.



3. Load the program called en.stsw-stm32080.zip into that directory. That program can be found by doing a google search of "ST Dfuse" and getting the information directly from the source or by loading it from <u>www.connectsystems.com</u> website and finding it in the Software pulldown menu under the CS-BFD heading.



4. Unzip that directory



You now have the following programs:

- DfuSe_Demo_V3.0.6_Setup.exe. This is the actual program you will use.
- Readme.txt. This is an explanation of this program
- SLA0044.txt. This is the license agreement for using this program
- Version.txt. This is an internal document that shows features that were added to the latest versions of software.

5. Download the latest firmware for the CS-BFD that should be located in the same area as the DfuSe_Demo_V3.0.6_Setup.exe and put it in the same directory. You should get a directory that looks similar to the directory shown below.

🖉 🗸 🕨 Dfuse 🕨			✓ 4 Search Dfuse		_	
Organize ▼ Include in library ▼ Share with ▼	Slide show Burn New fold	ler				6
🔆 Favorites	Name	Date	Туре	Size	Tags	
\rm Downloads	CS-BFD_Version_1.00.01.dfu	10/23/2018 12:55 PM	DFU File	148 KB		
🝊 OneDrive	DfuSe_Demo_V3.0.6_Setup.exe	6/10/2018 4:45 PM	Application	18,821 KB		
📃 Recent Places	🔒 en.stsw-stm32080.zip	10/26/2018 9:36 AM	Compressed (zipp	18,171 KB		
📃 Desktop	📋 readme.txt	6/10/2018 4:08 PM	Text Document	3 KB		
Oreative Cloud Files	SLA0044.txt	6/10/2018 3:41 PM	Text Document	5 KB		
	version.txt	6/10/2018 3:38 PM	Text Document	6 KB		
🧊 Libraries						
Documents						
J Music						
📄 New Library						
Pictures						
📑 Videos						
n Homegroup						
🖳 Computer						
🚢 OS (C:)						
👝 Removable Disk (E:)						
年 Network						
1						
	•					

6. Highlight the executable program as shown below and then double click it to run it.

						x
OOO Job Dfuse >		•	Search Dfuse			٩
Organize ▼ 💼 Open Share with ▼ E-mai	I Burn New folder			•		0
★ Favorites	Name	Date	Туре	Size	Tags	
🗼 Downloads	CS-BFD_Version_1.00.01.dfu	10/23/2018 12:55 PM	DFU File	148 KB		
🐔 OneDrive	DfuSe_Demo_V3.0.6_Setup.exe	6/10/2018 4:45 PM	Application	18,821 KB		
🕮 Recent Places	🜗 en.stsw-stm32080.zip	10/26/2018 9:36 AM	Compressed (zipp	18,171 KB		
🧮 Desktop	readme.txt	6/10/2018 4:08 PM	Text Document	3 KB		
Oreative Cloud Files	SLA0044.txt	6/10/2018 3:41 PM	Text Document	5 KB		
	version.txt	6/10/2018 3:38 PM	Text Document	6 KB		
 ➢ Libraries ➢ Documents ➢ Music ➢ New Library ➢ Pictures ☑ Videos ☑ Homegroup ☑ Computer ☑ OS (C:) — Removable Disk (E:) 						
🙀 Network	۲					ł
		ize: 18.3 MB ed: 6/10/2018 4:49 PM	Shared with: Homegrou	qu		

7. You will get to the following screen as shown below. Press the "Next" key.



8. Fill in the User Name. That is your name. Then your organization. If you have nothing to put there use the name "Ham". Then press the next key.

BruSe v3.0.6 - InstallShield Wizard			x
Customer Information			4
Please enter your information.			
User Name:		_	
Jerry Wanger			
Organization:		_	
Connect Systems Inc			
InstallShield			
	< Park		Cross
	< Back	Vext >	Cancel

9. You now get the following screen. You have a choice to press the Back key to modify what you just entered, the Cancel key to abort from this program, or the Next key to continue installing the program. Press the Next key to continue installing the program.

Ready to Install the I	rogram			
The wizard is ready to	begin installation.			C
If you want to review exit the wizard.	or change any of y	our installation	settings, click Back.	Click Cancel to
Current Settings:				
Setup Type:				
Typical				
Destination Folder:				
C:\Program Files ((86) \STMicroelect	ronics\Software	:\	
User Information:				
Name: Jerry Wan	jer			
Company: Connec	t Systems Inc			
l tallShield				
	r	< Back	🖗 Install	Cancel

10. You will then start with the following screen.

🖞 DfuSe v3	.0.6 - InstallShield Wizard
	gram features you selected are being installed.
1	Please wait while the InstallShield Wizard installs DfuSe v3.0.6. This may take several minutes.
	Status:
InstallShield -	
	< Back Next > Cancel

11. If you get the following screen or something similar, press the Yes key as there is nothing wrong with this program.

🚱 User Account Control	
	to allow the following program from an olisher to make changes to this computer?
Program name:	C:\Users\Jerry\AppData\Local\Downloaded Installations\{20FC2A17-23DD-4B5C-A8C4-4\DfuSe v3.0.6.msi
Publisher: File origin:	Unknown Hard drive on this computer
Show details	Yes No
	Change when these notifications appear

12. You will get the following screen when everything is finished. Press the Finish key.

InstallShield Wizard Completed
The InstallShield Wizard has successfully installed DfuSe v3.0.6. Click Finish to exit the wizard.
☑ Launch the program

13. You now have the following screen as shown below. If the program has been installed before, find the shortcut and double click on it. You will get the same screen.

Supports Download Accel Can Detach	Application Mode: Vendor ID: Procuct ID: Version:	DFU Mode: Vendor ID: Procuct ID: Version:
Select Target(s): Target Id Name		rs (Double Click for more)
Upload Action File: Choose Upload Transferred data size 0 KB(0 Bytes) of 0 KB(0 Bytes) Operation duration 00:00:00	Upgrade or Verify Action File: Vendor ID: Procuct ID: Version: Verify after download Optimize Upgrade duration (Remo	ove some FFs)
Abort		Quit

- 14. Plug one end of the special USB cable that came with the unit into the USB2 port of the CS-BFD and the other end into your USB port of your computer. The difference between a standard USB cable and the special USB cable is the power connection in the special USB cable is not there. Only three of the wires are used.
- 15. Attach the CAT5 cable from the display port of the radio to the Primary port of the CS-BFD. Turn on the radio by pressing the power key for ten seconds. Because the CS-BFD is bricked, the display might not turn on.
- 16. Remove the CAT 5 cable and the display should now be turned off if it is not off already.
- 17. Put the Boot Mode jumper into the Boot mode and then plug the CAT 5 cable back in the Primary port of the CS-BFD.

18. The computer screen should now look like the following:

STM Device in DF Supports Uploa Supports Dowr Can Detach Enter DFU mode/ Actions	ad Manifesta	▼ ation tolerant ted Upload (ST) DFU mode	Application Mode: Vendor ID: Procuct ID: Version:	DFU Mode: Vendor ID: 0483 Procuct ID: DF11 Version: 2200
Select Target(s):	Target Id Name 00 Internal FI 01 Option By 02 OTP Mem 03 Device Fe	tes iory	Available Sect 12 sectors 1 sectors 2 sectors 1 sectors	ors (Double Click for more)
Upload Action File: Transferred data = 0 KB(0 Bytes) of (Operation duration 0	size D KB(0 Bytes)		er download	nove some FFs)

- **19.** Check the "verify after download" check box.
- 20. Press the Choose key under the "Optimize Upgrade duration (Remove some FFs)" check box. You should get the following screen:

⊖⊖ ⊂ 🖹 ► Librarie	s 🕨 Documents 🕨				✓ 4→ Search Documents	م
Organize 🔻 New fol	der) = •	. 🗌 🔞
☆ Favorites ↓ Downloads	Documents library Includes: 2 locations				Arrange by: Folder 🔻	
ConeDrive	Name	Date modified	Туре	Size	A	
Recent Places	Outlook Files	8/30/2018 9:45 AM	File folder			
📃 Desktop 🎯 Creative Cloud Fi	📕 Bluetooth Exchange Folder	8/23/2018 11:17 AM	File folder			
Creative Cloud Fi	IAR Embedded Workbench	4/6/2018 10:47 AM	File folder			
a Libraries	HRDLLC	11/9/2017 7:23 AM	File folder		_	
Documents	퉬 Icom	8/15/2017 1:17 PM	File folder		=	Select a file to preview.
Music	퉬 Fax	4/11/2017 4:42 PM	File folder			preview
New Library	📔 Scanned Documents	4/11/2017 4:39 PM	File folder			
Pictures	🌗 BFDX	9/12/2016 8:39 AM	File folder			
Videos	🔰 CS7000 PROTOTYPE	4/8/2016 3:27 PM	File folder		_	
	🌗 Downloaded Installations	4/8/2016 11:27 AM	File folder			
🍓 Homegroup	퉬 Nuhertz	3/10/2016 11:08 AM	File folder			
· · · · · · · · · · · · · · · · · · ·) CS7000 DESIGN	1/25/2016 1:26 PM	File folder			
🖳 Computer	🛛 📔 WebsiteMatrix	1/18/2016 4:51 PM	File folder		•	
	name: *.dfu				✓ Dfu Files (*.dfu)	•
					Open	Cancel

21. Locate the file you downloaded earlier that represents the new firmware for the CS-BFD. The file name should be "CS-BFD_Version_1.00.01.dfu or something similar. Highlight the file and then double click on it. The screen should now look like the following:

vailable DFU Dev STM Device in DF			•	Арр	lication Mode:	DFU Mode:
 Supports Uploa Supports Down Can Detach Enter DFU mode/ 	nload	Accelerati	tion tolerant ed Upload (ST) DFU mode	Proc	dor ID: uct ID: ersion:	Vendor ID: 0483 Procuct ID: DF11 Version: 2200
ctions						
Select Target(s):	Target Id	Name				ctors (Double Click for more
	00 01 02 03	Internal Fla Option Byt OTP Mem Device Fe	es ory ature		12 sectors 1 sectors 2 sectors 1 sectors	
Upload Action File:			Upgrade or V File: Vendor ID:	CS-BF	ction D_Version_1.0 Targets	
Choose	. U	bload	Procuct ID:		00	ST
Transferred data	size		Version:	0000		
O KB(O Bytes) of Operation duratio			Verify aft	Upgrad		ernove some FFs) Ide Verifu
		Fi	le correctly	load	ed	

22. Press the Upgrade button and you get the following screen:

Available DFU Devic			Application Mode	e:
STM Device in DFU	Mode	•	Vendor ID:	Vendor ID: 0483
Supports Upload		ation tolerant		
✓ Supports Downlo ✓ Can Detach	ad 🔄 Accelerat	ted Upload (ST)	Procuct ID:	Procuct ID: DF11
Enter DFU mode/H		DFU mode	Version:	Version: 2200
		Dro mode		
Select Terret(s) DfuSeDem	0			Tore)
Bruseben		and a	10	
	Continue however		his file is correct fo	or this device.
Uploa File:			Yes	No
	Continue however	?		
File:	Continue however	? Version:	Yes	
File: Transferred data siz 0 KB(0 Bytes) of 0 I	Continue however	? Version: Verify afte	Yes	No
File: Transferred data siz 0 KB(0 Bytes) of 0 I Operation duration	Continue however	? Version: Verify afte Optimize	Yes 0000 er download Upgrade duration (F	No No Remove some FFs)
File: Transferred data siz 0 KB(0 Bytes) of 0 I Operation duration	Continue however	? Version: Verify afte	Yes 0000 er download Upgrade duration (F	No

23. Press the Yes button and in a few seconds, you get the following:

Available DFU Devices STM Device in DFU Mode				Application Mode:DFU Mode:			
				Vendor ID:			Vendor ID: 0483
Supports Download Accelera Can Detach			ation tolerant			Procuct ID: DF11 Version: 2200	
			pload (ST)	Procuct ID:			
			DFU mode		ision:		2200
Actions							
Select Target(s):	Target Id Name			Available Sectors (Double Click for more)			
		Internal Flash			12 sectors		
		Option Bytes			12 sectors		
		OTP Memory			2 sectors		
		Device Featur	•		1 sectors		
Upload Action			pgrade or Ve	-		o1 //	
File:					D_Version_1.00. Targets in		
			endor ID: 0			пю. Г	
Choose	. Upl	P	ocuct ID: 0	0000			
Transferred data size			Version: 0	000			
147 KB(151002 B	Bytes) of 147	-					
KB(151002 Bytes			Verify after				
Operation duratio	n		Uptimize L)pgrade	e duration (Rem	ove some FFs)	
	00:00:14				Upgrade		Verify
0							
0		Target 00					

Press the Quit key and you are now finished.

24. Move the Boot mode jumper back to the normal mode.

25. Remove the special USB cable and turn off the power supply attached to the radio for at least five seconds. Turn on the power supply attached to the radio and then press the power button on the CS-BFD until the screen turns on. You are now ready to use the radio and the CS-BFD.