# Using the DfuSe Demo program on a bricked radio

## Summary

This document provides step-by-step instructions for using the DfuSe Demo program to unbrick a radio. It involves connecting the radio to a computer, installing the DfuSe Demo program, and using it to upload firmware files to the radio. The process includes selecting and loading specific firmware files, verifying them, and upgrading the radio's program memory with the M17 program and the bootloader. After completing these steps, the radio should be turned off and then programmed using Factory Tool M17 PLUS DMR to load in the DMR program as described in a separate guide.

# **Detailed Instructions**

Install the DfuSe Demo Program along with its associated driver. You should then have on your desktop a shortcut that looks as follows:



Start by double clicking on the DfuSe Demo program shortcut and you should get a screen that looks like the following:

Supports Upload Manifest Supports Download Accelera Can Detach Enter DFU mode/HID detach Leav Actions	▼ tation tolerant ated Upload (ST) re DFU mode	Application Mode: Vendor ID: Procuct ID: Version:	DFU Mode: Vendor ID: Procuct ID: Version:
		Available Secto	ors (Double Click for more)
Upload Action File:	Upgrade or V File: Vendor ID:	erify Action Targets in	file:

Connect the radio to the computer with the programming cable. Press the SK1 button on the side of the radio then turn on the radio. You should see the following screen on the radio:

STM Device in DF Supports Uplow Supports Down Can Detach Enter DFU mode/	U Mode ad Anifes nload Acceler HID detach Leav	▼ station tolerant ated Upload (ST) ve DFU mode	Application Mode: Vendor ID: Procuct ID: Version:	Vendor ID: 0483 Procuct ID: DF11 Version: 0200
Select Target(s):	Target Id Name 00 Internal 01 Option B	Flash 3ytes	Available Sect 16 sectors 1 sectors	ors (Double Click for more)
Upload Action File: Choose Transferred data 0 KB(0 Bytes) of 1	. Upload size O KB(O Bytes)	Upgrade or V File: Vendor ID: Procuct ID: Version:	/erify Action Targets in Targets in er download	n file:
Operation duratio 0	n 0:00:00	Choose	. Upgrade duration (Rer	le Verify

Press the "Choose" button just below the "Optimize Upgrade duration" check box. That should bring up the following box:

1 Co DtuSe Demo (v3.0.6)					00 Internal Fla	sh ito sectors	
🔉 Open							Σ
🔵 🗢 📕 🕨 M17 Updates 🕨	M17 PLUS	Firmware 🕨 Old Way			<b>v</b> 4j	Search Old Way	
Organize 🔻 New folder						•== •	
🔆 Favorites	<u>^</u>	Name	Date modified	Туре	Size		
🐌 Downloads		M17PLUS_Bootloader_B7.02_20241205.dfu	12/10/2024 5:00 PM	DFU File	55 KB		
🔠 Recent Places		M17PLUS_Bootloader_B7.06_20241214.dfu	12/15/2024 9:23 PM	DFU File	55 KB		
🧮 Desktop		openrtx_cs7000p_20241211.dfu	12/11/2024 8:41 AM	DFU File	196 KB		
le OneDrive - Personal		openrtx_cs7000p_20241224.dfu	12/24/2024 9:00 AM	DFU File	195 KB		
<b>E</b>							
🔁 Libraries	=						
Documents							
<ul> <li>IVIUSIC</li> <li>Distance</li> </ul>							
Videos							
輚 Homegroup							
🖳 Computer							
🐔 OS (C:)							
🚗 HHD (E:)	-						
File name:	openrtx_cs7(	000p_20241224.dfu			•	Dfu Files (*.dfu)	
						Open 🔽 🤇	Lancel

Select the openrtx\_c7000p\_20241224.dfu or a later version.

Valiable DFU Dev	ices			DELLA I		
6TM Device in DF	U Mode	•	Application Mode:	Mode: DFU Mode:		
<ul> <li>Supports Uploa</li> <li>Supports Dowr</li> <li>Can Detach</li> </ul>	ad 🗌 Manifesta nload 🗌 Accelerat	ation tolerant ted Upload (ST)	Vendor ID: Procuct ID: Version:	Procuct ID: 0483 Procuct ID: DF11 Version: 0200	0483 DF11 0200	
Enter DFU mode/	HID detach	DFU mode				
ctions						
Select Target(s):	Target Id Name		Available Secto	ors (Double Click I	for more)	
	00 Internal FI	ash	16 sectors			
	01 Option By	tes	1 sectors			
Upload Action		Upgrade or V	erify Action	241224 dfu		
Upload Action File:		Upgrade or V File: Vendor ID:	erify Action openrtx_cs7000p_202 0483 Targets in	241224.dfu 1 file:		
Upload Action File: Choose	. Upload	Upgrade or V File: Vendor ID: Procuct ID:	erify Action openitx_cs7000p_202 0483 DF11 00 S	241224.dfu file: T		
Upload Action File: Choose Transferred data	. Upload	- Upgrade or V File: Vendor ID: Procuct ID: Version:	erify Action openrtx_cs7000p_202 0483 Targets in DF11 0000	241224.dfu ifile: iT		
Upload Action File: Choose Transferred data 0 KB(0 Bytes) of 0 Operation duratio 0	. Upload size D KB(0 Bytes) n 0:00:00	Upgrade or V File: Vendor ID: Procuct ID: Version: Version: Optimize Choose	erify Action openrtx_cs7000p_202 0483 Targets ir 00 S 0000 er download Upgrade duration (Rem	241224.dfu i file: iT hove some FFs) e	/erify	

### Press the "Open" button. You should now get:

Notice the file name is on the screen and the display shows "File correctly loaded

Click on the "Verify after download" checkbox and then press the "Upgrade Button". The display should now show:

DfuSeDem	o 🔀
?	Your device was plugged in DFU mode. So it is impossible to make sure this file is correct for this device. Continue however ?
	Yes No

Press the "Yes Button" and you should see:

STM Device in DF	ices U Mode		Application Mode:	DFU Mode:
<ul> <li>✓ Supports Uploa</li> <li>✓ Supports Down</li> <li>✓ Can Detach</li> <li>✓ Enter DFU mode/</li> <li>Actions</li> </ul>	id Manifesta iload Accelera HID detach Leave	ation tolerant ted Upload (ST) 9 DFU mode	Vendor ID: Procuct ID: Version:	Vendor ID: 0483 Procuct ID: DF11 Version: 0200
Select Target(s):	Target Id Name	lash	Available Sect 16 sectors	ors (Double Click for more)
Upload Action File:		Upgrade or V File: Vendor ID:	erify Action openrtx_cs7000p_203 0483 Targets ir 00 S	241224.dfu n file: 5T
Choose	Upload	Propusk ID:		
Choose Transferred data 0 KB(0 Bytes) of Bytes)	size 194 KB(199368	Procuct ID: Version: Verify afte	0000 er download	
Choose Transferred data 0 KB(0 Bytes) of Bytes) Operation duratio 0	upload size 194 KB(199368 n 0:00:01	Version: Version: Verify afte Optimize I Choose	0000 er download Upgrade duration (Ren	nove some FFs) de Verify

The program is first going to erase the Program Memory, then it is going to program the program memory and then it will verify it.

### After it is finished the screen should look as follows:

			Applica	tion Mode:	- DFU Mode:
STM Device in DF	·U Mode	•	Vendor	ID·	Vendor ID: 0483
<ul> <li>Supports Uplo.</li> <li>Supports Down</li> <li>Can Detach</li> </ul>	ad 🗌 Manifesta nload 🗌 Accelerat	ation tolerant red Upload (ST)	Procuct Versio	ID:	Procuct ID: DF11 Version: 0200
Enter DFU mode/	'HID detach	DFU mode			
Actions					
Select Target(s):	Target Id Name		A	ailable Sector	s (Double Click for more)
	00 Internal FI	ash	16	sectors	
	01 Option By	tes	1 :	sectors	
		11	Later A Later	-	
File:		- Upgrade or V File:	erify Actio openrtx_0	n s7000p_2024	1224.dfu
File:	_	⊂ Upgrade or \ File: Vendor ID:	/erify Actio openrtx_0 0483	n cs7000p_2024 Targets in f	1224.dfu ile:
File:	. Upload	- Upgrade or V File: Vendor ID: Procuct ID:	/erify Actio openrtx_o 0483 DF11	n cs7000p_2024 Targets in 1 00 S1	1224.dfu ile: 
File: Choose Transferred data	. Upload	- Upgrade or V File: Vendor ID: Procuct ID: Version:	'erify Actio openrtx_0 0483 DF11 0000	n cs7000p_2024 Targets in 1 00 S1	1224.dfu ile: 
File: Choose Transferred data 194 KB(199368 Bytes Operation duratio	. Upload size Bytes) of 194 s)	Upgrade or V File: Vendor ID: Procuct ID: Version: Verify aft	'erify Actio openrtx_0 0483 DF11 0000 er downloa Upgrade o	n cs7000p_2024 Targets in 1 00 S1 duration (Remo	1224.dfu ile:  ive some FFs)
File: Choose Transferred data 194 KB(199368 Bytes Operation duratio	. Upload size Bytes) of 194 s) n 10:00:23	Upgrade or V File: Vendor ID: Procuct ID: Version: Verify aft Optimize Choose.	'erify Actio openrtx_( 0483 DF11 0000 er downloa Upgrade o	n cs7000p_2024 Targets in 1 00 S1 duration (Remo	1224.dfu ile:  ive some FFs) Verify

Now we are going to repeat this for the bootloader.

Press the "Choose" button just below the "Optimize Upgrade duration" check box. That should bring up the following box:

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M17 Updates 🕨	M17 PLUS Firmware 🕨 Old Way			<b>- €</b> <sub>2</sub>	Search Old Way	Q
Organize 🔻 New folder						?
🔆 Favorites	▲ Name	Date modified	Туре	Size		
🐌 Downloads	M17PLUS_Bootloader_B7.02_20241205.	.dfu 12/10/2024 5:00 PM	DFU File	55 KB		
🖳 Recent Places	M17PLUS_Bootloader_B7.06_20241214.	.dfu 12/15/2024 9:23 PM	DFU File	55 KB		
🧮 Desktop	openrtx_cs7000p_20241211.dfu	12/11/2024 8:41 AM	DFU File	196 KB		
🔷 OneDrive - Personal	openrtx_cs7000p_20241224.dfu	12/24/2024 9:00 AM	DFU File	195 KB		
<ul> <li>□ Libraries</li> <li>□ Documents</li> <li>J Music</li> <li>□ Pictures</li> <li>☑ Videos</li> <li>↔ Homegroup</li> </ul>	E					
💻 Computer						
🚮 OS (C:)						
🚗 HHD (E:) File name: M	TPLUS_Bootloader_B7.06_20241214.dfu			•	Dfu Files (*.dfu)	▼ cel

Select the M17PLUS\_Bootloader\_B7.06\_20241214.dfu or a later version.

TIESS LITE OPEN DULLON. TOU SHOULD HOW get.	Press the	"Open"	button.	You	should	now get:
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	vices			Applie	ation Mode:	- DELL Mode		
STM Device in DF	FU Mode		·			Vendor ID:	Vendor ID: 0483	
<ul> <li>Supports Upload</li> <li>Manifestat</li> <li>Supports Download</li> <li>Accelerate</li> <li>Can Detach</li> <li>Enter DFU mode/HID detach</li> <li>Leave</li> </ul>			on tolerant d Upload (ST)	Procuct ID:		Procuet ID: DF11 Version: 0200		
			DFU mode			V Croion.	0200	
ctions								
Gelect Target(s):	Target Id	Name		A	wailable Secto	rs (Double Click	for more)	
	00	Internal Fla:	sh	1	6 sectors			
	01	Option Byte	s	1	sectors			
opioau Action			opgrade or	у спіў Аса	011			
File:			File:	M17PLL	JS_Bootloader	_B7.06_202412	14.dfu	
File:			File: Vendor ID:	M17PLL 0483	JS_Bootloader Targets in	_B7.06_202412 file: T	14.dfu	
File:	. Uple	oad	File: Vendor ID: Procuct ID:	M17PLU 0483 0000	JS_Bootloader Targets in 00 S	_B7.06_202412 file: T	14.dfu	
File: Choose Transferred data	. Uple	oad	File: Vendor ID: Procuct ID: Version:	M17PLU 0483 0000 0000	JS_Bootloader Targets in 00 S	_B7.06_202412 file: T	14.dfu	
File: Choose Transferred data 194 KB(199368 Bytes KB(199368 Bytes	. Upk size Bytes) of 194 s) m	oad	File: Vendor ID: Procuct ID: Version: Verify af	M17PLU 0483 0000 0000 ter downlo	JS_Bootloader Targets in 00 S oad duration (Rem	_B7.06_202412 file: T ove some FFs)	14.dfu	
File: Choose Transferred data 194 KB(199368 Bytes KB(199368 Bytes Operation duratio	. Upk size Bytes) of 194 s) n 00:00:23	oad	File: Vendor ID: Procuct ID: Version: Verify af Optimize	M17PLU 0483 0000 0000 ter downlo	JS_Bootloader Targets in 00 S bad duration (Rem	_B7.06_202412 file: T ove some FFs)	14.dfu Verify	

Notice the file name is on the screen and the display shows "File correctly loaded

Press the "Upgrade Button". The display should now show:



Press the "Yes Button" and you should see:

Available DFU Devices					
STM Device in DFU Mod	e	Ŧ	Applicat	tion Mode:	DFU Mode:
<ul> <li>Supports Upload</li> <li>Supports Download</li> <li>Can Detach</li> <li>Enter DFU mode/HID de</li> </ul>	ation tolerant ed Upload (ST) DFU mode	Vendor I Procuct Versio	D: ID: m:	Vendor ID: 0483 Procuct ID: DF11 Version: 0200	
Actions					
Select Target(s): Targe	et Id Name		Av	ailable Sector	s (Double Click for more)
00	Internal FI	ash	16	sectors	
Upload Action File:	Ustand	Upgrade or <sup>v</sup> File: Vendor ID:	Verify Action M17PLUS 0483	n 6_Bootloader_ Targets in 1 00 S1	_87.06_20241214.dfu file: f
Upload Action File: Choose	Upload	Upgrade or V File: Vendor ID: Procuct ID:	Verify Action M17PLUS 0483 0000	n 5_Bootloader_ Targets in 1 00 S1	_87.06_20241214.dfu file: f
Upload Action File: Choose Transferred data size	Upload	Upgrade or V File: Vendor ID: Procuct ID: Version:	/erify Actior M17PLUS 0483 0000 0000	n 5_Bootloader_ Targets in 1 00 S1	_B7.06_20241214.dfu file: Г
Upload Action File: Choose Transferred data size 0 KB(0 Bytes) of 54 KB(5 Operation duration 00:00:01	Upload 55804 Bytes)	Upgrade or V File: Vendor ID: Procuct ID: Version: Version: Optimize Choose.	Verify Action M17PLUS 0483 0000 0000 ter downloa Upgrade d	n S_Bootloader_ Targets in I 00 S1 00 S1 d uration (Remo	_B7.06_20241214.dfu file: Г ove some FFs) Verify

The program is first going to erase the Program Memory, then it is going to program the program memory and then it will verify it.

#### After it is finished the screen should look as follows:

STM Device in DF	rices FLI Mode		•	Арр	lication Mode:	DFU Mode	:
<ul> <li>Supports Uplo.</li> <li>Supports Down</li> <li>Can Detach</li> <li>Enter DFU mode/</li> <li>Actions</li> </ul>	ad Inload I	Manifesta Accelerate Leave	tion tolerant ed Upload (ST) DFU mode	Veno Proc Ve	dor ID: uct ID: ersion:	Vendor ID: Procuct ID: Version:	0483 DF11 0200
Select Target(s):	Target Id 00 01	Name Internal Fla Option Byt	ash es		Available Secto 16 sectors 1 sectors	ors (Double Click	for more)
Upload Action File: Choose Transferred data 54 KB(55804 Byt Bytes)	. Up size tes) of 54 KB(5 m )0:00:10	load 5804	Upgrade or V File: Vendor ID: Procuct ID: Version: Version: Optimize Choose.	'erify Av M17P 0483 0000 0000 er dowi Upgrad	ction LUS_Bootloade Targets in 00 S 00 S nload de duration (Rem	r_B7.06_202412 i file: iT nove some FFs)	14.dfu Verify
<ul> <li>Uperation duratio</li> <li>C</li> </ul>							

Wait about 10 seconds, turn off power, and then load the DMR program as described in another application note called "How to use the Factory Tool M17 PLUS DMR".