### Summary of Converting from the M17 to DMR Protocol

- **1.** Transfer the DR7800S\_Bootloader\_B5.01\_20220413.dfu to the radio using the DFuSeDemo program.
- 2. Transfer the DR7800S\_HOST\_V8.01.08\_20240514.bin to the radio using the Factory Tool\_COMMON program.

You might have to reload the Code Plug and Voice Prompts back to the radio if they were erased from the M17 radio.

Below is a picture of the radio buttons.



#### **Converting from the M17 to DMR Protocol**

You need the following programs and hardware:

CS7000 M17 radio

Programming cable

DfuSeDemo program

Factory Tool\_COMMON\_V5.08.01\_setup.exe program

DR7800S\_Bootloader\_B5.01\_20220413.dfu program

DR7800S\_HOST\_V8.01.08\_20240514.bin

1. If you have not already done it, install the DFuSeDemo Program on your PC. If done properly you should have the following shortcut on your PC.



2. If you have not already done it, install the Factory Tool\_COMMON program on your PC. If done properly you should have the following shortcut on your PC.



3. Run the DFuSeDemo program and you should get the following Screen:

Available DFU Dev Supports Uploa Supports Down Can Detach Enter DFU mode/ Actions	ices ad Manifesta aload Accelerat HID detach Leave		Application Mc Vendor ID: Procuct ID: Version:	de: DFU Mode: Vendor ID: Procuct ID: Version:
Upload Action File:	Upload	Upgrade or V File: Vendor ID: Procuct ID:	Available erify Action	jets in file:
Choose				

4. Press SK1 and while pressed turn on the radio. Your computer screen should look like the following:

STM Device in DF Supports Uploa Supports Down Can Detach Enter DFU mode/ Actions	ices U Mode ad Anifesta Iload Acceleral HID detach Leave	▼ ation tolerant ted Upload (ST) e DFU mode	Appli Vend Procu Ve	ication Mode: or ID: uct ID: rsion:	DFU Mode Vendor ID: Procuct ID: Version:	0483 DF11 2200
Select Target(s):	Target IdName00Internal FI01Option By02OTP Men03Device For	lash ites nory eature		Available Sectors 12 sectors 1 sectors 2 sectors 1 sectors	s (Double Click	for more)
Upload Action File: Choose	Upload	Upgrade or V File: Vendor ID: Procuct ID: Version:	erify Ac	tion Targets in fi	ie:	
0 KB(0 Bytes) of ( Operation duration	0 KB(0 Bytes) n 0:00:00	Verify afte	er down Upgrad	load e duration (Remo Upgrade	ve some FFs)	Verify

5. Press the choose button and you get the following screen.

c Open	and the second			x
🚱 🔵 🗢 📔 🕨 M17 Updates 🕨 DMR Firm	ware 🔻	✓ Search DMR F	irmware	Q
Organize 🔻 New folder			:≡ ▼ 🔳	?
🔶 Favorites	Name	Date modified	Туре	
<ul> <li>Downloads</li> <li>Recent Places</li> <li>Desktop</li> <li>OneDrive - Personal</li> </ul>	DR7800S_Bootloader_B5.01_20220413.dfu	7/15/2024 10:56 AM	DFU File	
<ul> <li>□ Libraries</li> <li>□ Documents</li> <li>□ Music</li> <li>□ Pictures</li> <li>□ Videos</li> <li>₩ Homegroup</li> </ul>				
I Computer	<			4
File name: *.dfu		<ul> <li>■ Dfu Files (*.dfu)</li> <li>Open</li> </ul>	) Cancel	•

6. Find your file and highlight it as follows and then press the Open button.



OfuSe Demo (v3)	.0.6)	-		
Available DFU Dev	ices U Mode	•	Application Mode:	DFU Mode:
<ul> <li>✓ Supports Uploa</li> <li>✓ Supports Dowr</li> <li>✓ Can Detach</li> <li>Enter DFU mode/</li> <li>Actions</li> </ul>	ad Manifestal Iload Accelerate HID detach Leave	tion tolerant ed Upload (ST) DFU mode	Vendor ID: Procuct ID: Version:	Vendor ID: 0483 Procuct ID: DF11 Version: 2200
Select Target(s):	Target IdName00Internal Fix01Option Byt02OTP Memory03Device Fer	ash res ory ature	Available Sectors 12 sectors 1 sectors 2 sectors 1 sectors	: (Double Click for more)
Upload Action File: Choose Transferred data : 0 KB(0 Bytes) of 0	Upload size ) KB(0 Bytes)	Upgrade or V File: Vendor ID: Procuct ID: Version: Verify afte	erify Action opentx_cs7000.dfu 0483 Targets in fi 000 ST 0000 er download	le: 
Operation duration 0	n 0:00:00	Choose	. Upgrade	Verify
	Fil	le correctly	loaded.	
Abort				Quit

# 7. You should get the following screen:

8. Now highlight the Internal Flash as shown on the previous page and press the Upgrade button.

You will get the following warning.



## 9. Press the Yes button and you will get the following:

Available DFU Devi STM Device in DF Supports Uploa Supports Dowr Can Detach Enter DFU mode/ Actions	ices U Mode ad Annifesta Noad Accelerat	ation tolerant red 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	ash tes hory eature	Available Sector 12 sectors 1 sectors 2 sectors 1 sectors	ors (Double Click for more)
Upload Action File: Choose Transferred data :	Upload	Upgrade or V File: Vendor ID: Procuct ID: Version:	erify Action openrtx_cs7000.dfu 0483 Targets in 000 S 0000	ı file: T
0 KB(0 Bytes) of 2 Bytes) Operation duration 0	206 KB(211792 n 0:00:00	Verify aft	er download Upgrade duration (Rem . Upgrade	e Verify
Abort	Target 00: Up	ograding - Ei	rase Phase (66%)	 Quit

### 10. After a few seconds you will get the following screen:

Available DFU Dev	ices				
STM Device in DF	U Mode	•	Applica	ation Mode:	DFU Mode:
	al Marilant	ation tolerant	Vendor	ID:	Vendor ID: 0483
Supports Opio/	nload Accelera	ation tolerant ted Unload (ST)	Product	HD:	Product ID: DF11
Can Detach			Versi	on:	Version: 2200
Enter DFU mode/	'HID detach   Leave	e DFU mode	V CI SI	on.	Version: 2200
Actions					
Select Target(s):	Target Id Name		A	vailable Sector	s (Double Click for more)
	00 Internal F	lash	12	2 sectors	
	01 Option By	ites	1	sectors	
	02 OTP Men	nory	2	sectors	
	03 Device Fr	eature	1	sectors	
Upload Action		Upgrade or \	/erify Actio	n	
File:		File:	openrtx_	cs7000.dfu	
		Vendor ID:	0483	l argets in l	rile:
Choose	. Upload	Procuct ID:	DF11	00 31	
- Transferred data	size	Version:	0000		
206 KB(211792 B	Sytes) of 206	🔲 ) (aritu atl	ar daumlar		
KB[211792 Bytes	ij	C Optimize	Ungrade (	ou duration (Berno	ive some FEs)
- Operation duratio	n				<b>_</b>
0	0:00:13	Choose.		Upgrade	Verify
		00: Upgrad		e eful I	

Turn off the radio in preparation for the next step.

You have now competed the first part which is loading the bootloader into the microprocessor.

11. Press the PTT and Orange TK button at the same time and turn on the power. You should get the screen as shown below and the LED should blink Orange, Red, Green.



12. Start the Factory Tool\_COMMON program and you should get the following:

A Factory Tool_COMMON_V5.08.01	
Radio Type Portable	<b></b>
Model Series DR7000_HRC6000_SKY72310	<b></b>
Bootloader (*. boot)	
Firmware (*. bin)	
BCDB (* rdb * rdbx)	
Font Library (*. pack)	
Fixed Voice (*. fr)	
Tuner File (*. tdb)	
	Upgrade

Depending on what you did before, some of the boxes might be checked and some of the file locations might be set. 13. Set the Radio Type to Portable, Model Series to DR7800S\_HRC6000\_SKY72310\_11Firmware checkbox to checked

	-	
Radio Type	Portable	
Model Series	S[DR7800S_HRC6000_SKY72310_11	
-Bootloader (*.	.boot)	
Firmware(*.b:	in)	
-RCDB (*. r db, *.	rdbx)	
Font Library	(*. pack, *. mpack)	
-Fixed Voice()	*. fv)	
Tuner File (*.	tdb)	· · · ·
Language Pacl	kage (*. lang)	
-Welcome Imag	e(*.bmp)Maximum support 160 * 128 pixel size	· · · ·
Picture Reso	urce(*, pic)	
	Up	ograde

14. Press the file locator button the right of Firmware(\*.bin) and you get the following:

Portable       Model Series     DR7800S_HRC6000_SKY72310_11       Bootloader (*. boot)	
1 🛃 Open	
Look in: 🐌 DMR Firmware	- ۞ 🗊 🖻 🛄 -
F Name	Date modified Ty
DR7800S_HOST_V8.01.08_20240514.bin	7/15/2024 8:28 PM BI
· · · · · · · · · · · · · · · · · · ·	
File name:     I       Files of type:     BIN File(".bin)	Open     Cancel
Welcome Image(*.bmp)Maximum support 160 * 120	8 pixel size
Ficture Resource (*. pic)	
	Vpgrade

15. Highlight the latest firmware version and press the Open button and you get the following:

Factory Tool_	COMMON_V5.08.01		• <b>X</b>
Radio Type	Portable		•
Model Serie	gDR7800S_HRC6000_SKY7231	0_11	•
-Bootloader (*	. boot)		
-Firmware(*.b	in)		
<b>V</b> C	:\Users\Jerry\Desktop\M17	Updates\DMR Firmware\DR7800S	
-RCDB (*. rdb, *	.rdbx)		
Font Library	(*. pack, *. mpack)		
Fixed Voice(	*. fv)		
Tuner File (*	.tdb)		
Language Pac	kage (*. lang)		
-Welcome Imag	e(*.bmp)Maximum support	. 160 * 128 pixel size	
Picture Reso	urce(*.pic)		
		U,	pgrade

Notice the file location is now in the box adjacent to the Firmware(\*bin)

16. Press the Upgrade button and in a few seconds, you get the following screen.

Factory Tool_C	OMMON_V5.08.01	• X
Dadio Tuna	Portable	
Raulo Type	1 of caule	
Model Series	DR7800S_HRC6000_SKY72310_11	-
-Bootloader (*.	boot)	
C:	\Users\Jerry\Desktop\M17 Updates\DMR Firmware\New fol	
-Firmware (*. bi	n)	
V C:	\Users\Jerry\Desktop\M17 Updates\DMR Firmware\DR7800S	
-RCDB (*. r db, *.	r dbx)	
Font Library	(*. pack, *. mpack)	
-Fixed Voice(*	(, fv)	
-Tuner File(*.	tdb)	
Language Pacl	tage (*. lang)	
-Welcome Image	e(*.bmp)Maximum support 160 * 128 pixel size	
Picture Resou	rce(*.pic)	
12:33:38Began	to upgrade firmware file	
	U	ograde

17. In a few more seconds it will be finished, and you get the following screen.

Factory Tool_COMMON_V5.08.01
Radio Type Portable
Model Series DR7800S_HRC6000_SKY72310_11
Bootlander (* hoot)
C:\Users\Jerry\Desktop\M17 Updates\DMR Firmware\New fol
Firmware (*. bin)
C:\Users\Jerry\Desktop\M17 Updates\DMR Firmware\DR7800S
RCDB (*. r db, *. r dbx)
Font Library (*. pack,) Fixed Voice (*. fv)
Tuner File (*. tdb)
Language Package(*.lang)
Welcome Image(*.bmp)Maximum support 160 * 128 pixel size
Picture Resource(*. pic)
12:33:38Began to upgrade firmware file 12:34:30Firmware upgrade finish Vpgrade

Press the OK button and your radio should now show the DMR screen.