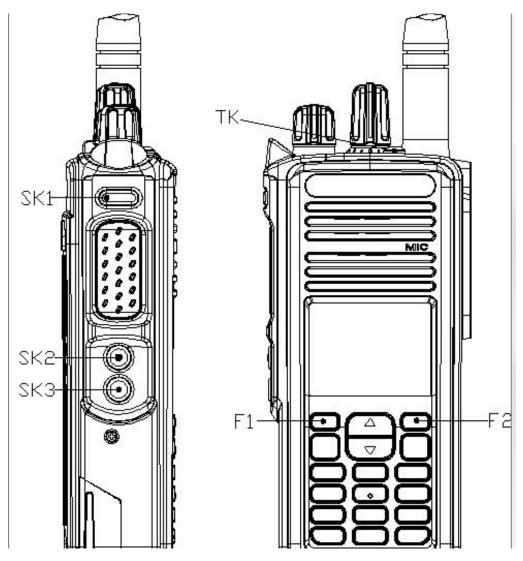
Summary of Converting from the M17 to DMR Protocol

- **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:

Supports Download Acceler	Application Mode Vendor ID: tation tolerant ated Upload (ST) Procuct ID: Version:	e: DFU Mode: Vendor ID: Procuct ID: Version:
Target Id Name	Available 5	ectors (Double Click for more)
Upload Action File: Choose Upload	Upgrade or Verify Action File: Vendor ID:	ts in file:

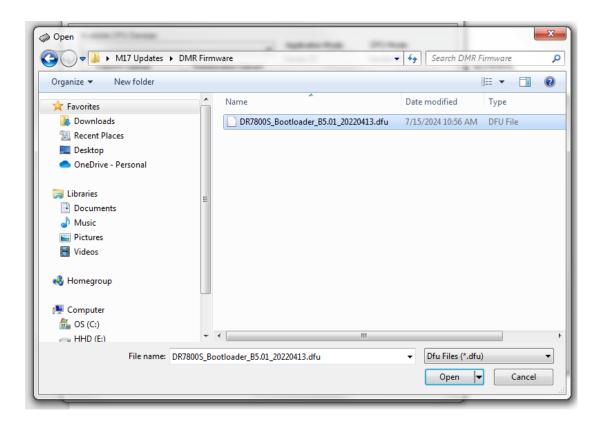
4. Press SK1 and while pressed turn on the radio. Your computer screen should look like the following:

Available DFU Devi STM Device in DF Supports Uploa Supports Dowr Can Detach Enter DFU mode/ Actions	U Mode ad Anifesta	tion tolerant	Application Vendor ID: Procuct ID: Version:	Mode:	DFU Mode Vendor ID: Procuct ID: Version:	0483
Select Target(s):	Target Id Name 00 Internal File 01 Option Byt 02 OTP Mem 03 Device Fele	ies ory		ors ors	(Double Click	for more)
Upload Action File: Choose Transferred data : 0 KB(0 Bytes) of (size	Upgrade or Ver File: Vendor ID: Procuct ID: Version:		fargets in file	X	
Operation duration		Choose		tion (Remove Upgrade	· ·	Verify

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

🥋 Open	and the second			×
🕞 🔵 🗢 📗 🕨 M17 Updates 🕨 DMR Firmw	vare 🔻	Search DMR	Firmware	٩
Organize 🔻 New folder				0
★ Favorites	Name	Date modified	Туре	
Downloads Recent Places Desktop OneDrive - Personal	DR7800S_Bootloader_B5.01_20220413.dfu	7/15/2024 10:56 AM	DFU File	
 □ Libraries □ Documents □ Music □ Pictures □ Videos ₩ Homegroup 				
Computer Solution OS (C:) HHD (E:)	e [4
File name: *.dfu		 ✓ Dfu Files (*.dfu Open 		• •

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



Available DFU Dev			Application Mode	DFU Mode:
STM Device in DF	U Mode	•	Vendor ID:	Vendor ID: 0483
 Supports Uploa Supports Dowr Can Detach Enter DFU mode/ 	nload 🗌 Accelerat	ation tolerant ted Upload (ST)	Procuct ID: Version:	Procuct ID: DF11 Version: 2200
Actions				
Select Target(s):	Target Id Name		Available Se	ctors (Double Click for more)
	00 Internal Fl	ash	12 sectors	
	01 Option By	tes	1 sectors	
	02 OTP Mem	ory	2 sectors	
	03 Device Fe	eature	1 sectors	
Upload Action File: Choose	Upload	Upgrade or V File: Vendor ID: Procuct ID:	openrtx_cs7000.dft 0483 Target:	
 Transferred data : 	size	Version:	0000	
0 KB(0 Bytes) of (Operation duration 0			er download Upgrade duration (R	
		ile correctly	landed	

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 Dev STM Device in DF Supports Uplov Supports Down Can Detach Enter DFU mode/ Actions	iU Mode ad Manifest nload Accelera	ation tolerant ted Upload (ST) e DFU mode	Application Mode: Vendor ID: Procuct ID: Version:	DFU Mode: Vendor ID: 0483 Procuct ID: DF11 Version: 2200
Select Target(s):	Target IdName00Internal F01Option By02OTP Mer03Device F	vtes nory	Available Sec 12 sectors 1 sectors 2 sectors 1 sectors	tors (Double Click for more)
Upload Action File: Choose Transferred data 0 KB(0 Bytes) of 1 Bytes)	size 206 KB(211792	Procuct ID: Version:	openrtx_cs7000.dfu 0483 Targets	ST
Operation duratio	0:00:00	Choose	Upgra ase Phase (669	

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

Available DFU Dev STM Device in DF		•	Applic	ation Mode:	DFU Mode:
Supports Uploa Supports Down Can Detach Enter DFU mode/	ad Manifesta nload Accelera	ation tolerant ted Upload (ST) DFU mode	Vendor Procuc Vers	t ID:	Vendor ID: 0483 Procuct ID: DF11 Version: 2200
Select Target(s):	Target Id Name		A	vailable Sector	s (Double Click for more)
	00 Internal F	lash	1	2 sectors	
	01 Option By			sectors	
	02 OTP Men 03 Device Fr		_	sectors sectors	
- Upload Action		- Upgrade or V	erifu Activ	on	
File:		File:		cs7000.dfu	
		Vendor ID:		Targets in f	
Choose	. Upload	Procuct ID:		- 00 ST	
 Transferred data 	size	Version:	0000		
206 KB(211792 B KB(211792 Bytes)	Verify after Optimize		ad duration (Remo	ove some FFs)
Operation duratio	n 0:00:13	Choose		Upgrade	Verify
	Target	00: Upgrade	SUCCE	ssful !	

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	•
Model Series DR7000_HRC6000_SKY72310	•
Bootloader (*. boot)	
Firmware (*. bin)	
RCDB (*. r db, *. r dbx)	
Font Library (*. pack)	
Fixed Voice (*. fv)	
Tuner File(*.tdb)	
	Vpgrade

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

Factory Tool_C	COMMON_V5.08.01	Σ
Radio Type	Portable	
Model Series	DR7800S_HRC6000_SKY72310_11	
-Bootloader (*.	.boot)	
-Firmware (*. b:	in)	
-RCDB (*. rdb, *.	r dbx)	
Font Library	(*. pack, *. mpack)	
-Fixed Voice()	K. fv)	
Tuner File (*.	tdb)	
Language Pacl	kage (*. lang)	
Welcome Imag	e(*.bmp)Maximum support 160 * 128 pixel size	
Picture Reso		
	Upgrade	

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

Radio Type Portable Model Series DR7800S_HRC6000_SKY72310_11 Bootloader (*. boot) Firmware (*. bin)		••••
📲 Open		×
Look in: DMR Firmware Name DR7800S_HOST_V8.01.05_20240301.bin DR7800S_HOST_V8.01.08_20240514.bin	 Image: Second state of the second	T ₃ BI BI
I File name: I Files of type: BIN File(*.bin)	Open Cancel	
Welcome Image(*. bmp)Maximum support 160 * 12	8 pixel size	
	Vps	grade

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

Factor	y Tool_C	OMMON_V5.08.01	
Radio	Туре	Fortable	
Model	Series	DR7800S_HRC6000_SKY72310_11	•
Bootle	oader (*.	boot)	
Firmwa	are (*. bi	n) \Users\Jerry\Desktop\M17 Updates\DMR Firmware\DR7800S	
-RCDB (*	*.rdb,*.	rdbx)	
	Library	(*. pack, *. mpack)	
-f1xed	Voice (4	. (17)	
Tuner	File (*.	tdb)	
Langua	age Pacl	rage (*. lang)	
Welcon	ne Imago	:(*.bmp)Maximum support 160 * 128 pixel size	
-Pictu	re Resou	urce (*. pic)	····
			lp <i>g</i> rade

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	COMMON_V5.08.01			X
Radio Type	Portable			
Model Serie	S[DR78005_HRC6000_SKY72310_11			
-Bootloader (*	: boot)			
	:\Users\Jerry\Desktop\M17 Updates\DMR Firmware\New	/ fol		
Firmware(*.t	in) :\Users\Jerry\Desktop\M17 Updates\DMR Firmware\DR7	'800S		
RCDB (*. rdb, *	r dbx)			
Font Library	r(*. pack, *. mpack) (*. fv)			
Tuner File (*	., tdb)			
Language Pac	kage (*. lang)			
Welcome Imag	e(*.bmp)Maximum support 160 * 128 pixel size			
Picture Reso	vurce (*. pic)			
12:33:38Begar	ι to upgrade firmware file	UI	ogrado	•

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

Factory Tool_COMMON_V5.08.01	23
Radio Type Portable	-
Model Series DR7800S_HRC6000_SKY72310_11	_
Bootloader (*. boot)	
C:\Users\Jerry\Desktop\M17 Updates\DMR Firmware\New fol	
Firmware (*. bin)	
C:\Users\Jerry\Desktop\M17 Updates\DMR Firmware\DR7800S	
RCDB (*. rdb, *. rdbx)	
Font Library (*. pack,	
Fixed Voice (*. fv)	
Tuner File (*. tdb)	
Language Package (*. lang)	
Language Fackage (*. Iang)	
Welcome Image(*.bmp)Maximum support 160 * 128 pixel size	
Picture Resource (*. pic)	
12:33:38Began to upgrade firmware file 12:34:30Firmware upgrade finish	
Upgrade	

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

Installing the driver for the DfuSeDemo program manually

If after Pressing SK1 and while pressed turning on the radio you get the following screen, you might need to manually install the driver.

Supports Download Accele	Application Mode: DFU Mode: vendor ID: Vendor ID: Vendor ID: Procuct ID: Procuct ID: Version: Version
Select Target(s): Target Id Name Upload Action File:	Available Sectors (Double Click for more) Upgrade or Verify Action File:
Choose Upload	Vendor ID: Targets in file: Procuct ID:
Transferred data size 0 KB(0 Bytes) of 0 KB(0 Bytes)	Version: Verify after download Optimize Upgrade duration (Remove some FFs)
Operation duration 00:00:00	Choose Upgrade Verify
Abort	Quit

Normally, this program if it needs a driver, finds it over the internet and gives you an option to install a local driver. Some operating systems do not seem to get the driver. If that is your situation, you should install the driver manually.

On your computer, go to the following directory:

C:\Program Files (x86)\STMicroelectronics\Software\DfuSe v3.0.6\Bin\Driver

If you go there you should see the following:

Name	Date modified	Туре	Size
퉬 Win7	1/11/2021 7:09 PM	File folder	
🕕 Win8	1/11/2021 7:09 PM	File folder	
🐌 Win8.1	1/11/2021 7:09 PM	File folder	
🐌 Win10	1/11/2021 7:09 PM	File folder	
📄 version.txt	6/11/2018 12:53 AM	Text Document	4 KB

Now you have to match your windows version to your computer. I would expect Windows 10 to work with Windows 11.

Go into the folder matching your operating system and then go into the folder matching the type of operating system.

Name	Date modified	Туре	Size
\mu x64	1/11/2021 7:09 PM	File folder	
鷆 х8б	1/11/2021 7:09 PM	File folder	
DFU_Win7_x86x64_v3.0.4.0_LogoVerificati	7/10/2012 6:35 PM	Adobe Acrobat D	132 KB

If you go into the x64 bit folder you get the following:

Name	Date modified	Туре	Size
\mu хб4	1/11/2021 7:09 PM	File folder	
💐 dpinst_amd64.exe	2/8/2010 10:36 PM	Application	1,026 KB
🧼 sttube.cat	7/10/2012 6:38 AM	Security Catalog	9 KB
STtube.inf	7/9/2012 11:02 PM	Setup Information	10 KB

Run the dpinst_amd64.exe program to install the driver.

If you go into the x86 folder you get the following:

Name	Date modified	Туре	Size
鷆 x86	1/11/2021 7:09 PM	File folder	
💐 dpinst_x86.exe	2/8/2010 9:59 PM	Application	901 KB
🥏 sttube.cat	7/10/2012 6:38 AM	Security Catalog	9 KB
STtube.inf	7/9/2012 11:02 PM	Setup Information	10 KB

Run the dpinst_x86.exe program to install the driver.

The Windows 10 folder is an exception. When you go into the folder you get the following:

Name	Date modified	Туре	Size
鷆 хб4	1/11/2021 7:09 PM	File folder	
퉬 x86	1/11/2021 7:09 PM	File folder	
💐 dpinst_amd64.exe	2/8/2010 10:36 PM	Application	1,026 KB
💐 dpinst_x86.exe	2/8/2010 9:59 PM	Application	901 KB
🤗 sttube.cat	4/27/2018 6:38 AM	Security Catalog	11 KB
STtube.inf	4/27/2018 3:31 AM	Setup Information	13 KB

Both programs are here so run what is appropriate for your computer.