G90 Firmware Update Instructions

The following items are needed:

- 1. The G90 Radio
- 2. Power supply for the G90 Radio
- 3. Power cord for attaching the power supply to the G90 Radio
- 4. A computer preferably running Windows 10
- 5. A USB to Serial Cable that was in the G90 Radio box

Attach the serial cable to the USB port of your computer. The computer should find and install the driver for the cable. If the computer does not automatically load the driver, then you have to manually install the driver that was provided with the firmware download.

When you update your radio, you have to update both the main unit and the display. The only major difference between the two is which socket you put in the Programming cable.

When programming the main unit, plug the cable into the COMM port in the back of the radio. When programming the Display, plug the cable into the bottom connector on the left side of the display looking at it from the front.

Program the main unit first. Before you start, turn off the power supply, wait for thirty seconds, and then turn on the power supply. Do this again when you start to program the Display.

The following instructions shows how to update the firmware.

Unzip the downloaded file and you should get a file similar to the following:

Name	Date modified	Туре	Size
Data line version driver	10/23/2019 12:36 PM	File folder	
Tool TeraTerm4.96	10/23/2019 12:36 PM	File folder	
Upgrade Firmware 1.71	10/24/2019 9:55 AM	File folder	
G90 FW Update Instructions	1/7/2019 12:24 AM	PDF File	5,930 KB
notes	8/5/2019 8:33 AM	PDF File	24 KB

Double click on the Tool TeraTerm4.96 folder and you should see the following:

Name	Date modified	Туре	Size	
💻 ttermpro	8/31/2017 5:51 AM	Application	1,980 KB	
_TTXFixedWinSize.dll	8/31/2017 5:52 AM	Application exten	52 KB	
_TTXOutputBuffering.dll	8/31/2017 5:52 AM	Application exten	52 KB	
_TTXResizeWin.dll	8/31/2017 5:52 AM	Application exten	52 KB	
_TTXShowCommandLine.dll	8/31/2017 5:52 AM	Application exten	52 KB	
🚳 _TTXtest.dll	8/31/2017 5:52 AM	Application exten	64 KB	
🚳 ttpcmn.dll	8/31/2017 5:50 AM	Application exten	212 KB	
🚳 ttpdlg.dll	8/31/2017 5:51 AM	Application exten	516 KB	
🚳 ttpfile.dll	8/31/2017 5:51 AM	Application exten	244 KB	
🚳 ttpset.dll	8/31/2017 5:51 AM	Application exten	212 KB	
🚳 ttptek.dll	8/31/2017 5:51 AM	Application exten	224 KB	
TTXAdditionalTitle.dll	8/31/2017 5:52 AM	Application exten	64 KB	
🚳 TTXAlwaysOnTop.dll	8/31/2017 5:52 AM	Application exten	52 KB	
🚳 TTXCallSysMenu.dll	8/31/2017 5:52 AM	Application exten	52 KB	
🚳 TTXCommandLineOpt.dll	8/31/2017 5:52 AM	Application exten	68 KB	
🚳 TTXCopyIniFile.dll	8/31/2017 5:52 AM	Application exten	52 KB	
🚳 TTXKcodeChange.dll	8/31/2017 5:52 AM	Application exten	56 KB	
🚳 TTXProxy.dll	8/31/2017 5:52 AM	Application exten	244 KB	
TTXRecurringCommand.dll	8/31/2017 5:52 AM	Application exten	72 KB	
🚳 TTXResizeMenu.dll	8/31/2017 5:52 AM	Application exten	76 KB	
🚳 ttxssh.dll	8/31/2017 5:52 AM	Application exten	2,556 KB	
🚳 TTXttyplay.dll	8/31/2017 5:52 AM	Application exten	72 KB	
🚳 TTXttyrec.dll	8/31/2017 5:52 AM	Application exten	68 KB	
🚳 TTXViewMode.dll	8/31/2017 5:52 AM	Application exten	52 KB	
🚋 COM-5	12/24/2018 8:25 PM	Configuration sett	7 KB	

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Double click on ttermpro to start the program and you should see the following:

I	Tera	Term - [c	onnecting.] VT			_	\times
Fi	le Edi	t Setup	Control	Window	Help			
								^
						Tera Term: Error X		
						Cannot open COM5. Not found.		
						ОК		
								J
1								*

If you see the error message press the OK. If you do not get the error message or you pressed the OK you will then get to the following screen.

Tera Term - [disconnected] VT
 File Edit Setup Control Window Help

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Press the file pull down menu and you will get the following:

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VT	Tera Te	erm - [dis	sconnecte	d] VT	
File	Edit	Setup	Control	Window	Help
	New o	onnecti	on	Alt+N	1
	Duplio	cate sess	ion	Alt+D	
	Cygwi	in conne	ction	Alt+G	
	Log				
	Comn	nent to l	.og		
	View l	log			
	Show	Log dial	og		
	Send f	file			
	Transf	er		>	
	SSH S	СР			
	Chang	ge direct	ory		
	Replay	y Log			
	TTY Re	ecord			
	TTY Re	eplay			
	Print			Alt+P	
	Discor	nnect		Alt+I	
	Exit			Alt+Q	
	Exit A	II			

Execute the New Connection command and you will then get the following:

Edit Setup Control	window Heip					
	Tera Term: New cor	nnection				×
	O TCP/IP	Host:				$\overline{}$
			History	TCD por	·#· 23	
		Service:	Telnet	0011		
			O Other	Son version.	SSH2	~
				Protocol:	UNSPEC	\sim
	Serial	Port:	COM5: USB	Serial Port (COM	45)	~
	C ochar	1 010	00113.000	ochari articon		

If the screen shows TCP/IP check box enabled, turn off the program and try again. If that still does not work, try moving the program cable to a different USB port and try again.

If you have multiple Port connections available, select the one corresponding to your programming cable.

When everything is right, press the OK key and you are now finished with that screen.

If nothing seems to work you could have a bad cable, Windows did not find a driver, or you did not load in your own driver.

Press the Setup pull down menu and you will get the following:



Execute the Serial Port ... Command and you will get the following:

File Edit Setup Control Window Help	×
	×
	×
	X
Tera Term: Serial port setup	~ ~
Port: V	ОК
Baud rate: 115200 ~	
Data: 8 bit ~	Cancel
Parity: none ~	
Stop: 1 bit ~	Help
Flow control: none ~	
Transmit delay	
Transmit denay	
0 msec/char 0 m	sec/line

Make sure all the parameters are set the same as above and then press OK and you are finished with the screen.

You should now have a blank screen as shown below:

Tera Term - [disconnected] VT - - - ×

Please read this section before you do anything as the timing is very critical.

1. Turn on the power to the radio by pressing the power key on the radio. When you do this, you will get the following:



As soon as you see this screen you press the space bar on your computer. With the main unit you have a very few seconds to press the space bar and with the display you have a fraction of a second. Keep one finger on the space bar and use the other hand to press the power button of the radio. If successful, you get the following screen.



Press the one key on the computer. Do not use the mouse to select that command. You will now get a display as follows:



When the display reaches 100%, you get the following screen:



Notice it says at the bottom, Wait FW file ...

From the File pull down menu, select and execute the Send command as follows:



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This will get to the following screen:

XG Bootloader 1.Update FW 2.Exit Erasing100% Wait FW file C	Tera Term: XMODEM Send Look in: Downloads ~ Name Earlier this year (6)	Image: Control of the system Image: Control of the system Date modified 8/1/2019 12:33 PM 8/1/2019 10:14 AM	Ŷ
2.Exit Erasing100% Wait FW file	Look in: Downloads Name Earlier this year (6) BFP-CS580-1.2.78 add_gpedit_msc	Image: Constraint of the second se	^
Wait FW file	Name Earlier this year (6) BFP-CS580-1.2.78 add_gpedit_msc	Date modified 8/1/2019 12:33 PM	^
< File File	Image: CSI (CS800D) CPS R4.02.04setup TEST_CS800D_Host_MS.20.55_Use_Flashburn File name: Image: CSI (CS800D_Host_MS.20.55_Use_Flashburn Files of type: All(*.*)	4/23/2019 9:59 AM 4/19/2019 8:39 AM > Open ✓ Cancel Help	

Browse the computer until you find the appropriate firmware files and highlight the appropriate file for either the main unit or the display. Use a single click to highlight the file. Double clicking will start the downloading. The display below shows the main unit selected.

Hit a key to abort	bootting 3	
XG Bootloader	M Tera Term: XMODEM Send	×
2.Exit	Look in: 📙 Upgrade Firmware 1.71 🛛 🗸 🌀 🏂 📂 🖽	-
Erasing100% Woit FW filo	Name Date modified	
cN	G90_DispUnit_FW_V1.71_buid003.xgf 10/24/2019 9:04 A	M
	G90_MainUnit_FW_V1.71_build002.xgf 10/24/2019 9:05 /	λM
	ReleaseNote G90_FW_V1.71_build002(EN) 10/24/2019 9:03 4	M
	<	>
	File name: G90_MainUnit_FW_V1.71_build002 Opt	en
	Files of type: All(*.*) Can	cel
	He	lp 🛛
	Option	

Make sure the Option 1K box located in the bottom left corner is checked.

Now select the Open button and you should get the following screen.



When its finished you will get the following screen:

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you did

COM6-Tera Term VT

File Edit Setup Control Window Help

Hit a key to abort bootting.. 2

XG Bootloader

1.Update FW

2.Exit

Erasing..100%

Wait FW file...

C

Complete!

Please reboot your rig.
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Now turn off the power to the radio and you are ready to program the display. Follow the above instructions exactly as you did the Main unit.

Now for the most important last step. Determine if it is correct.

- 1. Turn on the Radio.
- 2. Press the FUNC key for about three seconds until you get the following screen:



3. Press and release repeatedly the VM key until you get the following screen:



This screen above is an example of where the firmware was not loaded correctly in both the Main unit and the Display. In this case the base was loaded with version 1.7 and the display had version 1.6. The screen below shows where the firmware has been updated correctly. Note that the version that has been loaded is version 1.71.



If the radio was not programmed correctly, start this procedure again. If you are having problems, try removing the USB cable from the computer, and removing power from the radio and try again.