

X91+ Firmware Upgrade Instructions

Date: October 2019

By: Mark Silver, ms@igage.com

Thesis

You can update the OEM firmware on the BD970 engine if the warranty date on the OEM board is later than the warranty date in the latest firmware.

When you connect to your head with WinFlash you can determine the warranty date of your board by selecting 'Verify Receiver Options'.

Before you Begin

You need to have a serial port to connect to the head. If you don't have a serial port on your computer, we recommend this device (available at a reasonable price) from Amazon:



http://www.amazon.com/gp/product/B00BUZ0K68?psc=1&redirect=true&ref =oh aui detailpage o02 s01

Check with iGage for the latest tested OEM Firmware version.

If you purchased your X91+ from iGage, we can remotely help you upgrade.

Download and Install these 2 Tools

The Latest Trimble WinFlash for BD970

Browse to https://www.trimble.com/Support/Support AZ.aspx

Roll down to the BD970, click on BD970 to display the latest resources. Click on the release notes for the latest version:



Read the release notes to find the Firmware Warranty Date:

• BX992
To use the new firmware, you must have a valid firmware new and . Now on check the Firmware Warranty Date using the web interface. Make sure the date shown is 1 November 2018 of later. Alternatively, obtain the warranty date from the WinFlash software. Select verity receiver options and ensure the Firmware Option is 1 November 2018. For further support information, go to https://www.trimble.com/support/support_az.aspx#B. Select your
BD/BX receiver and click Support .

If the warranty date of your board is prior to the firmware date, you will need to contact iGage to purchase an extension (currently \$75.)



While you are browsing on the Trimble site, download the latest / matching WinFlash and install it on your PC.

This will create a WinFlash icon:



on your desktop.

CHC Nav HcConfig (V1196)

Download and install HCConfig. In this web folder you will find a link to https://iggps.com/out/utilities/HCConfig/HCConfig_1196/index.htm



File Archive provided by <u>iGage Mapping Corporation</u> +1-801-412-0011; 9/22/20

Download the tool and install in on your computer.

This will create an Hcconfig icon:



on your desktop.

Upgrade the GNSS Firmware

1. Put a fully charged battery into the X91+ receiver and plug in the data cable into the head:





2. Plug the data cable into the serial port that is connected to your computer:



- 3. Turn on the GPS, wait 15-seconds for the RED LED to turn on and then blink.
- 4. Run Hcconfig from the desktop icon:

💠 Hcconfig	×
Hcconfig-v1.1.0.1034	
Connection	
Exit	

5. Click on 'Connection':

Hcconfig		×	
	Conne	ection	
Manufacture:	CHC		•
Device Type:	GNSS RT	к	-
Mode:	Port		•
Port:	COM1		-
Baud:	9600 b/s		🗸 🗹 Auto
Back		Connect	Break



6. Choose the proper COM Port, then click Connect. Hopefully you will see this confirmation:

		🔹 Inform	nation		\times
		1	Successfi	ully connec	ted
				OK	
7.	Click on	OK:			
		🔹 Hcconfi	g		×
		H	lcconfig-v1.1.	0.1034	
			Connecti	on	
			Device In	fo.	
			Internal Reco	ording	
			RTK		
		GI	PRS And Inte	rnal UHF	
			APN Setti	ngs	
			NMEA Out	put	
			Radio Char	nel	
			Server Sett	tings	
			Exit		
8.	Click on	'Exit':			
		🔹 Exit			\times
		◯ Exit	Software	Only	
		O Pow	er Off Rec	eiver	
		Activ	vate Pass-T	Through	
		OK	(Cancel	

Select 'Activate Pass-Through' and then click OK.

The computer's serial port is now connected directly to the GNSS engine inside of the X91+ head.



9. Start WinFlash by clicking on the desktop icon.

WinFlash v1.217 - Device Configu	ration	×
WinFlash	The devices which WinFlash can communicate with are listed below. Select a device and PC serial port to use, and press 'Next' to continue. Device Configuration <u>Device type:</u> BDSxx Receiver <u>COM1</u>	
<	Back Next > Cancel Help	

- 10. Choose the correct PC Serial Port, then click 'Next'.
- 11. You can verify the current firmware by selecting 'Verify GPS Software Version', then click on 'Next':

BD950 v4.86b10 - Operation Selection		>	<
WinFlash	The operations supported by the BD9xx Rested below. Select an operation to perform and press "Ne continue. - Operations		
©:Trimble.	Update receiver options Verify GPS software version Verify receiver options View error log Description Retrieves the software version from the E	RD9xx.	
<u></u> < <u>B</u> ack	: <u>N</u> ext > Cancel	Help	

A confirmation screen is shown:

Gage

	WinFlash - Settings Review		×
	WinFlash	Connect the BD9xx to COM1 of the PC using the DB9 cable. Review the settings below and press 'Finish' to start the retrieve software version. Current Settings Device configuration: BD9xx Receiver connected to COM1. Operation to perform: Verify GPS software version)
Clickon	(Finish' a status sereen i	<u></u>	
CIICK ON	'Finish', a status screen i Retrieve Software Version	-	×
	_ Status		
	Establishing communication	with the BD9xx. Please wait	
		0%	
	[Cancel	
After a r	moment, the current vers	sion will be shown:	
	Software Version		
	Model: BD970		
	Serial Number: 5424C02	620	

Software Version: 4.94 Boot Version: 4.73 Radio Version: PCB S/N:

The current software version is 4.94. Click OK to close the software version window.



12. This menu:

Retrieve Software Version	×		
Status The version was retrieved successfully.			
Press 'Menu' to select another operation, or 'Exit' to quit WinFlash.			
100%			
Menu <u>R</u> etry Exit			

is shown, click on 'Menu...'

13. Next click on 'Verify Receiver Options', click on Next, then Finish. After a full minute the board warranty date and all options will be shown. If the warranty does not meet the requirements for the current firmware, copy the board serial number:

Serial Number:	5424C02620
Software Version:	4.94

to an email and send to your iGage support assistant. It takes a few days to obtain warranty numbers.

14. Now select 'Load GPS Software':

BD950 v4.86b10 - Operation Select	tion	×
WinFlash	The operations supported by the BD9xx Receiver are listed below. Select an operation to perform and press 'Next' to continue. Operations Configure cellular modem settings	
	Update receiver options Verify GPS software version Verify receiver ontions Description Loads new application software into the BD9xx.	
Strimble.	Back Next > Cancel Help	

Then click on 'Next >'



15. Choose 'BD970 FW Vxxxxx:

WinFLASH - GPS Software Selection			
WinFlash	WinFLASH needs to know which software should b used to update the GPS receiver. The software ve listed below are currently installed on the system.		
	Available Software BD950 FW V2.34 May 19 2010 BD960 FW V4.85 Feb 12 2014 BD960 FW V4.85 Feb 12 2015	_	
Strimble.	BD960 FW V4.94 Feb 17 2015 BD970 FW V4.95 Feb 12 2014 IRD970 FW V4.94 Feb 12 2015 Turn off outputs before updating firmware		
<	Back Next > Cancel	Help	

Check the 'Turn off outputs ...' check box, then click 'Next >'.

16. A confirmation screen is shown:

WinFlash - Settings Review



Х

Click 'Finish'.

17. A status screen is shown for ~10 seconds:

Software Upgrade	Х
Configuring software update	
0%	
Cancel	



18. The update will begin:

Software Upgrade	\times
Status Updating the software of the BD9xx	
0%	_
Cancel	

- 19. After 3 minutes you may need to confirm replacing the monitor, click on YES if asked.
- 20. after 10-minutes...

Software Upgrade	X
Status Updating the software of the BD9xx	
41%	
[Cancel]	

the update will take about 15 to 30-minutes, when complete you will see this message:



Click on 'Exit'.

21. Turn off the X91+ receiver, then turn it back on again and let it sit outside with a view of the sky. It will take a few minutes to begin tracking SV's again.