

# X91+ Firmware Upgrade Instructions

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## 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](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](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 firmw... in check the Firmware Warranty Date using the web interface. Make sure the date show... is 1 November 2018 or later. Alternatively, obtain the warranty date from the WinFlash software. Select **Verify 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](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:

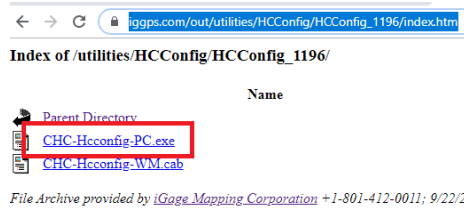


on your desktop.

### 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](https://iggps.com/out/utilities/HcConfig/HcConfig_1196/index.htm)



Download the tool and install it on your computer.

This will create an Hcconfig icon:



on your desktop.

### Upgrade the GNSS Firmware

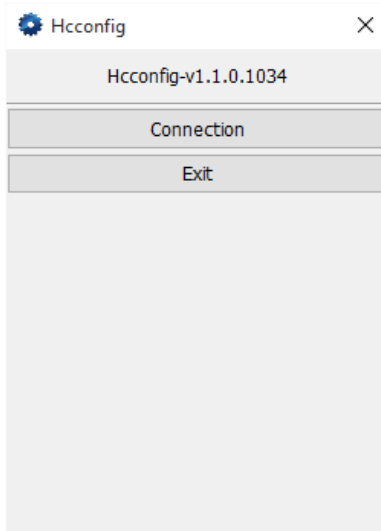
1. Put a fully charged battery into the X91+ receiver and plug in the data cable into the head:



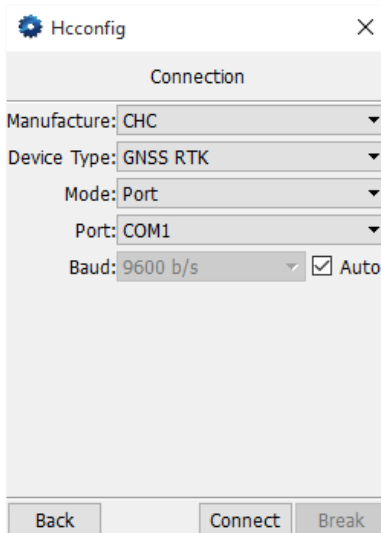
2. Plug the data cable into the serial port that is connected to your computer:



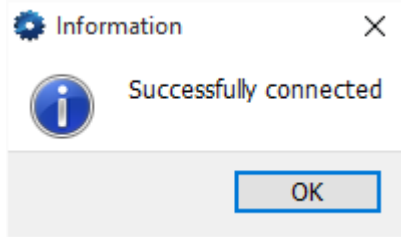
3. Turn on the GPS, wait 15-seconds for the RED LED to turn on and then blink.
4. Run Hconfig from the desktop icon:



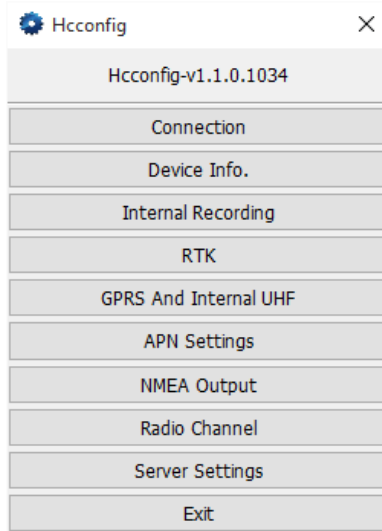
5. Click on 'Connection':



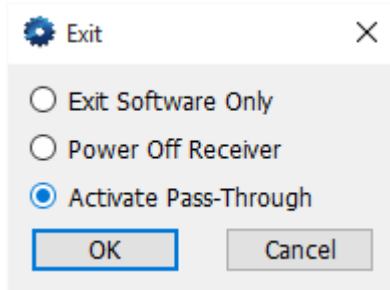
6. Choose the proper COM Port, then click Connect. Hopefully you will see this confirmation:



7. Click on OK:



8. Click on 'Exit':



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

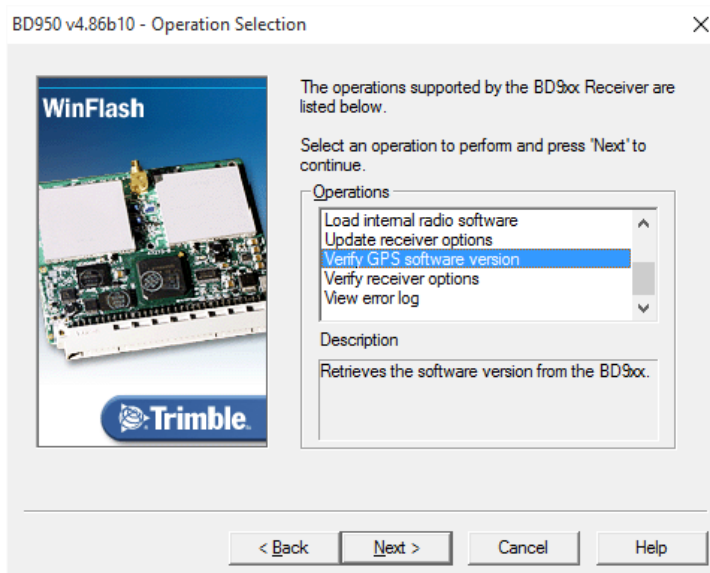
The computer's serial port is now connected directly to the GNSS engine inside of the X91+ head.

9. Start WinFlash by clicking on the desktop icon.

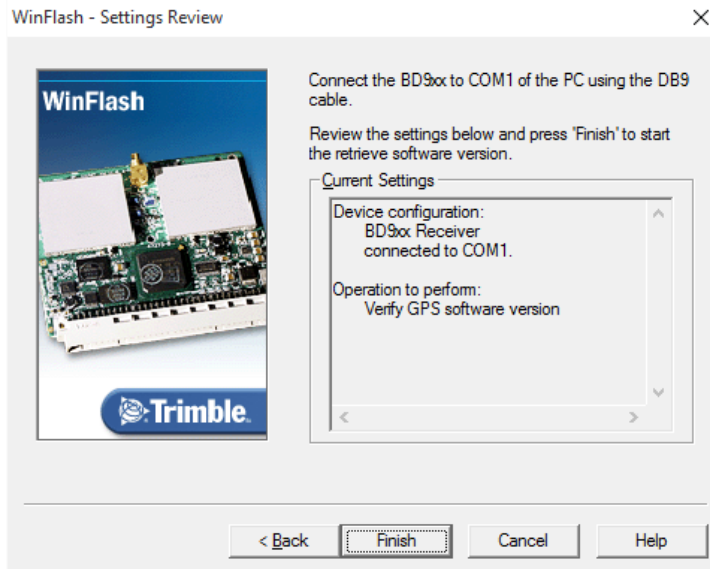


10. Choose the correct PC Serial Port, then click 'Next'.

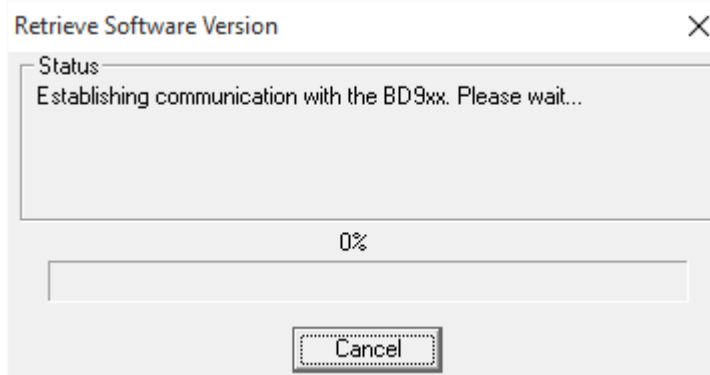
11. You can verify the current firmware by selecting 'Verify GPS Software Version', then click on 'Next':



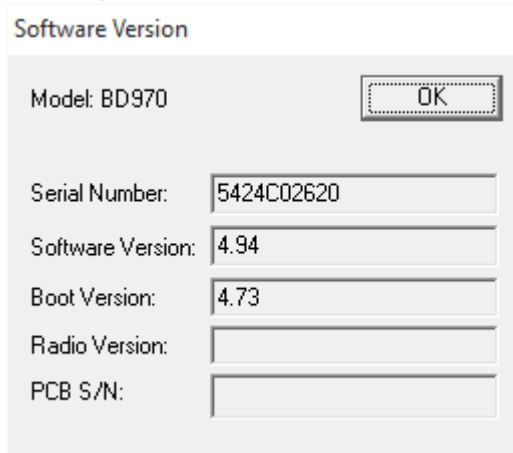
A confirmation screen is shown:



Click on 'Finish', a status screen is briefly shown:

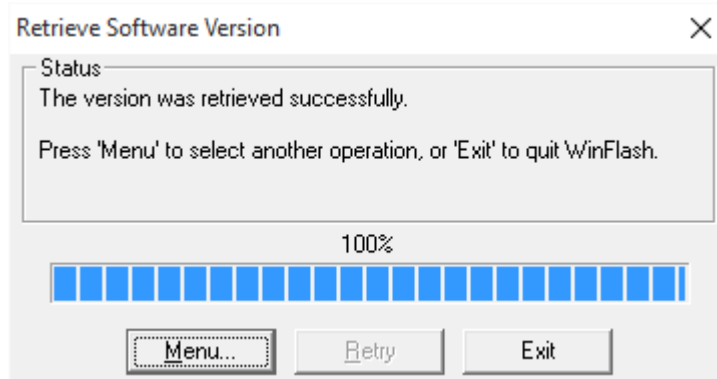


After a moment, the current version will be shown:



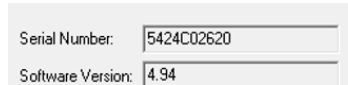
The current software version is 4.94.  
Click OK to close the software version window.

12. This menu:



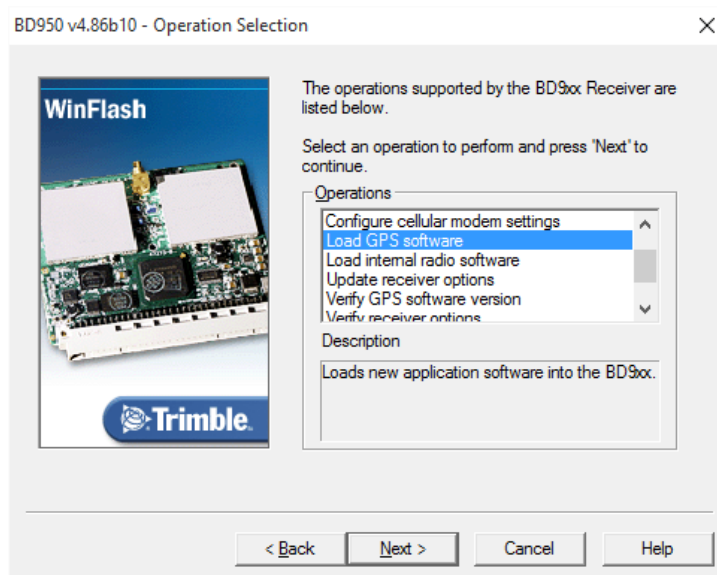
is shown, click on 'Menu...'

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:



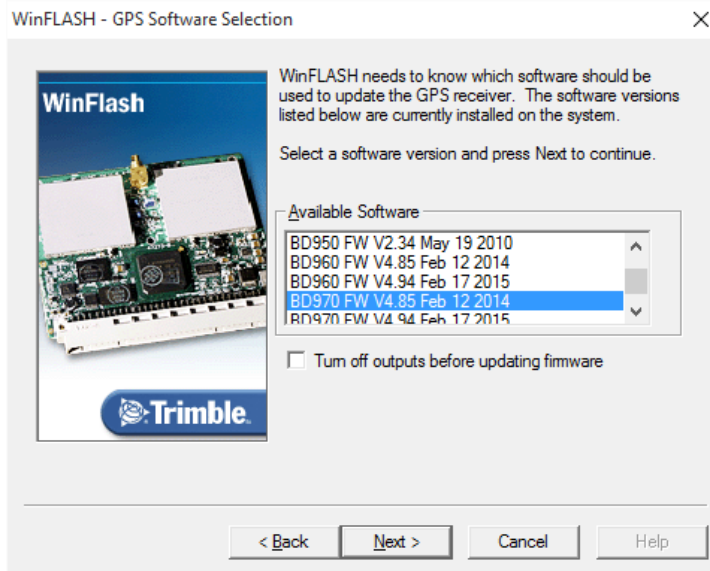
to an email and send to your iGage support assistant. It takes a few days to obtain warranty numbers.

14. Now select 'Load GPS Software':



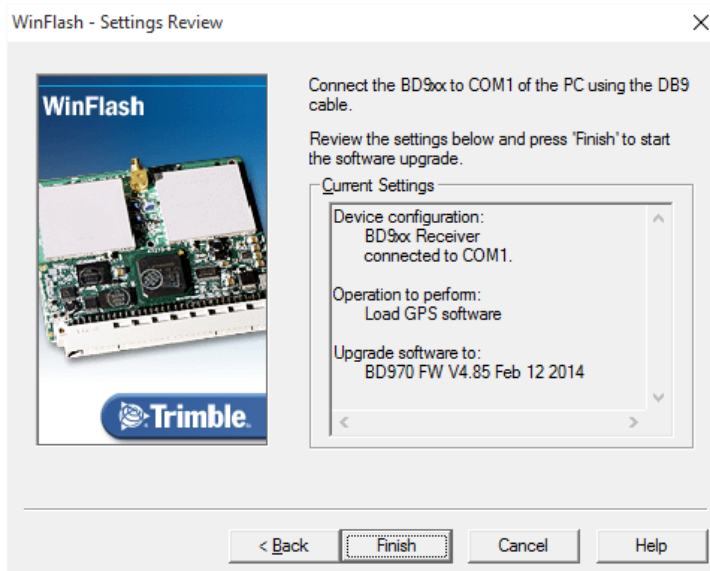
Then click on 'Next >'

15. Choose 'BD970 FW Vxxxxx':



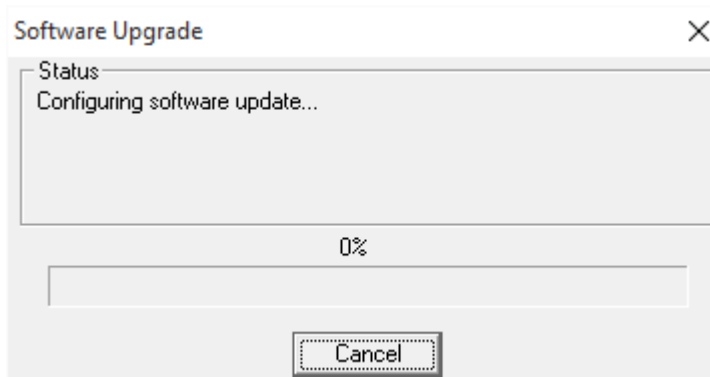
Check the 'Turn off outputs ...' check box, then click 'Next >'.

16. A confirmation screen is shown:



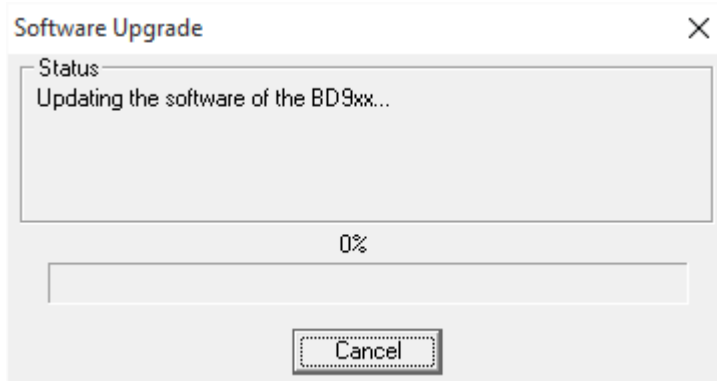
Click 'Finish'.

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



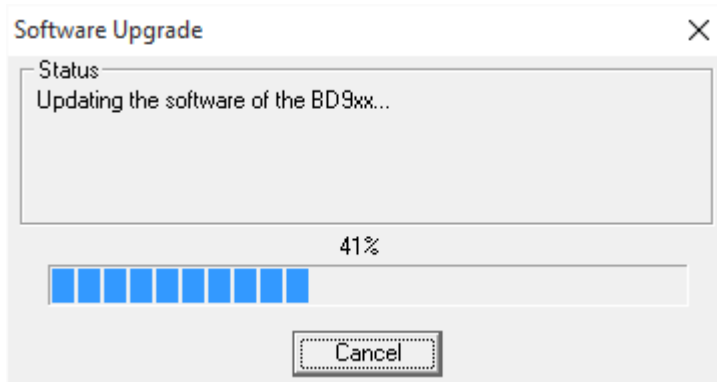


18. The update will begin:

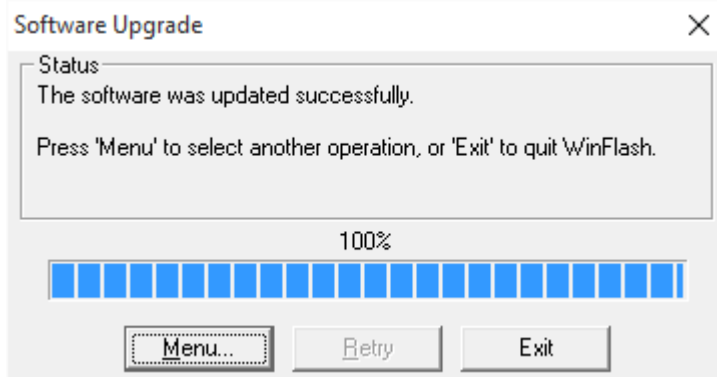


19. After 3 minutes you may need to confirm replacing the monitor, click on YES if asked.

20. after 10-minutes...



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.