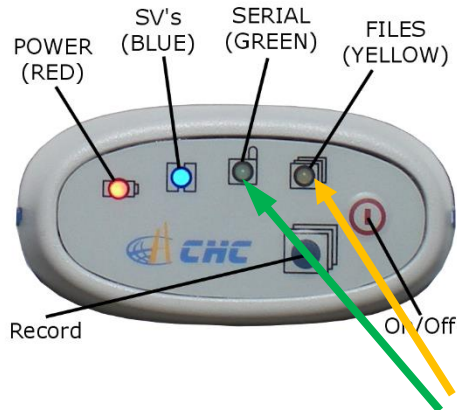


X90-OPUS 'GREEN and YELLOW LED's FLASH' or 'LOCK-UP'

Date: 5 August 2015

Revision: C

If your X90-OPUS receiver has both the YELLOW and/or GREEN LED's flashing or the head is 'locked-up':



BLINK SIMULTANEOUSLY OR UNEXPECTEDLY

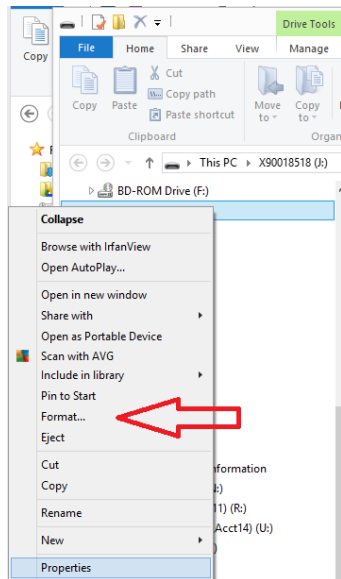
The head is 'locked up' if the ON/OFF button does not work.

Then the internal flash memory directory block may have become corrupted. This is a status message indicating that the receiver is unable to open or write to a new file in the 4 GB Flash memory.

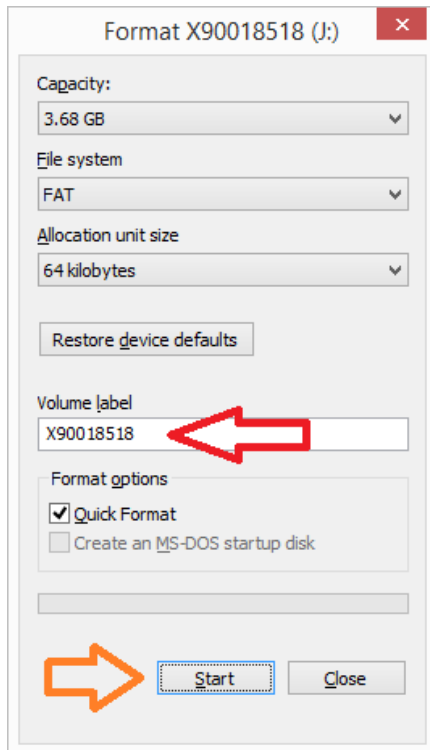
Follow these instructions to fix this issue:

1. Turn off your receiver. You may have to remove the battery and external power if the power switch is no responding.
2. Attach the receiver to a computer with the USB connection.
3. Turn on the receiver, it will mount as a disk drive letter. Note the drive letter. If your operating system requests that you check the disk for errors, do so.
4. Download all of the current files from the receiver using the X90-Download tool.
5. **Optional:** backup all of the xxx.HCN files from the GPS receiver's memory using the Windows Explorer to copy the files to a folder on the hard drive of your computer.
6. Reformat the X90-OPUS receiver:

- a. In the Windows Explorer, find the X90-OPUS drive, right-click on the receiver and choose 'Format...'

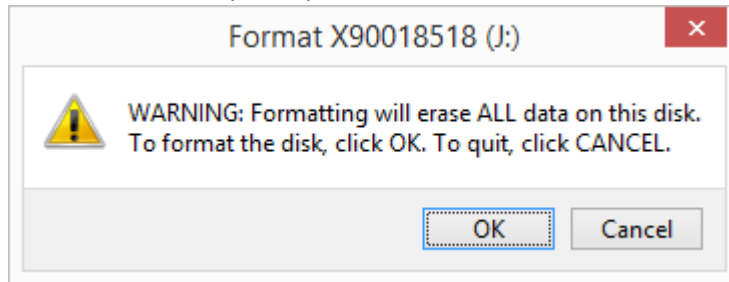


- b. Check that you have selected the correct drive. The X90 will have a 'Volume label' equal to 'X90' followed by the device serial number (as shown by the red arrow below), check the 'Quick Format' checkbox:



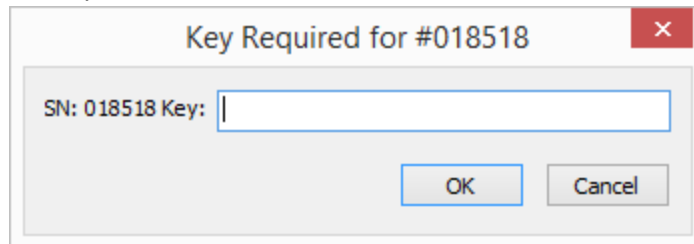
Click on the 'Start' button (orange arrow above).

- c. Windows will verify that you want to format the receiver:



Triple-check that the drive letter and name is the correct device then press the 'OK' button.

- d. Depending on the speed of your computer, the format will take between 3-seconds and 3-minutes.
- e. Close the "Format" window.
- f. Turn off the receiver. (You must turn off the receiver after formatting and then turn it back on again.)
- g. Remove the GPS from your computer.
- h. Take the receiver outside, turn it on and allow it to begin recording again. It should work normally: after a minute it will track satellites and the yellow LED will flash once every five seconds.
- i. Allow the receiver to record a 5 minute file, then return the head to your computer and verify that you can download the new file.
- j. When you attempt to download the file, the download tool should automatically replace the key file on the receiver. If it does not, the download tool may request a key:



The unique key is on a white sticker inside the battery compartment:



The label may be on the side of the battery compartment. Enter the 5 or 6 character code and press OK.

More Information

The X90-OPUS receiver is a flash memory drive. The directory block on the flash memory drive can become corrupted if the battery dies at the exact moment the receiver is writing to the occupation file (once every 5 seconds typically) or if the USB cable is removed from a computer while the receiver is downloading a file, or if the battery dies while the receiver is attached to a computer.

Just as a USB thumb drive can become corrupted, the X90 will suffer the same issue. Sometimes a 'Checkdisk' operation will fix this issue, however a drive format will always fix this issue.

The chance of the battery expiring at the exact same moment that the receiver is writing to flash memory is extremely low: the write occurs once every 5-seconds (by default) and the write operation is very-very quick. In addition, the receiver monitors the battery voltage and automatically shuts down before it drops.

The chance of the battery running out during a computer download can be higher if the receiver was allowed to deplete the battery in the field and then is used to run the head while downloading. Typically if you wait a while after the receiver turns off you can run the receiver for a few seconds before it shuts off again. If you turn the receiver on and the red LED blinks continuously, the battery is very low and the receiver is going to shut off again.

If this fix does not address your issue, please contact us:

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and we will get you going again!