Upgrading the S320 Firmware from SD-Card

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OVERVIEW:

The S320 Control SW and Application firmware can be automatically upgraded from the receiver's SD-Card. The following steps describe the process to un-compress the contents of the .zip file, copy the files to the S320 SD-Card and upgrade the receiver's Control Software and Applications. Before upgrading the receiver firmware, ensure both Li-ion batteries are fully charged, or use an external power supply.

The new S320 Control Sw v2.1.8 and S320/Eclipse2 Qe4 Application firmware files are contained in the file: **S320_app2.1.8_upgrade.zip**

PROCEDURE:

1. Download the **S320_app2.1.8_upgrade.zip** file to a folder on your local computer.
   The file can be downloaded from the **Current S320 Applications and Firmware** link on the Resources area on the S320 Landing page,

   http://www.hemispheregps.com/Products/SurveyConstruction/S320LandingPage/tabid/6

2. Unzip the file; the zip file expands into the following files:
   \Upgrade
   Eclipse2_EDIF_26_Qe.bin
   Eclipse2_MFA_12Qe.bin
   Eclipse2_RTK_12Qe4.bin
   Eclispse2_SBAS_15Qe4.bin
   NANO920A_v4631.bin
   NanoL400_v5182-PC.bin
   S320app.h86

3. Power OFF the S320 GNSS receiver. Open and remove the left-side battery tray labeled "SD", remove the SD-Card from the S320 GNSS receiver.

4. Insert the SD-Card into a SD-Card reader slot on your PC.
   An external USB/SD-Card reader can also be used.

5. Using Windows Explorer, copy the \Upgrade folder and the contents from the PC folder to the SD-Card.

6. Eject the SD-Card from the PC.

7. Insert the SD-Card back into the S320 receiver, replace the battery tray, power ON the S320. If the Firmware versions on the SD-Card\Upgrade folder are NEWER than what is currently installed on the S320, the firmware upgrade process will start automatically. If the Firmware versions installed on the S320 is the same, the automatic upgrade process will not execute.

The S320 Control SW, (S320app.h86) gets upgraded first; this takes about 30-seconds. The S320 LEDs flash and cycle from left to right, indicating firmware upgrade in progress. After the S320 Control SW upgrade completes, the S320 will reset itself automatically.

(All S320 LEDs flash red for a few seconds).

<Leave the S320 powered ON>

Next, the currently loaded S320/Eclipse2 Application automatically upgrades to version Qe4, (this takes about 2-3 minutes depending on which Application is being upgraded). The S320 LEDs flash and cycle left to right again, indicating the Application firmware upgrade is in progress. After the S320/Eclipse2 upgrade completes, the S320 resets itself again, (All LEDs flash red for a few seconds).

After the firmware upgrade process is completed, The LED's will cycle, then the Battery LED's illuminates green, the SD-Card LED illuminates yellow. The S320 GNSS receiver returns to a normal state.

Note: Only the currently loaded Eclipse2 Application gets upgraded automatically.
For example, if the RTK Application was loaded into the S320 upper memory, only the RTK Application was upgraded.

<Leave the S320 powered ON>

8. Connect the S320 to the PC and the PocketMax3 Desktop software with serial cable connection, select the **Quick Config** connection option. From the **About** menu, you can confirm the current Application, (RTK), upgraded to Qe4, and the Control SW upgraded to S320,2.1.8.,2.06 (The middle number 2.1.8 indicates the current S320 Control SW version).

To upgrade the next Application, (SBASRTKB) use PocketMax3 to **"Swap Receiver Apps"** from RTK to SBASRTKB, (or vice versa). To Access the **Swap Receiver Apps** menu bar, click on the Close, or "Red X" in the upper right corner of the PocketMax3 software, click on the menu bar option: **Swap Receiver Apps.**

After swapping applications, the PocketMax3 connection to the S320 automatically disconnects.

Power OFF the S320, wait a few seconds,
Power the S320 back ON, then the next Application (SBASRTKB) upgrade process will start automatically. The next Eclipse2 Application automatically upgrades to Qe4, this process takes about 2-3 minutes depending on which Application is being upgraded.

The S320 LEDs flash and cycle left to right again, indicating the Application firmware upgrade is in progress. After the S320/Eclipse2 upgrade completes, the S320 resets itself again,

(All LEDs flash red for a few seconds).

After the firmware upgrade process is completed, the LED's will cycle, then the Battery LED's illuminates green, the SD-Card LED illuminates yellow. The S320 GNSS receiver returns to a normal state.

Additional Notes:

The Firmware files do NOT get deleted from the SD-Card after the upgrade process completes. The same SD-Card can be used to upgrade additional S320 receivers as needed.

The \upgrade folder and the contents can be left on the SD-Card if wanted.
The\upgrade folder and contents can be deleted if you prefer.

Note: the S320/Eclipse2 GNSS board has two Application memory slots:
Application 1 – Typically, the SBASRTKB Application is loaded in App1.
Application 2 – Typically, the RTK Application is loaded in App2.

In most ALL cases, the S320 only requires the SBASRTB and RTK Applications be installed in the S320 GNSS receiver.

If you have any questions, or problems, please contact the Hemisphere GNSS Technical Support Team.

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FURTHER INFORMATION:

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