Using external USB memory and logging sessions - Trimble NetR9

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May 2014 Notice: Discontinue use of USB Storage on Trimble NetR9's

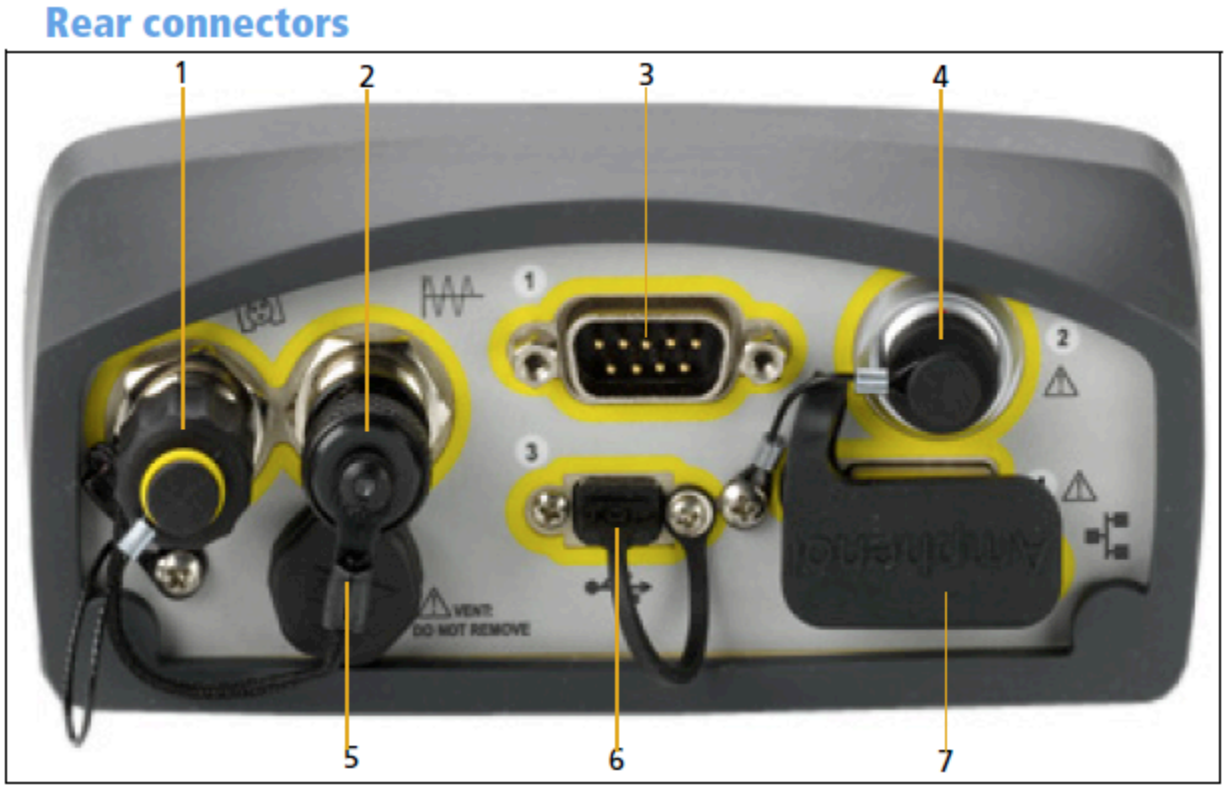
Due to receiver failures caused by USB drives all users should disable all logging sessions that write data to the /External directory, or physically unplug the drive from their systems. Trimble is investigating the problem; further information will be posted here as soon as possible.

Important External USB drive use notes:

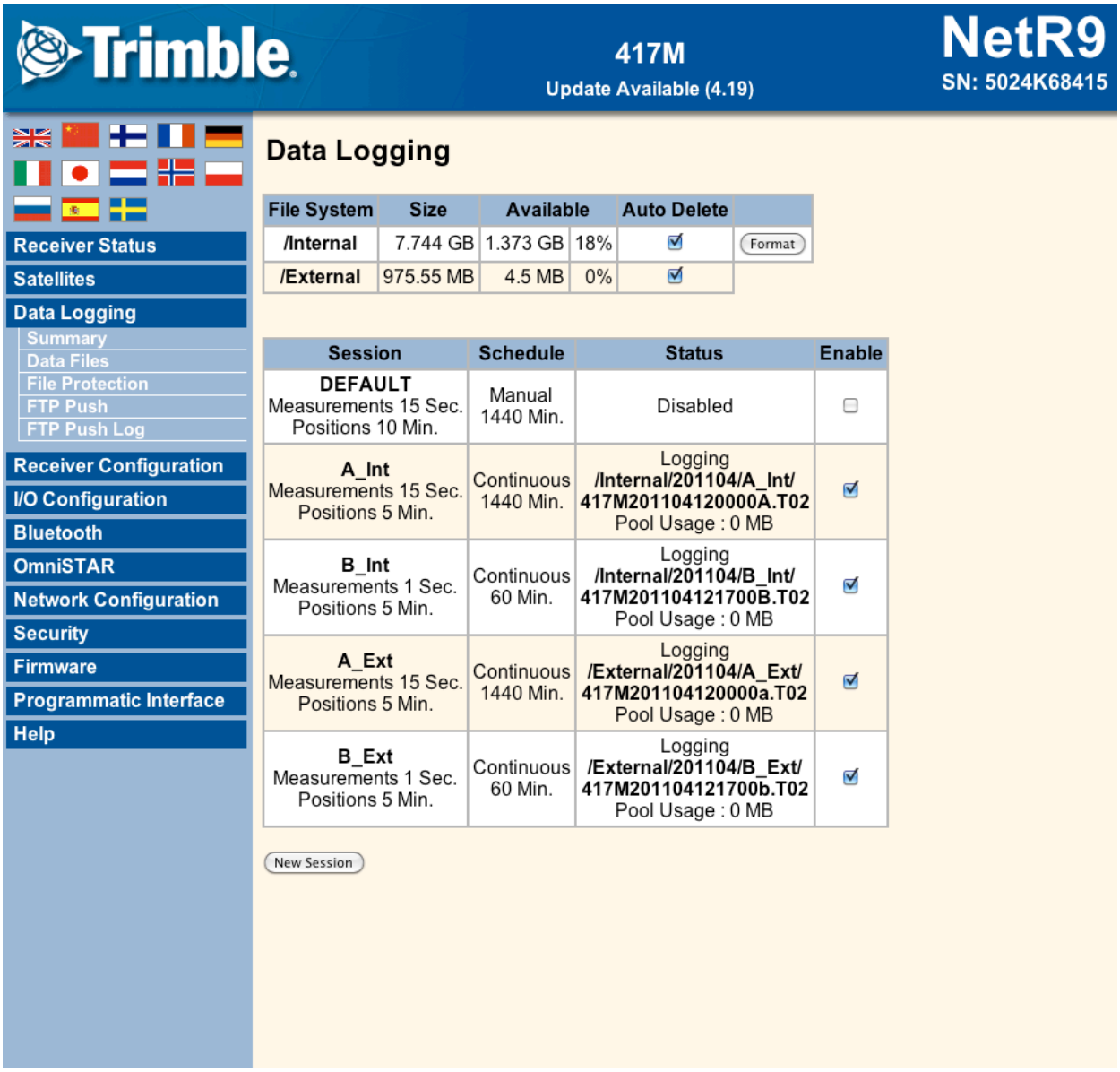
- **If the receiver is damaged and will not boot up, it is unlikely that the data can be recovered from the receivers internal memory** (unlike the NetRS, which has removable internal memory and sometimes can be recovered).
- **Therefore, we recommend using external sessions to mirror the internal sessions increasing the likelihood of recovering data after a catastrophic receiver failure (e.g. lightning strike).**
- The average increase in power consumption when using a external solid state USB drive is **~0.4 W**. The USB drive will consume power even when an external session has not been enabled.
- Mirrored sessions may be impractical if the power supply is limited (e.g. battery power during a campaign).
- Although conventional hard drives may be compatible, UNAVCO recommends only using solid state memory sticks or SSD's. See below for specific recommendations on tested brands.
- In addition to using a usb drive as a mirror it can be used to expand the memory of a NetR9 receiver when using highrate sessions.
- If the USB drive is accidentally disconnected during an external session, the internal sessions will not be affected. Additionally, if you reconnect the USB drive, the receiver will automatically start logging again to the external session. Only the epochs when the drive was disconnected from the receiver will be missing.
- We recommend securing the USB drive to the cable with a small amount of electrical tape to avoid accidental disconnection.
- No more than 12 logging sessions (either active or inactive) may be defined on the NetR9 receiver as of firmware 4.70. If generating and appying clone files, however, a bug in this version limits the nunber of sessions to 8, after which the additional 4 sessions must be manually defined.

How to enable a session that logs to an external USB drive:

1. Plug in a supported USB drive (we suggest using solid state drives) into the Mini B 5-pin USB port located on the rear of the receiver using an appropriate USB female to mini USB male cable or adapter (Connector #6 below). Make sure the cable and the drive are secure and strain on the connector is minimized.

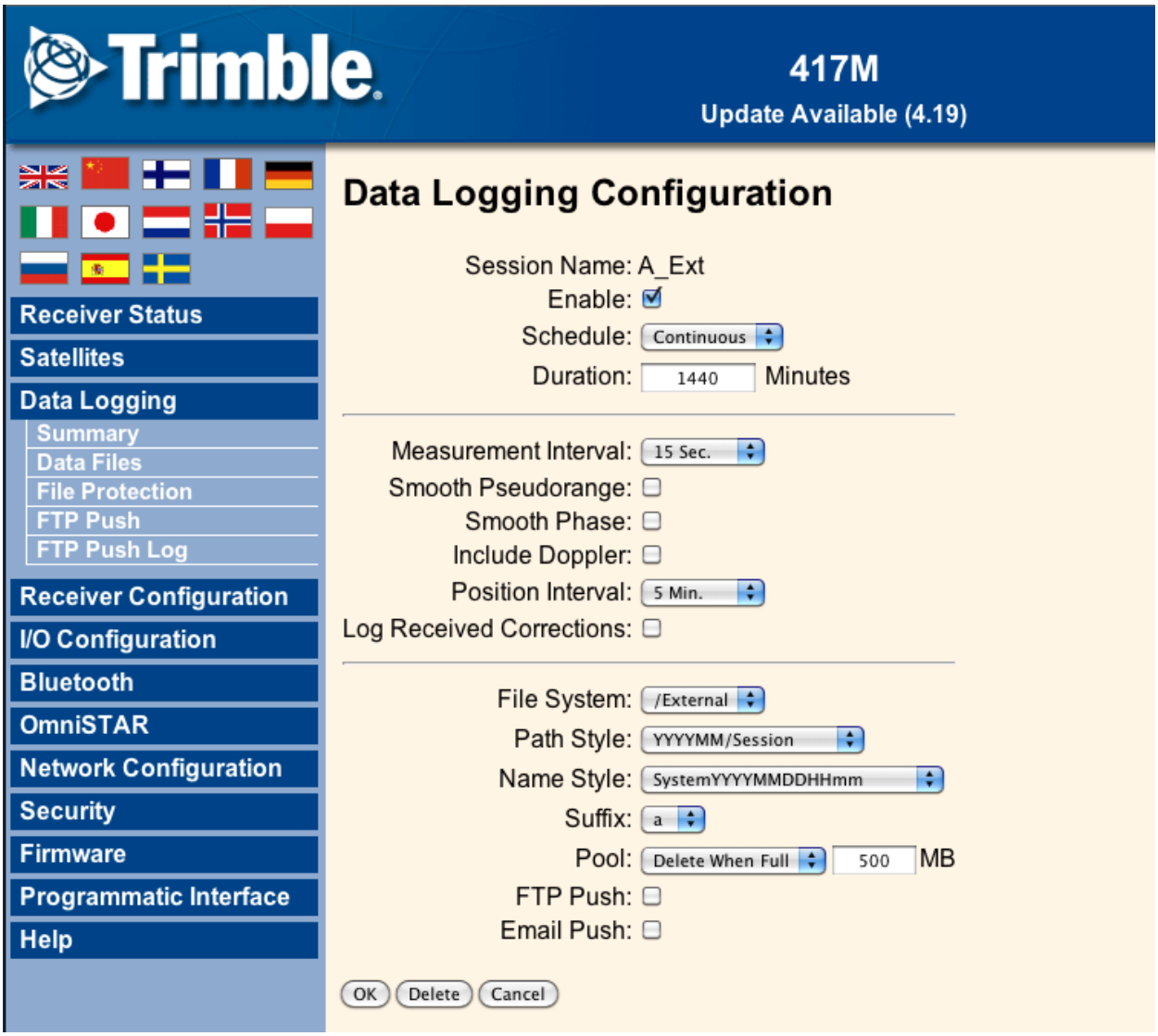


2. Select the "Data Logging" tab from the left hand side of the receivers web interface.



3. Click "New Session" at the bottom of the page.

4. When configuring the session, select **"/External"** from the **File System** drop down menu (an example 15-second session is shown below). Documentation of the other configuration settings are available in the NetR9 User Guide.



UNAVCO tested external USB drives:

Testing procedure:

- Two 24-hour duty cycles in a Thermotron environmental test chamber where the temperature was varied from -40C to +60C.

Drives tested to date:

- APRO Industrial USB Flash Drive (passed)

  APRO drives can be purchased here.

  We recommend the Industrial SLC version. A less expensive MLC alternative can be purchased here. (Note: MLC drives are known to have reduced write/erase cycling endurance compared to SLC drives.)



Online URL:
https://kb.unavco.org/article/using-external-usb-memory-and-logging-sessions-trimble-netr9-701.html