Firmware Release Notes **Survey**

Date: June 27th, 2012

Product: ProFlex 800, ProFlex 800 CORS and HDS800

Subject: ProFlex 800 V1.2 Firmware Release

Introduction:

This document is the firmware release note of the ProFlex 800 V1.2.
This version is minor and does not require any registration code.

Upgrade procedure

The procedure to upgrade the receiver is the following:

1- Copy the file p_800_upgrade_V1.2.S763x24.tar.bz2 to an USB memory key.
2- Make sure that there are at least 10Mb of free memory after having copied these files
3- Switch off the ProFlex 800
4- Plug the ProFlex 800 into an external power and make sure that there is also an internal battery
5- Connect the USB memory key to the ProFlex 800
6- Turn on the ProFlex 800 while keeping pressed the button 'Scroll' (during about 5 seconds)
7- Wait for the complete upgrade, which should take about 30 minutes.

Before upgrading the ProFlex800, it is recommended to stop the recording, the sessions and the embedded NTRIP caster.

Firmware list and versions

General version number: V1.2 - S763Kx24

SYS: S125g
GNSS: Kx24
RFS: 763
BOOT LOADER: 1.1.5.9
KERNEL: 2.6.19
PMU: 2.31
GSM: R7.46
Web Service: 047
NTRIP Caster: 1.0.10
PF_PMU: 17940202

The radio firmware compatible with the ProFlex 800 V1.2 are:

-Internal Pacific Crest ADL Foundation: 3.04 (2288)
-External Pacific Crest ADL Vantage: 3.04 (2288)
-External Pacific Crest ADL Vantage Pro: 3.04 (2288)

-External Pacific Crest HPB: 2.58 or 2.42
-Internal U-Link: 1.02
-External U-Link: 1.04

The software compatible with ProFlex 800 V1 are:

- FAST Survey: 2.8.6
- GNSS Solutions: 3.71
- RINEX Converter: 4.1.1
- Conf Radio: 2.1.0
- Spectra Precision Survey Pro: 5.1
- Spectra Precision Survey Office: 2.6

New features (compared to ProFlex 800 V1.1)

1. **Antenna Height**. ProFlex 800 supports now an antenna height between 0 and 100 m. Primary application: proper positions targeting to the ground mark. Note: antenna height value broadcasted via differential messages is truncated to 6.553 m due to protocols limitations. Antenna height written in the G-File is also limited by 6.553 m value.

Resolved Problems (compared to ProFlex 800 V1.1)

1. **Embedded RINEX Converter**: the embedded RINEX Converter may stop due to a failure. With the ProFlex800 V1.1, it was necessary to restart the receiver in order to continue generating RINEX files. Now the RINEX Converter is restarted automatically and consequently only one session file is not converted into RINEX file.
2. **Leap second**: the embedded RINEX converter properly manages leap second change which will occur July 1st, 2012.
3. **NTRIP Caster**: the embedded NTRIP Caster did not work properly when the number of clients was too high (more than several tens)..
4. **FNC#2975 - ADL Radio**: when the radio contained more than 16 channels, the command $PASHQ,RDP,CHT returned a message where the number of channels was always
5. **FNC#2964 – GSA message**: when the number of received satellites was greater than 12, the last comma in GSA message was missing.
6. **Wrong alarm**: when the receiver was receiving a binary stream, like differential data, it maight happen that an alarm ‘Bad parameter’ or ‘Unknown command’ was raised.

7. **Radio configuration**: it was not possible to configure the internal radio with Conf Radio when the receiver was not tracking satellites. Nowit works even when there is no GNSS antenna connected.
8. **Radio configuration and output power**: when a user configured the internal radio output power with Conf Radio, it was not properly saved and the output power was reset to 100 mW after a power cycle.
9. **Height issue in GGA:** when computing local height with RTCM3.1 messages, the geoid height written in GGA message was not correct.
10. **ADL and U-Link protocol**: the U-Link protocol was not displayed on the receiver screen.

Known issues

1. When you connect the ProFlex800 to a PC with the USB Cable and you delete some files of the internal memory with the Windows Explorer of the PC, the list of files returned by the *$PASHQ,FIL/FLS* commands may not be correct anymore (so also files displayed by FAST Survey). It is necessary to perform a power cycle in order to retrieve a correct list of files.
2. When the command *$PASHS,RST* is issued, the message *GNSS Board not detected* may appear sometimes. Then after few seconds, the receiver works properly.
3. It is not recommended to keep big number of files at the root or in a folder inside internal 128MB memory. With more than 150 files in a folder, the receiver may have issues with recording of new files. When you need to record a big number of files, it is preferable to use an external USB memory or USB hard disk, or to move the files automatically in sub-folders if you use the sessions..
4. With the extended internal memory (8Gb) or external memory, if you record a huge number of files at the root (more than 1000), the file manager of the Web Server may have difficulties to display the list of files.
5. When the tilt sensor is used and the embedded RINEX converter is used, the RINEX meteo file generated by the receiver contain records corresponding to the tilt sensor temperature.

Recommendations

1. It is recommended when working with 3rd party NTRIP Networks to avoid connecting to VRS mount points MAC orFKP) mountpoint are available. This will guarantee a more stable performance.
2. It is recommended when working with 3rd party bases/Networks generating GLONASS reference data to identify the name (brand) of reference receivers. If this brand is known a priori, it can be specified on rover by command $PASHS,RCP,REF,brand,1 (supported brand=TRIMBLE, NOVATEL, SEPTENTRIO, TOPCON). In this case, GPS+GLONASS rover RTK performance can be much better then in a case, when reference receiver name is unknown.
3. The new GSM Modem power consumption is higher in 3G mode than in 2G mode. When 2G is available, it is recommended to set the modem to 2G mode in order to increase the battery life of the receiver.
4. The reference time to start or stop the sessions is the GPS time, and not the UTC time while the WebServer mention only UTC time. The difference between scales is 15 seconds currently (16 sec after July 1st, 2012).

5. It is possible to use a hard disk connected to the USB port in order to record a large amount of data. If the hard disk has not its own power supply, it must be USB certified, else there is a risk that the hard disk does not work properly due to power supply issue. With hard disk which has its own power supply, there is no problem.
6. Before using a hard drive with a ProFlex800, the hard drive must be formatted in VFAT32 and at least one folder must be created manually.
7. WebServer may have abnormal behavior just after firmware update as your web browser might still use old pages saved in cache memory. It is recommended to exit the web server after any upgrade and to clear its cache memory.