Firmware Release Notes **Survey**

Date: November 7th, 2011

Product: ProMark 500

Subject: ProMark 500 v5.3 (S608Gv23) Firmware Release

Introduction:

This document is the firmware release note for ProMark 500 **v5.3** (**S608Gv23**).

Upgrade procedure

The procedure to upgrade the receiver from version v4 (S403Gx21) or v5 (S531Gu23) is the following:

1. Copy the following file to a USB memory key:
   a. **p_500_upgrade_S608Gv23.tar.bz2**
2. Make sure that there are at least 10Mb of free memory space after having copied these files (on USB key).
3. Switch off the ProMark 500
4. Plug the external power to ProMark 500 and make sure that there is also an internal battery
5. Connect the USB memory key to the ProMark 500 using the USB Host cable (shorter USB cable, part number 702104)
6. Turn on the ProMark 500 while keeping the Scroll button pressed for about 5 seconds
7. Wait for the complete upgrade, which should take about 10 minutes. At the end, you should read "Upgrade done". Then the receiver reboots.
8. Check that the receiver displays **S608Gv23** on the 3rd screen. A few additional seconds may be needed for the version to be displayed on this screen.

CAUTION

If you upgrade from previous versions, e.g. **v3 (S073Gg19)**, then follow the upgrade to V4 instructions first, which can be found on Ashtech FTP:
ftp://ftp.ashtech.com/Land Survey/ProMark 500/Firmware/

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Firmware list and versions

General version number: **S608Gv23**

- SYS: SA83
- GNSS: **Gv23**
- RFS: **608**
- BOOT LOADER: 1.1.5.9
- KERNEL: 2.6.19
- PMU: 2.31
- GSM: 6.63c or 7.3

The version is available on following ftp for free upgrade:
ftp://ftp.ashtech.com/Land Survey/PM500/Firmware/

The radio firmware to be used with the ProMark 500 V5.3 is one of the following:

- Internal Pacific Crest: 2.58
- External Pacific Crest: 2.58 or 2.42
- Internal U-Link: 1.02
- External U-Link: 1.03 or 1.04

The latest field and office software versions:

- FAST Survey **v2.8**
- GNSS Solutions **v3.70**

(note: at least FAST Survey v**2.6** & GNSS Solutions v**3.60** must be used with ProMark 500 v5.3).

New features & enhancements

Improved compatibility with FAST Survey v2.8 (handling unnecessary warning messages)

Resolved Problems

N/A

Known issues

1. Some USB Keys can be corrupted when the key is full. Only seen on one 4Gb USB key branded Dane-Elec, and even on this key the occurrence of this issue is low
2. The command $PASHS,INI,0 may raise the alarm *No GNSS Detected*. There is no consequence. After a few seconds, the receiver will return to normal operation.

3. Latency of GGA messages compared to PPS output (in POP20 mode) can vary from 25ms to 40ms with some spikes up to 80ms. In POP10 mode, variation is between 80 and 200ms (this last issue was also true on PF500 V1).
4. There is a delay of 110 nanoseconds on the PPS signal, compared to the MB500
5. In GPRS or CSD mode, it may take a while, up to 10 minutes, before detecting that the communication is stopped and automatically re-dialing the server. It is not systematic and depends on the cause of the interruption.
6. When the $PASHR,TTT or $PASHR,PTT messages are output or recorded, some GGA messages are missing.
7. The receiver does not support the UDP protocol.

Recommendations

1. User working with 3rd party NTRIP Networks should be recommended to escape connecting to VRS mount points, if others (MAC,FKP) are available. This will guarantee more stable performance.
2. It is recommended to not use higher rate than 1Hz RTCM-2 data for both PM500 V5 rover and base. If a higher rate of transmission/reception is required, please use RTCM-3, ATOM or CMR/CMR+ protocols.
3. It is recommended not to run RTK rover when a PM500 V5 base or rover is configured in L2C mode. In L2C mode, the number of available L2 data would be low (L2C constellation is poor) and rover will primarily stay in float mode.