

19 February 2019

## SP80 V3.37 Firmware Release

### Introduction

This document is the firmware release notes for the **SP80 V3.37**. This version is a minor release with new features, improvements, and bug fixing.

### Upgrade Procedure

The customer can upgrade the receiver with version V3.37 by following this procedure:

1. Copy the file [sp80\\_upgrade\\_v3.37.tar](#) to a SD card (its size must be at least 256 MB and it is preferable to use an empty and recently formatted SD card)
2. Switch off the SP80
3. Plug the SP80 into external power and make sure there is also an internal battery
4. Insert SD card into the SP80
5. Turn on the SP80 while keeping the "Scroll" button pressed (for about 5 seconds)
6. Wait for the complete upgrade (it should take about 10 minutes)

Note that this firmware version can be loaded in the receiver even if the warranty is expired.

### Firmware list and versions

General version number: **V3.37 – 2/14/2019**

OS: **2.6.37#800**

U-Boot: **1.32**

PVT: **LP73V23**

DSP: **LC73V23**

SL: **LS73V25**

WEB Service: **LW73V06**

HTML Pages: **LH73V11**

BT: **7.2.31**

PMU: **3.W**

GSM: **02.003**

XDL: **V01.14(2)**

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The SP80 V3.37 is compatible with:

- FAST Survey: [5.0.3](#)
- Survey Pro: [6.0.1](#)
- Trimble Access: [2017.00](#)
- RINEX Converter: [4.6.11](#)
- Survey Office: [3.81](#)
- USB Serial Emulation: [1.1](#)
- Spectra Precision Loader: [8.7.0](#)
- Spectra Precision File Manager: [1.4.0](#)

## Resolved Problems (since version 3.36)

1. **GPS Week Rollover:** The previous versions will have problems after the next GPS week rollover, which will occur at the end of the GPS day on 6 April 2019. These problems are resolved with version 3.37.
2. **Tracking Issue:** In some conditions, when tracking many satellites, the SNR of some satellites was degraded. This problem is now resolved.
3. **NTRIP:** The receiver had failed to connect the TERIA mount point RTKMSM. This problem is now resolved.

## Known Issues

1. **Firmware Upgrade:** It is not recommended to upgrade the firmware with SP Loader using the serial cable. You must use the SD Card or the USB cable.
2. **Trimble Access:** To power up the SP80 modem, you will need to try the Internet setup wizard twice. The first attempts will probably time out.

## Recommendations

1. **Beta version:** the official version contains 2 numbers (ex: 1.2). If the receiver contains a version with 3 digits (ex: 1.2.5), it means that it is a beta release and this beta release can be used only 90 days after the release date. After 90 days, the receiver will not answer to any command, and the only thing to do is to upgrade the receiver with an official version.
2. **SD card:** The receiver supports the standard SD Card and the SDHC card up to 32Gb. It does not support the SDXC.
3. **Ionosphere activity:** Today we are at the peak of ionosphere activity which can affect/degrade receiver performance.

4. **Base Matters:** User must realize that often 3<sup>rd</sup> party reference data provider is equally responsible for performance degradation because of generating much less correcting data compared to quiet ionosphere conditions. User is recommended also contacting Network data provider in case of RTK problems.
5. **ATL log:** We recommend end user in case of receiver performance problem to record atl.log and share it with Tech Support. W/o atl.log file, the ability to help end user will be much less.
6. **6 GNSS:** While SP80 can work with different subsets of GNSS (e.g. GLO only, BDS only, GLO+BDS), user must realize that exclusion of any available GNSS system may result in degraded positioning performance
7. **6 GNSS:** While SP80 can track and use the observables from all 6 GNSS, for differential (RTK rover) operation it can be possible only if base provides respective reference data. Today with RTCM-3.1 protocols these reference data can be available only for L1/L2 GPS and GLONASS, so SP80 cannot take a benefit of other signals. Only the following 3 cases can allow effective RTK usage of all tracking signals:
  - Using own SP80 base generating either ATOM or RTCM-3.2 (MSM) differential data
  - Using 3<sup>rd</sup> party services supporting RTCM-3.2 (MSM) data generation
  - Using SP80 base and any Trimble base generating CMRx corrections
8. **NTRIP:** When working with Ntrip service, user is recommended to select VRS mount point over MAC and FKP. In general with wide variety of different mount points, always try select points with multiple GNSS data.
9. **RINEX:** when converting receiver raw data to RINEX it is desirably to generate RINEX-3.02 (latest released version) data as legacy RINEX-2.11 does not support many of GNSS signals SP80 tracks.