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Spectra Precision SP80 GNSS Receiver Frequently Asked Questions



Q: What is Z-Blade technology?

Z-Blade is a patented, proprietary, state-of-the-art Global Navigation Satellite System (GNSS) Real-Time Kinematic (RTK) and Differential GNSS (DGNSS) engine that is the core GNSS data processing technology implemented in SP80. Z-Blade is a GNSS-centric engine which processes all the available signals equally without preference to the GPS constellation. This technology has resulted in the ability to provide positions of admissible quality (standalone as well as RTK) in harsh conditions where satellite visibility is low due to obstacles like trees, building etc. More information can be found on:

<http://www.spectraprecision.com/products/technology/>

Q: What GNSS signals are supported by the SP80 receiver?

SP80 supports the following GNSS signals:

- GPS L1C/A, L1P(Y), L2P(Y), L2C, L5
- GLONASS L1C/A, L2C/A
- BeiDou B1 (phase 2), B2
- Galileo E1, E5a, E5b
- QZSS L1C/A, L2C, L1SAIF, L5
- SBAS (WAAS/EGNOS/MSAS/GAGAN) L1C/A

Q: What are the data formats supported by a SP80 rover?

The following formats are supported by SP80 as a rover:

- RTCM 2.3, RTCM 3.1 (including 1021-1025 messages), RTCM 3.2 (including MSM messages)
- Ashtech proprietary ATOM™ format
- CMR, CMR+

Q: What are the data formats output by an SP80 base?

SP80 as a base can output data in the following formats:

- RTCM 2.3, RTCM 3.1, RTCM 3.2
- Ashtech proprietary ATOM™ format
- CMR, CMR+
- NMEA 0183

Q: Can ATOM data format be converted to the RINEX data format?

Yes. A RINEX Converter tool is available, which supports the ATOM format and new versions of the RINEX format.

Q: Can I use Bluetooth and WiFi simultaneously?

Yes, the SP80 has been designed in a way which allows using Bluetooth and WiFi modules simultaneously.

Q: What types of SD cards are supported by SP80?

Standard SD and SDHC (SD - High Capacity) cards are supported up to 32 GB capacity. However, SDXC (SD - eXtended Capacity) cards are not supported.

Q: What are the frequency bands supported by the built-in 3.5G modem?

The SP80 modem is a quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz and penta-band UMTS/HSPA+ 800/850/900/1900/2100MHz.

Q: I lost my Anti-Theft password and cannot de-activate the anti-theft mode on my SP80 receiver, what should I do?

If you lose that password, you will be unable to remove the Anti-Theft protection. You will need to call Technical Support, which will provide a specific password so you can disable the protection.

Q: How long can the SP80 receiver operate without interruption?

SP80 receiver features dual hot-swappable batteries. The battery life (of 2 batteries, they are used one after another) is about 10 hours with GNSS and either UHF or GSM modules ON. The hot-swap feature allows exchanging one of the batteries (typically the least charged one), while the other battery assures interruption-free operation. In such a way, the SP80 receiver can be used as long as needed without any disruption by simply exchanging one of the receiver's batteries.

Q: Can I use a standard range pole with my SP80?

Yes, if you use the SP80 without the optional UHF module.

No, if your receiver has the UHF module installed. Because the UHF antenna connector was designed to be aligned with the vertical axis of the range pole, a standard range pole, with its standard 5/8" tapping, would simply not fit in. With the UHF module installed, you must fix the receiver on top of the Spectra Precision 2m fiberglass range pole provided in the UHF kit (rover configuration), or on top of the special 25cm pole extension with oblong hole (base configuration).

Q: The SP80 is rated IP67. What about using it with the side flaps or/and battery trapdoors left open?

The SP80 has been confirmed IP67 with all the flaps and trapdoors properly closed. That means watertightness is preserved provided you keep all these parts fully close and locked. Changing the SD card, the SIM card, the batteries, should be done as quickly as possible to make sure you will not let water or damp air get in. As for the USB connector, remember this is just intended for troubleshooting so there is no good reason to open the USB flap. So just keep it fully closed at all times.

Q: Can I set the channel/frequency of the UHF module directly from the receiver or from the data collector?

No you can't. The frequency must be set by an authorized dealer based on your licensed frequencies. The current channel in use can be easily changed in the field using the data collector software.

Q: Which field software should be used with the SP80?

You can use either the Survey Pro (version 5.4.1 at minimum) or FAST Survey (version 4.0 at minimum) field software together with a range of rugged Spectra Precision data collectors to control the SP80.

Q: Which office software should be used with the SP80?

Use Spectra Precision Survey Office software (version 2.96 for 32-bit PCs or 3.11 for 64-bit PCs at minimum) to process data collected with SP80.

Q: How can I upgrade the SP80 firmware and related software?

New SP80 firmware versions or related software such as FAST Survey, Survey Pro or Survey Office software are periodically made available on the Spectra Precision website, on the specific product web-page under the Support tab. Release notes including upgrade instructions can be found there as well.