

Spectra Precision EPOCH 25 Setup

January 2007

Field Setup of the EPOCH 25 System

1. Base Setup

- a. The base receiver says "BASE" on the bottom. Do NOT use the "ROVER."

- b. Use one of the two GPS antenna cables (one is 2.5m; the other is .3m).

- c. Put the GPS antenna on the base receiver and attach the antenna cable.



- d. Use the 25cm pole with the base setup. Place the tribrach adapter in the tribrach on the tripod. Place the 25cm pole on the tribrach adapter and the base receiver with the antenna on the 25cm pole.

Note: You can also place just the GPS antenna on the tribrach adapter and then place the base receiver on the ground in the case or someplace safe that the GPS antenna cable will reach.



- e. Attach one of the two 9-pin to 9-pin cables for the base to data collector communications in either COM port 1 or 2.

Note: Screw in all 9-pin connectors as gravity may pull them out during the day.

- f. Place the radio on the tripod using the "hook" on the radio.

- g. Attach the radio antenna mount to the tripod. Assemble the whip antenna and place on the mount. Attach the radio antenna cable to the radio.

Note: You may also use "rubber duck" antenna attached directly to the radio. However, radio range will be compromised.

Note: The high power (35wt) radio comes with some accessories you will not use.

Note: The HPB radio has a mode switch for either 2W mode or 35W mode.



- h. Attach the power/data cable to the radio and to the base receiver. This cable will also attach to your own 12v power supply.

Note: 12v battery is not supplied, but a battery carrying case is supplied. Battery clips are supplied with the radio kit.

Note: There are two cables that are very similar. One is the power/data cable; the other is used for programming the radio. USE THE CABLE WITH part number A02443.

Note: A "cable bag" is provided to house excess cable length.



2. Rover Setup

- a. Use the "ROVER" receiver. This not only says "ROVER" but also has a connection for the antenna to use the internal receive-only radio.

- b. Attach the GPS antenna using the GPS antenna cable.

Note: Use the 0.3m GPS antenna cable when the antenna is directly on the receiver. Or, use the 2.5m GPS antenna cable to use only the GPS antenna on the range-pole, and then place the receiver in a pack of your choice to lighten the weight of the pole.



- c. Attach the 9-pin to 9-pin cable for communication to the data collector in either COM port 1 or 2.

Note: If you are using the Bluetooth adapter, use port 2.

- d. Place the ROVER on the 2m range pole. Attach the data collector bracket to the range pole.

- e. Attach the data collector to the receiver via the 9-pin cable or Bluetooth if applicable.

Note: Bluetooth communication is not outlined here. Refer to the user manual.

Note: The rover and its internal radio work off of the internal battery. Charging takes about 4 hours. Use either COM port to charge.



Survey Pro GPS Configuration & EPOCH 25

Note: For more detailed information, please refer to either the Survey Pro User Manual or the TDS GPS Quick Start Guide. Basic GPS will be simpler than shown here.

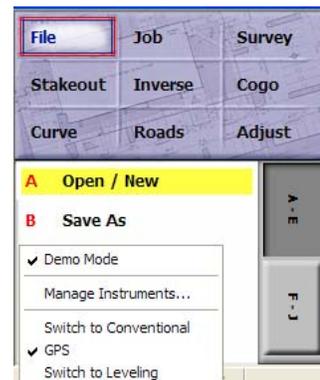
Note: Settings given here are standard or common. Certain settings can be modified to suit your situation.

Note: These settings only configure the base and rover receivers in preparation for use. Once these items are set, you will generally not need to edit these settings again.

1. Survey Pro Instrument Setup

- a. Start Survey Pro
- b. Open a new file
- c. Set Survey Pro to GPS mode

Note: A file must be open to do anything in Survey Pro. The job settings are not important at this point because you are only going to setup the base and the rover.



2. Configure a Base Receiver

a. At the JOBS/SETTINGS/RECEIVER tab, press CREATE NEW RECEIVER

- i. Enter a name (s/n, unit 1, base... whatever you like)
- ii. Brand is SPECTRA PRECISION
- iii. Model is EPOCH 25
- iv. DC Port is COM 1 (Bluetooth if utilized.)
- v. Baud is 38400
- vi. Parity is NONE

b. Plug the data collector into the 9-pin data cable to the receiver.

c. Tap on the Receiver Settings button.

d. RECEIVER TAB:

- i. Receiver Mode is RTK BASE
- ii. RTK Format CMR +PLUS (Must match rover setting)
- iii. Do not check Station Index
Note: The station index must be set (turned on) on both the base and the rover to work. The station index tells the rover to only listen for a base radio that is using the same index number. Leave this off (unchecked) unless working near other GPS base transmitters.
- iv. Elevation Cutoff is 10 degrees (or as desired)

f. DATA MODEM TAB:

- i. Data Modem PACCREST PDL
- ii. Serial Port Baud rate 38400, Parity NONE, Serial Port 1
- iii. Radio Settings Channel X
NOTE: The channel must be the same as the rover radio. It is critical that the frequency matches the frequency of the rover radio. This is verified at CONFIGURE.
- iv. Sensitivity MEDIUM

Name: My EPOCH 25
Brand: Spectra Precision
Model: EPOCH 25
DC Port to Receiver: COM 1
Baud Rate: 38400
Parity: None
Defaults Autodetect
Set Rx. Comms Rx settings...

Brand: Spectra Precision
Model: EPOCH 25
Receiver Mode: RTK Base
RTK Correction Format: CMR +plus
 Use CMR Station Index: 29
Elevation Cutoff: 10 degrees
Receiver Data Modem General Reset

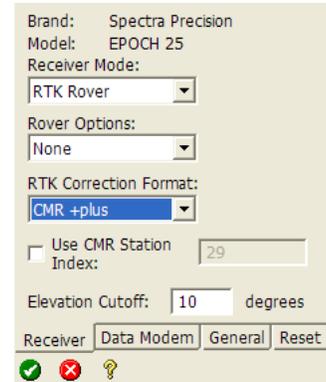
Data Modem: PacCrest PDL
Serial Port:
Baudrate: 38400
Parity: None
Serial Port: 1
Configure...
Radio Settings:
Channel: 0
Sensitivity: Medium
Configure...
Receiver Data Modem General Reset

3. Configure a Rover Receiver

NOTE: This setup assumes Base/Rover with radios setup only, not Network RTK (see the drop-down choices in settings to see these options)

- a. At the JOBS/SETTINGS/RECEIVER tab, press CREATE NEW RECEIVER

- i. Enter a name (s/n, unit 1, rover... whatever you like)
- ii. Brand is SPECTRA PRECISION
- iii. Model is EPOCH 25
- iv. DC Port is COM 1 (Bluetooth if utilized.)
- v. Baud is 38400 Parity is NONE.



- b. Plug the rover data cable into the data collector

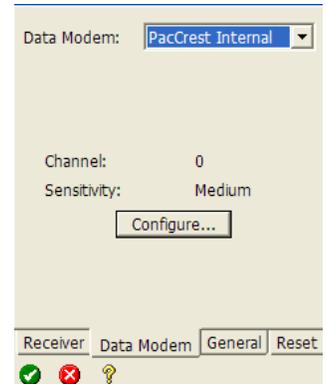
c. RECEIVER TAB:

- i. Receiver Mode is RTK ROVER
- ii. Rover Options NONE
- iii. RTK Format CMR +PLUS (Must match base setting)
- iv. Do not check Station Index
- v. Elevation Cutoff is 10 degrees (or as desired)

- d. Tap on the Receiver Settings button.

e. DATA MODEM TAB:

- i. Data Modem PACCREST INTERNAL
- ii. Set radio Channel X
Note: The channel must be the same as the base radio setting. Most importantly the frequency must match the frequency of the base radio.
- iii. Sensitivity MEDIUM



4. To start your survey, Please refer to the GPS Quick Start Guide

This document is not comprehensive. It should be used as a general guide to assembling the equipment and setting up Survey Pro to work with your base and rover receivers.

There are many parameters needed to start a survey that are not covered in this document. Please refer to your Survey Pro documentation for more information on how to start a survey with the EPOCH 25 RTK GPS receiver.

Please refer to the FCC Licensing rules referenced below prior to conducting surveys with your equipment.

FCC Licensing

The FCC Rules under Part 90 are promulgated under Title III of the Communications Act of 1934 as amended which vests authority in the FCC to regulate radio transmitters and to issue licenses for radio stations.

As a result, anyone who operates a radio transmitter must be licensed by the FCC or face the possibility of fines up to \$7,000 per day.

Professional Licensing Consultants, Inc. can assist you with obtaining your FCC license with minimal delays and a whole lot less aggravation than trying to work your way through the maze of Federal Regulations and forms

There is an FCC filing fee of \$100 for new licenses issued for a ten-year term. This fee is subject to change by the FCC every year in September at review time. The FCC sends out to each licensee an automated renewal notice within 90 days of license expiration, noting licenses cannot be renewed prior to the 90-day period.

There is a frequency coordination fee of \$110 currently to apply for the 14 UHF frequencies unofficially designated for GPS/RTK purposes.

PLC, Inc. charges a fee of \$125 to cover the preparation/processing and filing of new and modified system licenses. In addition, PLC, Inc. only charges \$65 to handle renewal of these licenses. And there is no fee required for PLC, Inc. to perform your construction/coverage deadline reminder notice response.

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