

Using a Third-Party GNSS

To use a third-party GNSS with a Sensors & Software GPR system, the GNSS must meet the following criteria:

1. It must communicate over RS-232 with a standard 9 pin serial output for connecting to the display unit (DVL, see Figure 1).
2. The baud rate of the GNSS must be set to one of the following:
 - for LMX200™ and LMX150™ FINDAR® systems: 19200
 - for NOGGIN®, pulseEKKO® and SPIDAR® systems: 4800 to 115200
3. The GNSS must be programmed to output the NMEA GGA string in ASCII format at a rate no faster than 20 Hz (10 Hz recommended). GNSS are rarely programmed to output NMEA strings; it may be necessary to get a utility program from the GNSS manufacturer or talk to the technical support at the GNSS manufacturer to reprogram the GNSS to output data as NMEA GGA strings.
4. Power the GNSS in one of the following ways:
 - The GNSS must have its own battery.
 - If the GNSS accepts it, 12 volt power across the serial port (see Figure 1) can be used to power the GNSS. For the GPR systems listed above, serial port power can be turned ON or OFF in the GNSS Setup menu on the DVL. **Sensors & Software cannot be held liable if the power across the serial port adversely affects a third-party GNSS device attached to it.**
5. When reprogramming the GNSS, if the GNSS has the following settings, they should be disabled: “Direct Link Mode” and “Sensor”.
6. The GNSS must not expect any handshaking from the DVL.
7. Test the communication between the GNSS and the DVL using the GNSS setup menu on the DVL. The “Strings” option displays the output from the GNSS.
8. Refer to the GPR system user’s guide for more information about using a GNSS with your GPR system.

