



## Setup of USDA DGPS Backpack

### **Abstract**

This guide gives basic instruction for connecting the USDA Configuration 1 backpack to a handheld GPS unit.

*Steps: Connect GPS unit to Backpack via 4 pin serial and small gold antenna connector – Connect entire system to power source (battery or external vehicle power) – Turn on GPS unit – Change GPS unit mode to RTCM or RTCM In/NMEA Out*

### **Details**

1. Only GPSMap 76 units in Indiana are definitely compatible with the Backpacks. The GPSMap 78 units may be compatible as well, but are untested as of the drafting of this instruction.
2. Simply connect the 4-pin serial data cable to the back of the GPS, as well as the small gold colored antenna link. Both of these cables should already be in the cables within the backpack and simply need to be fed out to the unit.
3. Place your battery in the backpack and connect it to the power port. Batteries, where available are a special type of battery with a connection port already attached to it. If using external power, connect plug the power adapter into your external source. Note: Vehicle operators are not to use any devices while operating a vehicle. Only appropriately seated passengers should operate any devices.
4. Power on the GPS unit
5. In the GPS unit's Setup Menu:
  - Go to Interface and change the unit's Serial Data Format to RTCM In/NMEA Out
  - Choose User defined settings
  - Set Frequency to the proper KHz number for the tower in range (290, 304, 319, or 322 for Indiana) and 200 bps for Bit Rate.
  - If done correctly, no error messages will display and a signal to noise ratio (SNR) will be displayed.
  - If there is a problem, you may need to check all connections in the backpack cables for proper setup, double check frequency and bit rate, and check the coverage map to see if you are in range.
6. If setup successfully, go to the unit's Satellite page. You should see 3D Differential GPS displayed for signal type and your unit's self-estimated accuracy should easily be better than 15 feet.
7. You can now collect data as normal for your GPS unit's procedures for collecting data.