10B - PACTOR INSTALL - HOOKING UP YOUR GPS

10.6 GPS

Airmail can read NMEA 0183 position data from a GPS, and uses this data for making propagation forecasting calculations, and automatically entering Lat/Lon, course and speed entries on the *Position and Weather tab sheets.* GPS data can be fed to Airmail three ways:

1	through one of the computer's serial ports,
2	directly into a PTC-II/III Modem using a "Y" cable,
3	directly into the PTC-IIusb GPS terminals input connection, if your modem has one, located on the back of your modem.

10.6.1 Connecting the Wires

10.6.1.1 Serial Port

Check your GPS manual to see if the GPS manufacturer offers an optional off-the-shelf cable for connecting your GPS to a computer serial port. If a cable is offered, use it, as this eliminates the need to custom-make a cable, and the GPS NMEA 0183 data will be available for use by other computer programs. If your GPS manufacturer does not offer a ready-made GPS interconnecting cable, you will have to make your own. To do this you'll need some small hand tools, single or two conductor shielded wire, two connectors (one that fits your GPS and a female DB-9 to fit the computers serial port), a small soldering iron, some solder, and the pin-out diagrams of your GPS connector. Solder the center conductor or wire carrying the NMEA 0183 data signal to pin 2 of the DB-9 serial connector, the signal ground to pin 5, and the shield to the DB-9 case. Pin numbers are marked on the DB-9 connector to aid in pin identification, although a magnifying glass may be needed to read them.

10.6.1.2 "Y" Cable

The "Y" cable is a special cable adaptor available from radios.net.au that connects to the serial port connection on a PTC-II/IIPro/IIe/llex modem. The base of the "Y" connects to the serial connection on the modem; the arm with the female DB-9 connector connects to the computer's serial port, and NMEA 0183 data is fed into the remaining arm of the "Y". NMEA 0183 data fed into a modem through a "Y" cable is useable by Airmail, and may be rebroadcast for use by charting programs and other software expecting GPS data to come in on one of the computer's Com Ports.

10.6.1.3 Direct into Back of the PTC-IIusb Modem

You should use a small shielded cable like RG-174 coax cable to connect data from your GPS to the GPS terminal on the back of the PTC-IIusb modem. The center conductor carrying the NMEA 0183 data connects to the "+"data input connector, and the shield connects the "• "signal ground terminal. NMEA 0183 data supplied through this connection method can be rebroadcast by Airmail to an available Com Port for use by charting programs or other software. Now that NMEA 0183 data from the GPS is available, you must tell Airmail where to find it. This is done through the Data Input screen on the left side of Figure 6-6. To access this screen, while in *the Message Index Screen* connected through a Com Port, check the box in front of GPS/NMEA port enabled, and from the dropdown menu select the Com Port number that corresponds to the Com Port to which the GPS data is connected. If you're using a DeLorme Earthmate GPS sensor, be sure to check the box next to Earthmate. For GPS data directly connected to the PTC-II/III modem or supplied through a "Y" cable (available through radios.net.au), place a check mark in the box by PTC-II/NMEA INPUT. When the setup selections are correct, position data will automatically fill-in the Latitude, Longitude, Date/Time, etc, entries. To rebroadcast GPS data fed into the modem through a "Y" cable, or through the GPS connection on back of the PTC-II/III modem, place a check mark in the box in front of *Data Broadcast Enabled,* click the settings button, to open the *Data Broadcast Settings* window and select the Com Port number where you want the data sent.