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To:	Placer GPS 450 CDPD Resellers and Users	Date:	October 11, 1996
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CC:	Customer Service		

Subject   **CDPD Modem Configuration**

1.   Introduction

The Placer GPS 450 with CDPD support is capable of communicating with two different CDPD modems, the Sierra Wireless MP200 and the PCSI Ubiquity 2000. This document describes how to configure these modems to work properly with the Placer GPS 450 CDPD.

2.   Modem Connection

A <u>straight through</u> serial cable with a DB9M connector <u>on both ends</u> is needed to connect the modems with the Placer. The pin connections for this cable are shown below.

DB9M Modem(DCE)		DB9M Placer(DTE)	
Function	Pin	Function	Pin
TxD	2	RxD	2
RxD	3	TxD	3
CTS	7	RTS	7
RTS	8	CTS	8
Grnd	5	Grnd	5

Cable From CDPD Modem to Placer 450

3.   Sierra Wireless MP200 CDPD Modem

3.1.   Upgrading New Modem Firmware

The Sierra Wireless MP200 modems may be supplied with new firmware and instructions on how to program the modem with the new firmware. The general steps for programming a Sierra Wireless modem for CDPD operation are listed below, for more detailed instructions you should consult the documentation supplied by the modem manufacturer.

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a) Connect the MP200's serial port to a PC serial port.
b) Turn OFF the power to the MP200 (the configuration program will prompt you to turn ON power to the MP200).
c) Run the Sierra Wireless MP200 programming software.
d) Follow the instructions given by the installation program.

You should upgrade all modems that you are planning to use with the Placer GPS 450. For our tests, we used MP200 Firmware: **MP200 Version 2.1.2**

3.2. Activating the Modem

You need to establish CDPD service with your local CDPD service provider. This activation is very similar to activating a cellular phone. They will require the EID number of each CDPD modem you activate. The EID number is a sequence of 6 hexadecimal pairs representing 6 bytes. This number should be listed on each modem. When your service provider activates your service they will give you one IP Address for each EID you gave them. NOTE: Each IP Address corresponds to one EID, they may not be interchanged. You need the IP information to completely configure the modem.

3.3. Configuring the Modem

To configure the modem, Sierra Wireless supply a PC Windows configuration program called "WATCHER". This program will communicate with the modem and configure it with the IP Address and other configuration options. You should install this program on to the PC or laptop you are going to use to configure the modem, please refer to the suppliers documentation on how to install this and other programs and how to launch WATCHER.

To configure the modem, follow these steps:

1. Connect the MP200's serial port to a PC serial port (COM0, COM1 etc.).
2. Turn ON the power to the MP200.
3. The WATCHER program requires the Trumpet WINSOCK to be running to talk to the modem. You should configure Trumpet WINSOCK to talk SLIP at 19200 baud rate on the PC serial port (the WINSOCK is installed when you installed WATCHER).
4. Run the Sierra Wireless WATCHER software.
5. From the **Options** menu choose the **Setup CDPD...** menu item. This will bring up the configuration window.
6. Set the **NEI 1** to Active and enter the modem's IP Address in the **Address** Field for NEI 1.

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7. Add your service provider to the **SPNI Matching** list by clicking on the **Setup...** button.
8. Select the side (**A side preferred** or **B side preferred**) on the network that your service provider has indicated.
9. Check to ensure that the **Registration** is set to **Automatic** and the **Modem Interface** is running at **19200** baud.
10. Click **OK** when you are finished and the modem will be programmed with these settings.
11. The WATCHER program should then show the modem's status as **Registered** and the light on the modem should start blinking when it establishes communication with the service provider.

You should repeat this procedure for each modem being activated.

4.   PCSI Ubiquity 2000 CDPD Modem

4.1.   Upgrading New Modem Firmware

The PCSI Ubiquity 2000 modem may be supplied with new firmware and instructions on how to program the modem with the new firmware. The general steps for programming a PCSI Ubiquity 2000 modem for CDPD operation are listed below, for more detailed instructions you should consult the documentation supplied by the modem manufacturer.

  a) Connect the Ubiquity 2000's serial port to a PC serial port.
  b) Turn ON the power to the Ubiquity 2000.
  c) Run the PCSI Ubiquity 2000 programming software.
  d) Follow the instructions given by the installation program.

You should upgrade all modems that you are planning to use with the Placer GPS 450. For our tests, we used **PCSI Firmware Version 2.05**.

4.2.   Activating the Modem

You need to establish CDPD service with your local CDPD service provider. This activation is very similar to activating a cellular phone. They will require the EID number of each CDPD modem you activate. The EID number is a sequence of 6 hexadecimal pairs representing 6 bytes. This number should be listed on each modem. When your service provider activates your service they will give you one IP Address for each EID you gave them. NOTE: Each IP Address corresponds to one EID, they may not be interchanged. You need the IP information to completely configure the modem.

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4.3. Configuring the Modem

To configure the modem, PCSI supply a PC Windows configuration program called "NET". This program will communicate with the modem and configure it with the IP Address and other configuration options. You should install this program on to the PC or laptop you are going to use to configure the modem, please refer to the suppliers documentation on how to install this and other programs and how to launch NET.

To configure the modem, follow these steps:

1. Connect the Ubiquity 2000's serial port to a PC serial port.
2. Turn ON the power to the Ubiquity 2000.
3. Run the PCSI "*Select NET*" program.
4. Choose the first **Unused** box and click the **Edit Entry...** button.
5. Enter the IP Address for that modem in the data fields and click the **OK** button. You will return to the previous menu of 4 IP addresses.
6. Now click on the **OK** button at the top level without changing any of the other default settings.
7. Now run the **PCSI CDPD Status** program and check to ensure that the modem registers correctly.