

ONCORE TECHNICAL APPLICATION NOTE

Oncore NMEA Output

The VP Oncore and GT Oncore (version 2.0 or newer) receivers can be configured to output NMEA 0183 messages. This note describes how this is done.

WinOncore fully supports the NMEA protocol for displaying, plotting, recording, and playing back GPS data. WinOncore is included in all GT and UT Oncore evaluation kits and is also available separately. The DOS controller software in the evaluation kit does not support NMEA, however it can be used to switch the Oncore receiver to NMEA mode. Once the receiver is in NMEA mode, any terminal communications program can be used to communicate with the receiver.

To use Procomm to communicate with the GPS receiver in NMEA mode, do the following:

1. Connect the Oncore receiver evaluation kit housing to the PC serial port using the cables provided with the evaluation kit. Connect the antenna to the receiver.
2. Power on the receiver and run the PC controller software.
3. Ensure the PC is communicating to the receiver by typing
time <CR>
and watching for the time response message.
4. If you are using a VP, ensure the receiver is in fix mode by typing
mode f <CR>
5. Switch the Oncore communications protocol to NMEA mode by typing
ioformat nmea <CR>
6. At this point, there will be no further response displayed by the controller software. Quit the PC controller by typing
quit <CR>
7. Run Procomm.
8. Set the baud rate, parity, data bits, and stop bits by pressing
[Alt] - p
and then from the menu displayed, select "10) 4800,N,8,1", which corresponds to the NMEA protocol by typing
10 <CR>
Exit the screen by pressing the [Esc] key.

9. The outgoing translation must be set to <CR><LF>. Press [Alt] - s to bring up the Set Up menu. Select 2) Terminal setup, select 5) CR translation (out), press the space bar to actually toggle CR to CR/LF, and then press [Enter] key. Press the [Esc] key twice to return to the main Procomm screen.
9. The menu and information bar on the bottom of the screen should now display 4800,N,8,1 and CR/LF. Note that both incoming and outgoing CR settings are displayed and the far right on some versions is for the outgoing setting. It is important that the outgoing translation is properly set to CR/LF.
10. In order to see the input commands, toggle to half duplex by pressing
[Alt] - e
This echoes what is typed to the Procomm display screen. The displayed characters may be interrupted by the incoming NMEA messages, but this will not affect the outgoing message.
11. At the main Procomm screen type
\$PMOTG,GGA,1<CR>
to start the NMEA output. The NMEA command messages are case sensitive. The GGA messages should now start appearing on the screen at 1 second intervals.

In step 11, the GGA field can be substituted with other NMEA sentence names to activate other NMEA messages.