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TecNote 1004 - Setting Up the Garmin GPS Interface in a 980 Secondary v61.x Controller or a 2070 v65.x Controller

The purpose of this TecNote is to help the user configure a Naztec 980 Secondary Version 61.x , a 981 Master Version 61.x or a 2070 v65.x Controller for use with a Garmin® GPS unit such as the GPS 16 shown below:



Installation Considerations

Although Garmin® manufactures various GPS devices this tecnote will apply to the interface with any of these devices.

The user should contact Naztec, Inc. to purchase the wiring interface for the PC PRINT port of a 980 Secondary controller: NAZTEC PART # 10614-2100.

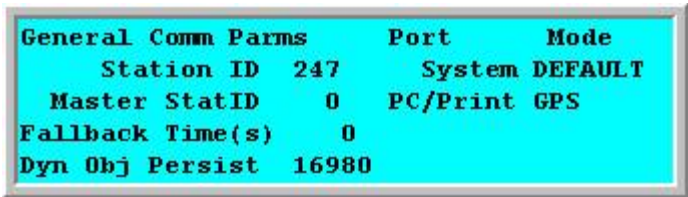
In addition, the user can contact Naztec, Inc. to purchase the wiring interface for the AUX 232 P-C PORT of a 980 Master controller or a 2070 7A PORT: NAZTEC PART # 10614-2000

Programming the 980 Secondary or Master controller

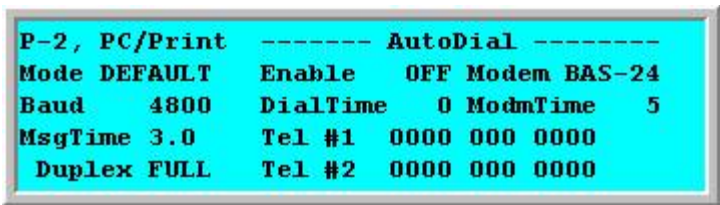
The following steps are required to setup the GPS interface.

1) Set the com port mode (MM->6->1) to "GPS" for the com port interfaced to the GPS. Typically, you will interface the GPS with the PC/Print port and dedicate the System-Up port for system access using the DEFAULT setting. In addition, a 981 Master controller has an additional port (Aux 232) that can be used to interface the GPS.

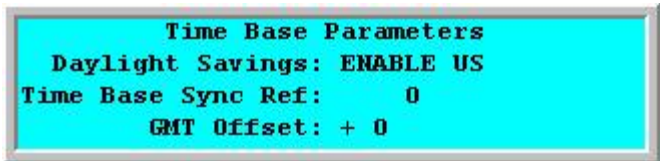
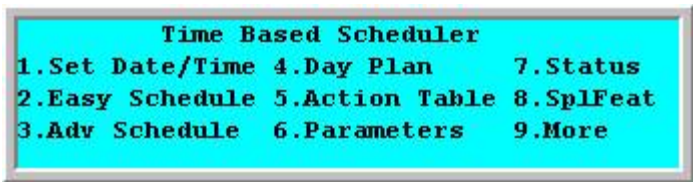




2) Set the baud rate of GPS com port to "4800" under MM->6->2->2.

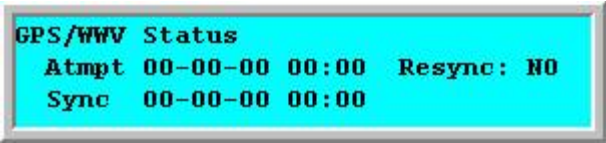
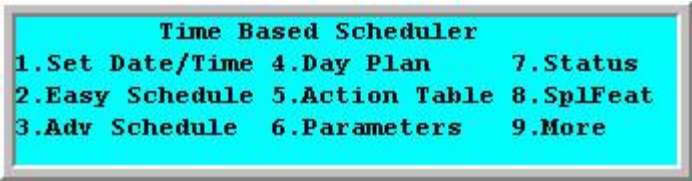


3) Select the GMT offset (MM->4->6) for you location based upon your time zone (EST = -5, CST = -6, PST = -8). Be sure to select the proper +/- sign.



4) The controller will automatically resynchronize the time from the GPS twice per hour at approximately 13 and 43 minutes past the hour, every hour.

5) The MM->4->9->3 screen provides the last date/time stamp when the controller attempted to communicate with the GPS device. The status also shows the time returned by the GPS and a text message indicating if the attempt was successful. The menu also allows the used to manually force the controller to Re-sync the GPS. Toggle the Re-sync setting to "YES" and press <ENTR> under MM->4->9->3.



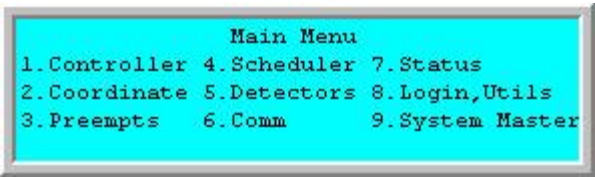
The following status messages are displayed after the controller attempts to communicate with the GPS.

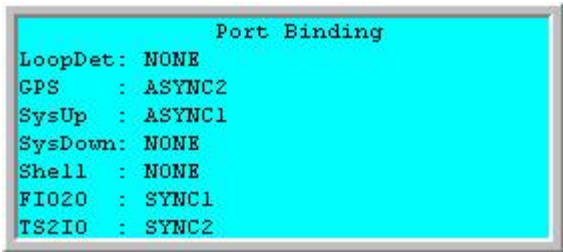
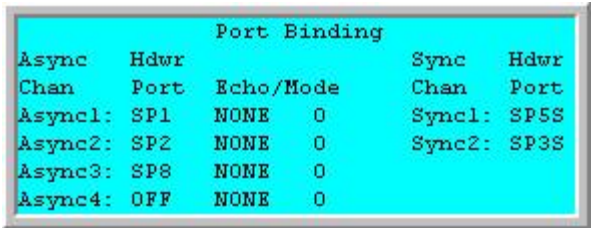
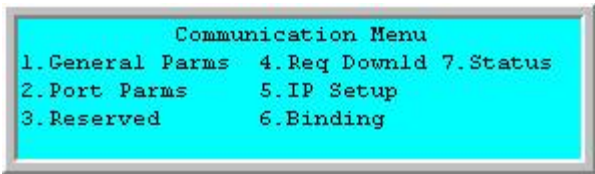
- "OK Reply" - the received message was correct and implemented
- "No Reply" - the controller did not receive a reply from the GPS module
- "No Signal" - the GPS module has not acquired a signal from the satellite
- "Bad Reply" - the receive message had a data error

Programming the 2070 Secondary or 2070 Master controller

The GPS interface for the 2070 is identical to the operation for the TS2 discussed in the last section with the exception of the com port settings.

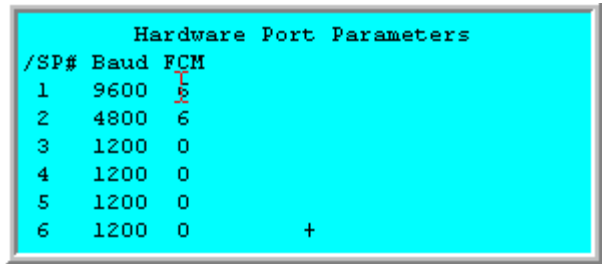
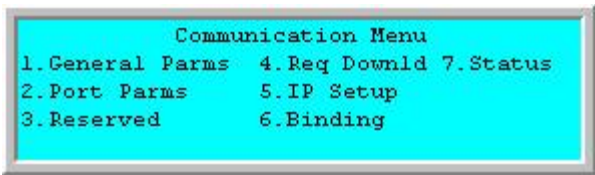
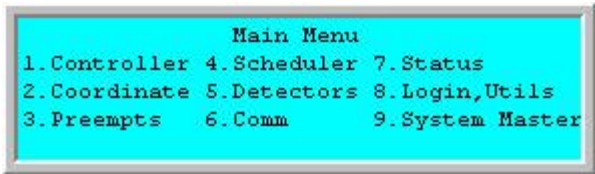
The 2070 provides 4 hardware serial ports (SP1, SP2, SP3 and SP8) which may be assigned to the 4 logical ports (ASYNC 1-4) under the port binding menu. The default programming assumes that SP1 and SP2 located on the 2070-7A card are assigned to ASYNC1 and ASYNC2 respectively. SP8 is typically assigned to ASYNC3 and dedicated for the internal hardware of the controller. By accessing the Port Biding sub-menu at MM->6->6, the user can assign the GPS unit to interface to the bottom port of the 2070-2A as shown on the screen shots below.





In the example above, SP1 on a 2070-7A card is assigned to the system and SP2 is assigned to the GPS unit.

Next, the baud rate of SP2 must be set to 4800 under MM->6->2 as shown below.



The configuration of the GPS device for the 2070 is identical with the TS2 discussed in the last section. You must set the GMT offset under Time Base Parameters (MM->4-6) for your time zone (EST = -5, CST = -6, PST = -8). Be sure to select the proper +/- sign. Use the MM->4->9->3 status screen to display the last date/time stamp the controller attempted a Re-sync with the GPS device. The MM->4->9->3 screen can also be used to manually Re-sync the GPS unit.

Summary

Naztec controllers can be used to update the time sync from GPS receivers such as the Garmin GPS 16 using the 980 Secondary, 981 Master or 2070 Controller.

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