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Using the PacComm Hardware Single Port switch

PacComm now provides the APRS port-splitter which allows you to connect both your TNC and GPS receiver to the same comm port for notebook PC GPS/TNC operation. The circuit is mounted in the shell of a DB-9 connector and has two leads, one going to the TNC (grey) and the other to the GPS (black).

APRS Optional NMEA-0183 Interface

The optional comm port registration for direct connection of any NMEA-0183 device (GPS or LORAN), is available to registered APRS users from the author for $9. It can be purchased at the time of registration or as an option later. It must be enabled for the HSP switch to work.

Hardware Single Port Mode (HSP)

The interface can be used to share a single serial port between both a packet TNC and a GPS receiver. In mobile APRS operations, this permits the vast majority of portable computers that only have a single serial port to both communicate in the APRS network while also simultaneously reading the vehicle's position from an attached GPS. In this HSP mode, APRS will periodically toggle the DTR output of the serial port for a couple of seconds and switch between the sources of data. With DTR held high (normal) the GPS data is shunted to ground, while the TNC operates normally. When APRS toggles the DTR low, this holds off output from the TNC and enables data from the GPS. As soon as APRS receives the GPS data it needs, it restores DTR so the TNC is connected for normal APRS operations.

Remember that your computer comm port, TNC and GPS must be set at the same baud rate, usually 4800.

In this adapter, the voltage to provide the negative bias to convert the NMEA output to RS-232 levels comes from the output of the TNC. For this reason, if the GPS is used alone without the TNC, a jumper must be connected between pins 2 and 3 of the empty TNC connector. This takes the negative voltage from the unused TXD output of the PC. We recommend making a DB-9 female connector with this jumper permanently installed.

HSP Operations

HSP mode is selected from the SETUP menu. To activate HSP, bring up APRS in one-port TNC mode being sure to set the TNC to the same baud rate as your GPS, probably 4800Bd. Then select HSP under the SETUP menu and save a new configuration file. You will be asked for your validation number and special GPS number. If everything is done correctly, you will see the lower case (hsp) on the yellow control panel shift to uppercase (HSP). In HSP mode both the screen refresh rate and position transmission rate are set with the POS-RATE command. Every now and then you should see the box at the top right of the display show a "Toggling for NMEA..." message while the HSP mode switches the data switch.

Operations Menu

C - COMMS: This command allows you to disable APRS and talk straight through to your (T)NC or (G)PS/WX/DF comm port. Use it to establish a direct connection for testing.

G - GPS FUNCTIONS: Used to set up SPM - Single Port Mode, HSP - Hardware Single Port mode, TIME-SYNC (sync's PC clock to the next GPS report received). Be cautions, since stand-alone PacComm TNC trackers first store the GPS data and then transmit it based on an internal timer, the actual GPS data transmitted may not be real-time. This is true if the GPS loses lock or becomes in-operateive, then the TNC continues to send the same "old" fix. If you sync to one of these, you are syncing to "old" time! Also, the Sync-Time command only syncs the MINUTES, not the HOURS. In version 5.7 you can select NoGPS to turn off SPM or HSP without having to restart APRS.

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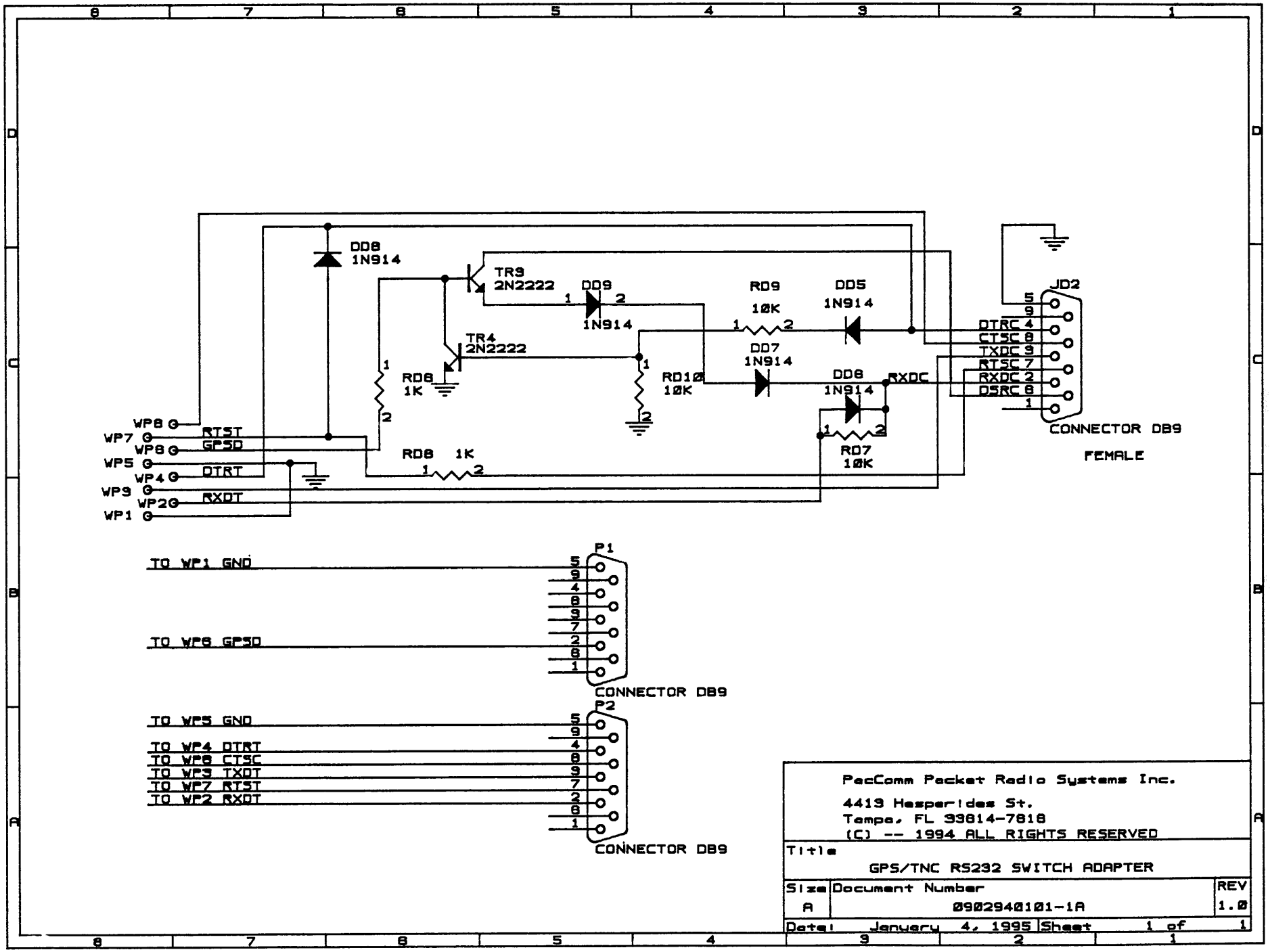

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