

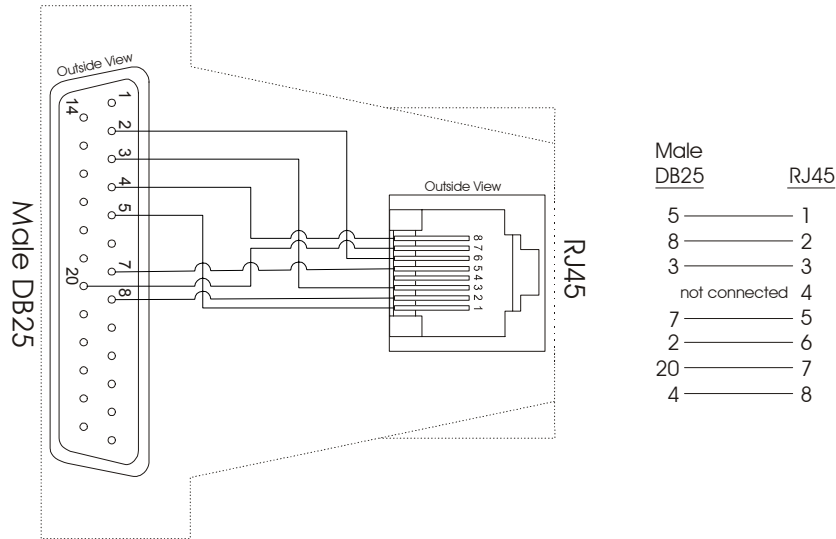
Accessing a PTSS or PTXL via Modem

The Sentry Power Tower, models PTSS and PTXL, feature an RS-232 serial port, which allows local asynchronous terminal access to the system. For remote access a variety of devices, including a dial-up modem, may be used. This Technical Note describes both the serial port adapter and modem configuration required to make the proper connection and support a dial-up session.

Sentry PTSS/PTXL Modem Adapter

Included with every PTSS and PTXL are an RJ45-crossover (8P8C"X") patch cable and an RJ45-to-DB9F serial port adapter. These items allow a standard PC's DB9M-DTE serial port to connect to the PTSS or PTXL.

To connect the PTSS to a dial-up modem, a different serial port adapter (not included) must be used and is illustrated below. This adapter is available through your Server Technology Account Representative.



Configuring the Modem

The modem must be configured prior to connecting the modem to the PTSS or PTXL. The user will need the instruction manual for the selected modem to configure the modem for the following parameters.

NOTE: The included DB9-female adapter and RJ45-rolled cable may be used in with the DB25-Male PTSS/PTXL Modem Adapter to communicate directly from a PC terminal to the modem. Use both adapters and the RJ45 patch cable to establish a direct connection to the modem for configuration. After configuration is complete, remove the patch cable from the RJ45-end of the DB9-female adapter (ADP-0019) and attach it to the PTSS's or PTXL's RS-232 serial port.

1. Auto-answer must be enabled. (S0=x, where "x" is the number of rings on which to auto-answer)
2. Carrier-Detect (CD) function of the modem must be 'normal' i.e. the modem's CD signal output is asserted whenever a modem-to-modem connection exists and not asserted when a connection does not exist. The CD function is sometimes selected by a DIP-switch on the modem, but is also configurable via modem command. (&C1)

NOTE: The modem's CD output signal is used for the 'device-ready' input on the PTSS or PTXL.

3. Echo should be off. (E0)
4. Result codes must be disabled. This is also known as quiet mode. (Q1)
5. Data Terminal Ready (DTR) operations must be set to 'normal' such that the modem hangs-up (goes on-hook) when it's DTR-input goes to a low state. (&D2)

6. The DTE rate must be configured:
 - a. to be a fixed rate supported by the PTSS or PTXL (9600 baud is recommended), or
 - b. so that it follows the DCE rate.

The remote caller is generally able to select the desired rate by configuring the dialing modem or terminal for the specific rate.

NOTE:

1. The PTSS automatically detects and supports the following communication data rates (baud rates): 2400, 4800, 9600, 19200 and 38400. Other data rates (i.e. 23040) will result in communications failure.
 2. This option may NOT be used with the PTXL. The PTXL only supports fixed data rates, including rates of 57,600 and 115,200
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This step usually is the most difficult due to the fact that the command(s) required to configure the modem vary from manufacturer to manufacturer. The terminology used also varies: For example, on a USRobotics Sportster faxmodem, &B1&N6&U0 may be used to configure the modem to connect and use 9600 baud as the DTE data rate. On the same modem, &B0&N0 configures the DTE data rate to be variable and follow the connection rate. This requires that the remote caller have control over the dialing modem's connect rate so that the caller may select a valid rate before calling.

Refer to the modem manual or manufacturer for assistance in managing the modem's DTE rate. If no response is received from the PTSS or PTXL after the modem-to-modem connection has been established, the data rate being invalid or non-supported is generally the cause.

In addition to the steps outlined above, the modem should also be configured with the following considerations:

1. The settings should be stored into the modem's non-volatile memory (NVRAM). (&W0 and &W1)
2. The modem should be configured to only reset to the NVRAM stored profiles, and to NOT reset to factory defaults upon reset command or power on. This is usually a DIP-switch option or a command specific to the brand of modem.
3. If connection problems persist, follow the modem manufacturers instructions to disable error correction and/or data compression. In many cases, disabling data compression also succeeds in making the modem's DTE rate follow the connection rate, or causes only Universal Asynchronous Receiver-Transmitter (UART) data rates to be supported, which are required by the PTSS and PTXL.

Lastly, it should be noted that many modems generate large amounts of undesired random data or 'noise' when an uncontrolled disconnect occurs. While much has been done to reduce the possibility of this 'noise' causing problems, it is recommended that the QUIT command be used to quietly end a PTSS or PTXL modem session. By using the QUIT command, the end-session will be initiated by the PTSS or PTXL and any subsequent 'noise' will be ignored until another connection is established. The QUIT command will cause the PTSS or PTXL 'device-ready' DSR-output to go to a low state for two seconds causing the modem to hang-up. On the caller's end, the originating modem will disconnect due to loss of carrier. This disconnection may generate 'noise' which may trigger 'jibberish' to appear on the terminal screen; this 'jibberish' will not have any negative effect to the PTSS or PTXL.