

Appendix D

Fault Isolation Procedure

FAULT ISOLATION PROCEDURE

This diagnostic test procedure and the indicator lights built into the modem allow a rapid check of the terminals, modems, and telephone line interface. This procedure can be used to verify normal system operation and to isolate faulty equipment in case of failure.

Ensure the units are turned on and remote loops are enabled at both sites before starting the fault isolation procedure.



Note

In some cases the observer must distinguish between rapid LED blinking and steady on in tests.

Telephone Interface

1. Connect the modem to the dial-in line via the LINE jack on the back panel.
2. If the dial line is installed with a standard permissive data jack, connect a standard telephone to the AUX jack on the back panel of the modem and use the standard telephone procedure.

If the dial line is installed with an exclusion key telephone wired for data set controls the line, connect an exclusion key telephone to the RJ36X jack and use the exclusion key phone procedure.

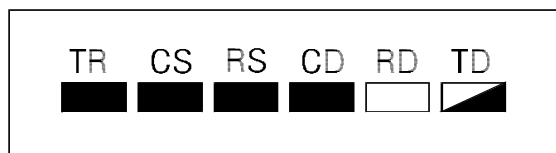
Standard Phone

1. Configure the modem to V.34 28800 IDLE mode by pressing the TALK/ DATA button, and then lift the receiver. No dial tone is heard. Press the TALK/DATA button to display V.34 IDLE and wait for dial tone.
2. Dial out; the phone should operate normally.

MODEM AND TELEPHONE LINE CHECK

Step 1

- a. Configure the modem for LOCAL ANALOG LOOP WITH TEST PATTERN. This terminates the local modem telephone lines into 600 ohms and connects the local modem transmit output amplifier back to its own receiver through the AGC. Transmit input data from the terminal is inhibited and is substituted with a V.52 test pattern.
- b. This test checks operation of the local modem modulator and demodulator circuitry and should be attempted at both local and remote sites if operators are available.
- c. When random errors are present, the TEST PATTERN ERRORS display counts receive errors.
- d. If the circuitry is working properly, the front panel indicators show the following:

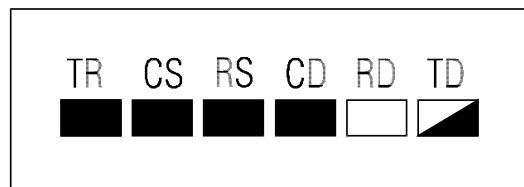


- e. Configure the modem for LOCAL ANALOG LOOP to switch the transmitter back to its normal data input.
- f. If the transmit data input is in a mark hold condition, both the TD and RD indicators should remain off.
- g. If the transmit data input is in a space hold condition, both the TD and RD indicators should come on. All other indicators should remain the same.
- h. If the indicators are correct, the modem is probably operating correctly.
- i. If the preceding tests were not successful, call Technical Services.

Step 2

This step determines the performance of the local and remote modems and the telephone circuits. It also determines each modem's ability to receive a transmitted signal from the other site, properly equalize and decode the signal and then loop this regenerated signal into the transmitter for transmission back to the other modem. This test applies to both leased line and dial line operation.

- a. Configure the local modem for REMOTE DIGITAL LOOP WITH TEST PATTERN. This signals the remote modem to go into digital loop. The remote modem receives and then retransmits the data back to the local mode. If the digital bilateral loop is enabled at the remote, the remote DTE is looped back to itself.
- b. An alternative to the above procedure is to request the operator at the remote modem to configure his modem for LOCAL DIGITAL LOOP. Configure the local modem for TEST PATTERN. The remote modem receives and retransmits the data back to the local modem.
- c. The TEST PATTERN ERRORS display will count received errors.
- d. At the local modem, the indicators should be:



- e. To further test the modem and communications link, reverse the system loopback. First exit the existing loopback test. Reverse the roles of the local and remote modems and repeat step two.



Note

If the bilateral digital loop is enabled at the local modem, the DTE interface is looped to itself and permits the DTE to check the interface circuitry as well as itself.