V.3225 and V.3225L Manual

Compliments of

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Chapter 1
Introduction

GENERAL

The UDS V.3225 and the V.3225L are versatile high speed modems that can operate full duplex on both dial-up and leased lines. The modems are compatible with all required standards and recommendations and it offers a wide variety of automatic, remote, and backup capabilities. The most notable characteristics are MNP error control protocols through level 5 data compression. Other special features include a V.25 bis autodialer, secure operation, and trellis coding for improved signal-to-noise performance.

The modem operates at data rates of

- 9600 bits per second trellis-coded, as stated in CCITT recommendation V.32

- 9600 and 4800 bps uncoded, as stated in CCITT recommendation V.32

- 2400 and 1200 bps compatible with CCITT recommendation V.22 bis

- 300 bps as stated in Bell specification 103*

DESCRIPTION
Functional

The V.3225 / V.3225L processes 19200, 9600, 4800, 2400, 1200, or 300 bps of serial asynchronous data or 9600, 4800, 2400, or 1200 bps synchronous data for transmission over the dial-up telephone network and 2- or 4-wire dedicated leased lines. In 9600 bps trellis mode, near- and far-end echo canceling combine with 8 state, 2-dimensional trellis coded modulation to maximize modem performance, even on lines of reduced quality.

* 4-wire leased line mode supports 4800 and 9600 rates only.

Integral test features allow the operator to determine system performance and isolate faults in the communications link.

The front panel or the AT or V.25 command set controls a wide variety of modem operation configurations. Changes between different modes of operation can be made easily and rapidly.

A security scheme prevents unauthorized access by a remote modem.

The V.25 bis autodialer broadens compatibility with host equipment.

Physical

The modem is a standalone desktop unit. Operator inputs are via three front panel pushbuttons, YES, NO, and TALK/DATA, or by AT or V.25 bis command set (the "L" model only has the TALK/DATA button). Operating options are stored in nonvolatile memory. A menu driven, 32-character liquid crystal display (LCD) provides the operator with command feedback as well as real time displays of unit operation. Modem and DTE operation can be monitored by six light emitting diodes (LEDs) and the display status screen on the front panel. Figure 1-1 shows the LCD front panel and Figure 1-2 shows the non-LCD "L."

The rear panel (Figure 1-3) contains an EIA-232 connector for DTE interface, an 8-pin (TELSET / LEASED LINE) connector, an 8-pin (DIAL) connector, and the ON / OFF toggle switch, the fuse and power cord are also on the rear panel.

Internally the unit includes two printed circuit boards and the AC line transformer. Hardware straps on the main board offer additional options.
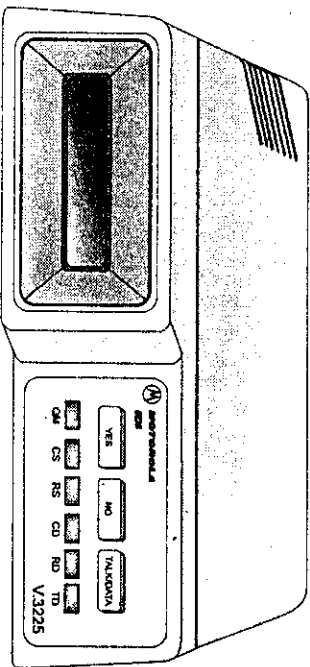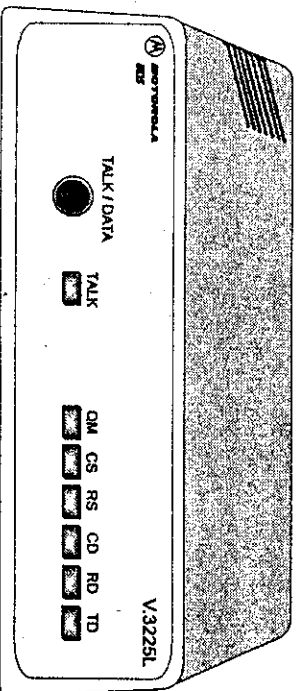
Figure 1-1
Front Panel

Figure 1-2
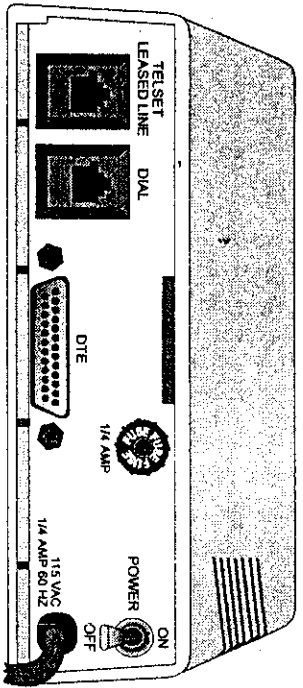*Typical Front Panel for "L" Model*

Figure 1-3
Rear Panel

Standard and "L" Models

The modem is available in two models: the standard and the "L" models. The "L" model does not have the LCD and pushbutton control panel so these functions are controlled by the AT command set. The "L" model also has an addit-ional TALK LED and TALK/DATA pushbutton. The LED is on in talk mode and off in data mode; the pushbutton selects between the two modes.

HOW TO USE THIS MANUAL

Most of the manual text applies to both the standard and the "L" products. Users of the non-LCD model can avoid Chapter 3 and smaller discussions of LCD and pushbutton operation throughout the manual. Discussions of LCD and pushbutton operation, however, do include valid operating information and can be consulted as desired.

Specifications

Modem specifications are listed in Appendix A.

Option Selection

Six methods of selecting or changing modem options are available. The major portion of this manual consists of the descriptions for using each method. The user need only be concerned with the method selected.

• LCD - Using the front panel LCD and pushbuttons for changing modem options is simple, straightforward, and requires the least amount of technical background.

• Software program - A wide variety of communication software programs is available, or advanced computer users can write their own software programs that will interact with the modem memory to select options.

• AT Commands - The AT compatible command set can be used to select modem options.

• S-Registers - A series of special ATS commands allows the operator to change the decimal or hexadecimal value of a memory byte thereby changing one or more options in that byte.

• Single Bit S-Registers - A second series of special ATS commands allows the user to change single bits within a byte thereby changing an option.

• V.25 bis Commands - A set of V.25 bis commands allows selection of modem options during synchronous operation.

Chapter 3 provides detailed information on using the LCD method. Chapters 5 and 6 provide detailed information on using the AT command and the S-register methods. Chapter 7 provides detailed information for using the V.25 bis commands. The software program method for option selection is not discussed in this manual.

Quick Startup

> *Note: Option selection via the LCD can be made without the DTE or phone line connected.*

A quick startup procedure at the beginning of Chapter 4 provides information for quickly getting online.

Chapter 2
Installation

GENERAL

This chapter provides information for the mechanical and electrical installation of the modem.

SITE SELECTION

Install the modem within 6 feet of a 115 or 230 Vac grounded outlet as required for the specific model and no farther than 50 feet from the terminal equipment.

The installation area should be clean and free from extremes of temperature, humidity, appreciable shock, and vibration. Refer to Appendix A for details. Allow clearance for operation and maintenance access and at least 4 inches at the rear for cables and air flow.

Tools Required

Normal installation requires a screwdriver to secure the data terminal equipment (DTE) cable to the modem and to attach the Telco cable to the phone jack for leased line operation.

Receipt Inspection

After unpacking the equipment, check the contents against the packing list. Inspect the equipment for any damage that may have occurred in shipment. If any damage or equipment shortage is noted, refer to the warranty literature. Keep the shipping container and material for future shipment.

ELECTRICAL INSTALLATION

The rear panel (Figure 2-1) houses the power cord and receptacles for interfacing the modem to the DTE and telephone lines.