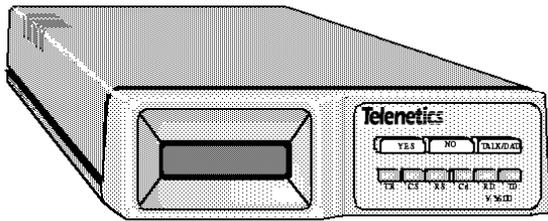


# Telenetics



## Quick-Start Guide V.3600 Series Modem

0049-1000-001

# Contact Information

For more information about the V.3600 modem or other Telenetics communication solutions, please contact us using any of the following methods.

## Voice Calls

To reach us, please call (949) 455-4000. Voice calls are answered from 8:00 am to 5:00 pm Pacific Time, Monday through Friday. Voice mail is available during non-business hours.

## E-mail

If you prefer, you can send information requests to our e-mail address: [sales@telenetics.com](mailto:sales@telenetics.com)

## Fax Number

You can also send your requests for information to our 24-hour fax number: (949) 455-4010.

## Web Site

Our Web site contains valuable information about our products. We encourage you to visit us at <http://www.telenetics.com>.

## Customer Support

Customer Support, the customer-satisfaction arm of Telenetics, is available by calling (949) 455-4000 or sending e-mail to [techsupport@telenetics.com](mailto:techsupport@telenetics.com)

# Chapter 1

## Introduction

This Quick-Start Guide describes how to get your Telenetics V.3600 Series Modem up and running in the shortest possible time. For detailed information about your V.3600 Series Modem, please consult the Telenetics V.3600 Modem User's Guide (TEL-T0097) or the CD-ROM supplied with your V.3600 Series Modem.

### Product Overview

The Telenetics V.3600 Series Modem provides synchronous and asynchronous data communications between a local computer and a remote computer or data terminal equipment (DTE) located anywhere a standard or cellular telephone can reach. Data can be transmitted over standard dial-up lines, private leased telephone lines, or wireless communication.

The V.3600 processes serial asynchronous data from a DTE at all standard rates from 300 bps to 230.4 kbps, and serial synchronous data at rates from 300 to 33,600 bps. (The 230.4 kbps DTE speed is available, but the V.3600 will not autobaud to 230.4 kbps.) Transmission can occur over dial-up lines or either 2- or 4-wire leased lines. The maximum line speed is 33,600 bps.

The V.3600 can also be used with a Class 1 Fax software package to exchange fax documents at data rates up to 14,400 bps with any Group 3 fax machine or PC with a fax modem.

The V.3600 boasts advanced error control and data compression to ensure data integrity and increase data throughput. It also has built-in test features that can determine system performance and isolate faults in the data link. In addition a high-level security feature allows secure operation of the modem, both locally and remotely. Operation and configuration are controlled by a front-panel LCD, the AT command set, or the V.25bis command set.

## Getting Started

# Features

### Data Mode

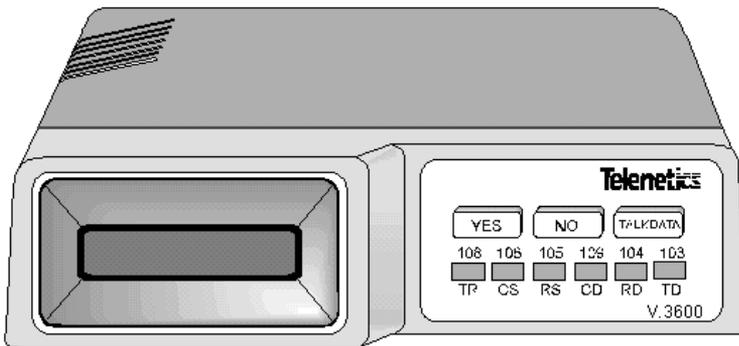
- ❖ Full-duplex operation on 2-wire public connections, or 2-wire or 4-wire private telephone connections with 2-wire public automatic or manual backup
- ❖ 300, 1200, 2400, 4800, 7200, 9600, 12000, 14400, 16800, 19200, 21600, 24000, 26400, 28800, 31200, 33600 bps synchronous or asynchronous DCE data rates

### Fax Mode

- ❖ Fax speeds to 14,400 bps
- ❖ Standard Class 1 interface conforms to EIA-578
- ❖ Group 3 compatibility: CCITT V.21 Channel 2, V.27 ter, V.29, V.17
- ❖ Automatic fax/data detection

## Front Panel

Figure 1-1 shows the front panel of the V.3600 modem.



**Figure 1-1. Front Panel of the V.3600 Modem**

# Chapter 2

## Installation

This chapter describes how to install the V.3600 modem.

### Connecting a DTE

The back panel of the V.3600 modem has a 25-pin D-series DTE connector that conforms to EIA-232 specifications. You must use a shielded DTE cable to comply with EMC requirements.

### Connecting to the Telephone Line

The V.3600 modem operates in either dial-up or leased-line mode.

#### ***Dial Mode: PSTN Connection***

The public switched telephone network (PSTN) is a 2-wire dial network. Modems are registered with the Federal Communications Commission (FCC) for direct connection to the PSTN. The label on the chassis bottom gives the FCC registration number and other information required for network operation.

Figure 2-1 shows the modem directly connected to the PSTN. The line connects to the modem at the 8-position **DIAL** jack.

## Installation

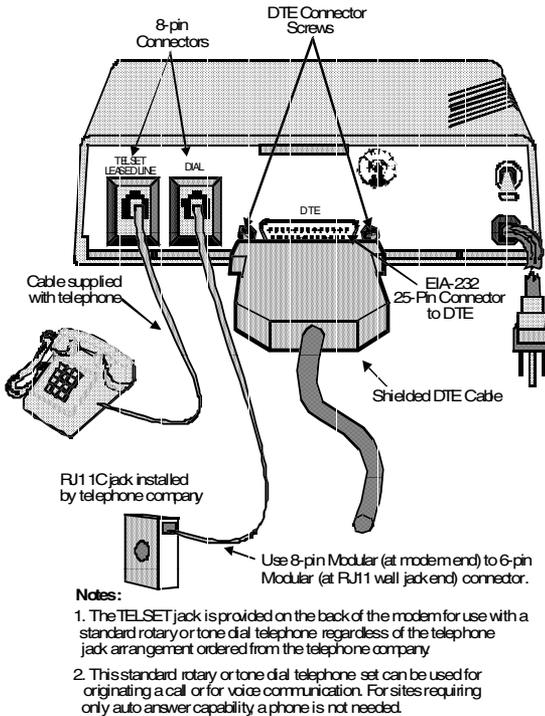


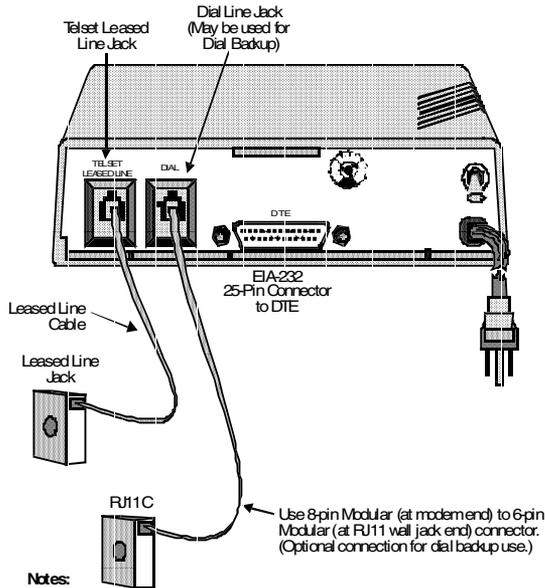
Figure 2-1. Dial-up Connection (115 Vac Model)

### Leased Line Connection

Private or leased lines use 4-wire or 2-wire lines. In this mode, you configure the modem for 4-wire or 2-wire operation, depending on the private line service used. The telephone company will install the leased line and wall jack at your site. The line connects to the modem at the 8-position **TELSET/LEASED LINE** jack.

Figure 2-2 shows a typical modem hookup for operation over private leased lines with dial backup.

## Connecting to a Power Source



### Notes:

1. Set the transmit output level to 0dBm.
2. DTR, which is the signal on pin 20 of the DTE interface, must be active or the option DTE IGNORED must be set for 2-wire OR 4-wire leased line operation.
3. The connection shown includes dial backup. Connect only the leased line to the modem's Telsel jack for regular Leased-line use.
4. For a 2-wire Leased-line connection, Pins 1 and 2 of the Leased-line connection are used for Tx and Rx data. For a 4-wire Leased-line connection, Pins 1 and 2 are used for Tx, and Pins 7 and 8 are used for Rx.

Figure 2-2. Leased-Line Connection (115 Vac Model)

## Connecting to a Power Source

### AC Power Connection

Power is supplied through a 6-foot line cord, with a grounded 3-wire plug.

#### **WARNING:**

**Be sure the input AC voltage matches the AC voltage rating on the back panel of the V.3600 modem. Otherwise, the modem will be damaged permanently.**

## Installation

### DC Power Connection

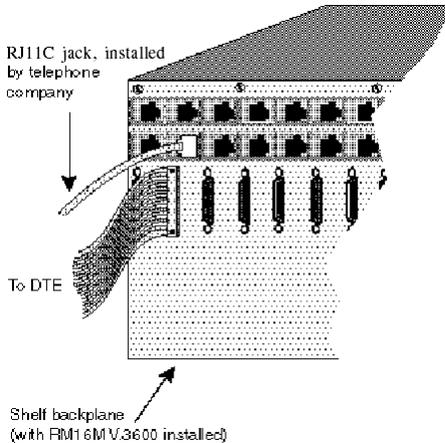
To protect the DC-to-DC converter from damage, ensure the positive and negative leads are properly connected.

If the modem is equipped for 12-53 VDC power input, connect the power to the terminal block attached to the modem back panel. A chassis ground connection is also supplied on the terminal block.

### Shelf-Mounting RM16M V.3600 Installation

The shelf-mount RM16M V.3600s should be installed or replaced by persons familiar with shelf-mount installation. The unit has an edge connector that inserts into a receptacle located on the backplane and power bus.

Figure 2-3 shows a typical dial-up connection using one of the most common rack shelves. Connect cables as appropriate for any compatible RM16M shelf.



**Figure 2-3.RM16M Connections**

# Chapter 3

## Getting Started

This chapter describes how to start using the V.3600 modem.

### Selecting Options

There are six ways to change or select options:

- ❖ LCD — using the front panel LCD and pushbuttons is simple, straightforward, and requires the least amount of technical background.
- ❖ AT commands
- ❖ Status registers — a series of special ATS commands lets you change the decimal or hexadecimal value of a memory byte to change one or more options in that byte.
- ❖ Single bit status registers — a second series of special ATS commands lets you change single bits within a byte to change an option.
- ❖ V.25bis commands — an extended set of V.25 commands allows selection of modem options during synchronous operation.
- ❖ Software program — a wide variety of software programs is available, or advanced computer users can write their own software programs to interact with the modem.

The Telenetics V.3600 Modem User's Guide describes the first five ways to change and select options. For information about using a

## Getting Started

software program to change or select options, refer to the manual that came with the software.

## Powering-Up the Modem

A power-up procedure is not required. Turn on the modem using the ON/OFF power switch on the rear panel. The modem is factory configured to operate in most public switched telephone applications. If you have stored a desired option set it will be automatically be restored at power-up.

## Placing a Call

There are three ways to place a call. The following sections describe these methods.

### ***Dialing with a Standard Telephone***

To place a call using a standard telephone:

1. Lift the telephone receiver. Wait for the dial tone.
2. Dial the number of the remote site.
3. When the answer back tone is heard, immediately press the **TALK/DATA** button and hang up the telephone. The modems go through a connection sequence and establish a data link. If a data link is not established, hang up the telephone receiver and return to step 1.
4. After the link is established, hang up the telephone.

### ***Auto-dialing from the Front Panel***

To automatically dial from the front panel:

1. If the number to be dialed has not been stored, advance to Main

### Menu #6, **CHANGE PHONE NUMBER.**

2. Enter the number by using the **NO** pushbutton to scroll the menu and **YES** to select.
3. After the number is entered, press **YES** to store the number.
4. Advance the LCD to Main Menu #2, **DIAL STORED NUMBER.**
5. Select the number to dial and press **YES**. The modem dials the number and the modems follow the same process as two telephones.

### ***Auto-dialing from a Terminal Using AT Commands***

To dial a number, for example 555-1212, type **AT D 555-1212** and press Enter, or enter **ATDSn** where *n* equals one of the stored telephone number locations 1-9.

The modem dials the number using either the pulse or tone dialing method, whichever is in effect, and takes the role of the originating modem.

For additional dialing commands, refer to the Telenetics V.3600 Modem User's Guide.

## **Answering a Call**

There are three ways to answer a call. The following sections describe these methods.

### ***Auto-Answering Calls***

Normally, the modem is configured to automatically answer calls on the first ring. If a telephone is plugged into the **TELSET/LEASED LINE** jack, the telephone will ring.

## Getting Started

### ***Answering Calls Manually***

When the modem detects an incoming ring, the modem LCD displays the ringing status. Press **TALK/DATA** to answer the call and place the modem in the data mode.

### ***Answering from a Terminal Using AT Commands***

When the modem detects an incoming ring, the modem displays the ring response. To answer a call, type **ATA** and press Enter. The modem sends an answer-back tone and attempts to connect to the remote modem.

## Ending a Call

There are two ways to complete a call. The following sections describe these methods.

### ***Ending a Call Using the Front Panel***

To end a call using the front panel:

1. Press the **TALK/DATA** pushbutton. The message **DO YOU WANT TO DISCONNECT** appears.
2. Answer **YES**.

### ***Ending a Call from a Terminal with the AT Command Set***

To end a call using the AT command set:

1. Type **+++** and the modem will enter command mode.
2. Type **ATH** and press Enter to have the modem terminate the call.

# Chapter 4

## Using the Front Panel

The V.3600 modem has a liquid-crystal display (LCD) front panel that provides easy real-time access to modem configuration and status. You can use the LCD at any time to modify modem options or to get information about modem operation and status. All of the major modem options can be controlled through the LCD interface without an external terminal or phone line connection. Operation of the LCD can be secured using a password protection feature. A remote modem can even be configured using the local LCD, through the use of the front panel remote configuration feature.

### LED Descriptions

Table 4-1 describes the V.3600 LED indicators.

**Table 4-1. V.3600 LEDs**

<b>LED</b>	<b>Meaning</b>	<b>Description</b>
TR	Terminal Ready	Lights when the DTE asserts Data Terminal Ready. This signal is input on pin 20 (CCITT V.24/108.2).
CS	Clear To Send	Lights when the modem is ready to send data to the DTE. This signal is output on pin 5 (CCITT V.24/106).
RS	Request To Send	Lights when the DTE is ready to send data to the modem. This signal is input on pin 4 (CCITT V.24/105).
CD	Carrier Detect	Lights when the received audio carrier signal is detected or, if enabled, when error control protocol negotiation is complete. This signal is output on pin 8 (CCITT V.24/109).

## Using the Front Panel

LED	Meaning	Description
RD	Received Data	Lights for a data space condition at the receive data output, indicating receive data output activity. This signal is output on pin 3 (CCITT V.24/104).
TD	Transmit Data	Lights for a data space condition at the transmit data input, indicating transmit data input activity. This signal is input on pin 2 (CCITT V.24/103).

## LCD Menus

The V.3600 has seven LCD menus that support modem operations:

- ❖ **MODEM STATUS**
- ❖ **DIAL STORED NUMBER**
- ❖ **DISPLAY STATUS**
- ❖ **SELECT TEST**
- ❖ **MODIFY CONFIGURATION**
- ❖ **CHANGE PHONE NUMBERS**
- ❖ **FRONT PANEL FEATURES**

### ***LCD Menu and Push-button Operation***

You can use the V.3600 LCD and the three push-buttons on the front panel to select and change the modem's configuration.

**Table 4-2. LCD Menu and Push-button Operation**

To...	Press This Push-button...
Scroll vertically through the menus to select the appropriate menu category.	<b>NO</b>
Scroll horizontally through the submenus.	<b>YES</b>
Redisplay the previous menu.	<b>TALK/DATA</b>

For a complete list of the menu options, refer to the Telenetics V.3600 Modem User's Guide.