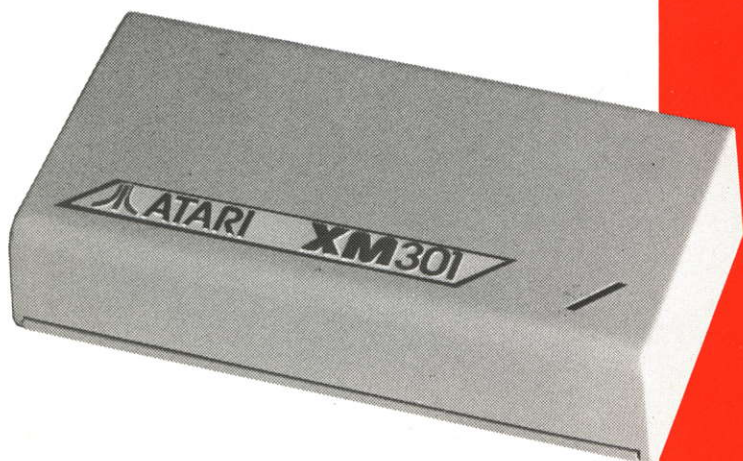# ЛATARI® XM301™
MODEM
With XE TERM™ COMMUNICATIONS PROGRAM

OWNER'S MANUAL

Warning

Like any electrical appliance, this Modem uses and produces radio frequency energy. If it's not installed and used properly according to the instructions in this guide, the equipment may cause interference with your radio and television reception.

The Modem has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of the FCC rules. These rules are designed to provide reasonable protection against such interference when the equipment is used in a residential setting. However, there is no guarantee that interference will not occur in a particular home or residence. Operation with noncertified peripherals is likely to result in interference with radio and TV reception. Shielded cables should be used on all I/O connectors, otherwise radio emissions may exceed FCC Class B limits.

Important Information on FCC Requirements, and Radio and Television Interference is located in Appendices E and F of this manual.
XM301 Modem owners are requested to look over this information.
XE Term was develped for ATARI CORP. By star systems software, Inc.

ЛATARI®

⅃ᴧ ATARI® **XM**301™
MODEM
With XE TERM™ COMMUNICATIONS PROGRAM

OWNER'S MANUAL

INTRODUCING THE XM301 MODEM AND XE TERM

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Your ATARI XM301 Modem and XE Term communications program transform your ATARI Computer into a powerful communications station that links you to an almost infinite variety of information resources. Databases, business and financial services, bulletin board systems, and even other personal computers are all available to you through your XM301 Modem.

How do you link up with another computer or information system? Easy – just type in the correct phone number that connects you to the other system. Your modem and communications software handle the rest for you. Once you have your modem set up, you have instant access to the Atari Bulletin Board System and a free online tutorial from The Source™.

Your XM301 Modem is the hardware that links your ATARI Computer to another computer system through the telephone lines. The word "modem" is a shortened form of the words MOdulation and DEModulation which describe how your modem transfers the digital electrical signals used by the computer to the analog signals used by the telephone. The XE Term communications program is the software that makes your modem "smart", giving it the intelligence to understand and manipulate the information into a form you can use.

HOW TO USE THIS MANUAL

This manual is arranged for easy access to all the information you need to set up your modem and go online. Spend a few moments to look over the manual, then set up your modem and take advantage of the free access to the information services included with your XM301 Modem. It is especially important that you follow the instructions in Chapter 1 on making a back-up copy of your XE Term Program Disk and look over the FCC Requirements for your modem in Appendices E and F.

Chapter 1, **Getting Started,** shows you how to hook up your modem, load the XE Term program, and make a back-up copy of the XE Term Program Disk. The main menu of the XE Term program is also introduced.

Chapter 2, **Going Online,** gets you connected to another computer. The process of dialing and connecting with another computer system is explained in detail.

Chapter 3, **Sending and Receiving Files,** is a step-by-step introduction to the procedures for sending and receiving text and data files.

Chapter 4, **Managing Your Files,** demonstrates how to use the File Utilities Menu of XE Term and shows how simple it is to take care of all your disk and file management chores with the XE Term program.

Chapter 5, **Advanced Features,** explains the Automatic Log-On feature of XE Term, the Options Menu where XE Term's communications protocols can be modified, and how to access the Technical Software Specifications Document and device handler that are stored on the XE Term Program Disk.

The Appendices provide a host of supplementary information. A Glossary, Modem Specifications, Troubleshooting Guide, and ASCII Character Code Chart for the advanced user are provided. Appendices E and F outline the FCC Requirements and offer helpful hints on radio and television interference. And should you need additional information, refer to the ATARI Customer Support section.

TABLE OF CONTENTS

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

CHAPTER 1
GETTING STARTED

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

UNPACKING YOUR XM301 MODEM

When you open the box containing your XM301 Modem, you will find the following items:

- ATARI XM301 Modem
- XE Term Program Disk
- Owner's Manual
- Warranty Card

If any of these items are missing, contact your ATARI Computer retailer.

Minimum System Requirements

Before you begin using the XM301 Modem and the XE Term communications program, be sure you have the following items:

- ATARI 130XE™, 65XE™, 800XL™, or ATARI 800™ Computer (with a minimum of 48K RAM)

- Television or monitor (black and white, or color)

- ATARI Disk Drive

- XM301 Modem

- Telephone Cord

- XE Term Program Disk

You can also use the XM301 Modem and the XE Term program with a printer.

Note: You cannot use the XM301 Modem with an ATARI 1200XL™ Computer unless it has been modified. Contact your local Atari Service Center for information on modifying your 1200XL Computer.

HOOKING UP YOUR XM301 MODEM

Hooking up your modem is easy. Follow these steps to connect your XM301 Modem to your ATARI Personal Computer System:

1. Turn off the power to all components of your computer system.

2. Plug the modem's interface cable into one of the jacks marked I/O CONNECTORS on the back of your disk drive or printer.

Note: The modem must be the last component in the daisy chain of components.
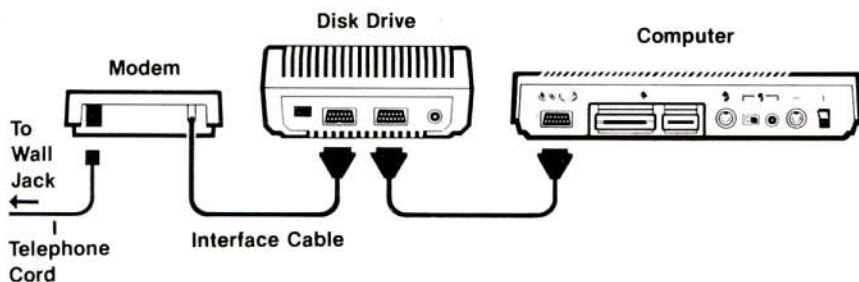
3. Plug one end of the telephone cord into the phone jack on the back of your XM301 Modem and the other end into a telephone wall jack.

Your XM301 Modem is now ready to be used with the XE Term program. When you load the XE Term program, you'll be ready to communicate with other computers and information systems.

LOADING THE XE TERM PROGRAM

Your XE Term program is on a self booting disk. The new ATARI DOS 2.5 is resident on the disk, so you can start your ATARI System without having to use a DOS Master Disk.

Follow these steps to load the XE Term program:

1. Turn on your television or monitor and your disk drive. (Make sure that there is no cartridge in your computer and no disk in the disk drive.) The BUSY light on the disk drive goes on for a few seconds.

Caution: Never insert or remove a disk in your disk drive while the drive's BUSY light is on.

2. When the BUSY light goes off, remove the XE Term Program Disk from its protective paper sleeve and insert it into your disk drive with the label nearest you and facing away until it clicks into place. Then turn the latch on the disk drive to the closed position.

Note: If you have more than one disk drive, the XE Term Program Disk must be in Drive 1.

3. Turn on your computer. The disk drive's BUSY light goes on and the drive makes a clicking sound.

The XE Term copyright information appears on your screen for a few moments as the program is loading. Then the Functions Menu is displayed on the screen.

```
Buffer size: 14752

Functions Menu
Send XMODEM       Dialing . . .
Receive XMODEM    File utilities
Capture text      1 - 8 directories
Upload text       Quit to DOS
        Your selection ? ■
```

The Functions Menu is the main menu of the XE Term program and the starting point of all your telecommunications activities with the program.

Note: If you get a boot error when you load your XE Term Program Disk, refer to your *ATARI DOS 2.5 Manual*.

MAKING A BACK-UP DISK

Before you start using the XE Term Program, you should make a back-up copy of the XE Term Program Disk. Use the back-up copy as your working disk. If the working copy gets damaged, you can always make another back-up copy from the original program disk.

Follow the instructions below to make a back-up copy of your XE Term Program Disk:

1. Load the XE Term program.

2. Press **Q** to select the Quit to DOS function from the Functions Menu and follow the prompts.

3. When the DOS Menu appears on the screen, press **J** and then press [Return].

The screen prompts:

DUP DISK - SOURCE, DEST DRIVES?

4. Type **1,1** and press [**Return**].

The screen prompts you to insert the source disk and press [Return].

5. Make sure that the XE Term Program Disk is inserted in the drive and press [**Return**].

The disk drive "reads" the information in the source disk. Then DOS prompts you to insert the destination disk.

6. Remove the XE Term Program Disk from the drive and insert a new, blank disk.

7. When the drive's BUSY light goes off, press [**Return**].

The screen asks if it is OK to use the program area.

8. Type **Y**.

DOS duplicates your XE Term program disk onto the back-up disk. When the prompt SELECT ITEM OR RETURN FOR MENU appears, the duplication process is complete.

Store the original XE Term Program Disk in a safe place. Use the back-up disk for daily operation of the program. You should label your back-up disk "XE Term Back-Up Copy" or "XE Term Working Copy".

Note: You may also back up your XE Term disk by loading a DOS disk into your computer and calling up the DOS Menu. Then follow instructions 3 through 8 above. However, be sure to insert the XE Term Program Disk into Drive 1 before executing the DOS DUPLICATE command.

XE TERM FUNCTIONS MENU

Once you've loaded XE Term into your computer, the Functions Menu appears on your TV or monitor screen. Each of the items on the Functions Menu is briefly introduced below.

```
         Buffer size: 14752

 Functions Menu
 Send XMODEM      Dialing . . .
 Receive XMODEM   File utilities
 Capture text     1 – 8 directories
 Upload text      Quit to DOS
         Your selection ?
```

4

Send XMODEM
Receive XMODEM

This pair of commands lets you send and receive files between
your computer and another using the XMODEM error-checking
protocol. For an explanation and detailed information on using
XMODEM, refer to Chapter 3, **Sending and Receiving Files**.

Capture text
Upload text

This pair of commands lets you send and receive files. These com-
mands are the most commonly used for transferring letters and
lists. See Chapter 3, **Sending and Receiving Files**, for more
information.

Dialing . . .

The Dialing Command gives you access to the Dialing Menu
where you dial other computers and build your own personal
phone book of telephone numbers. See Chapter 2, **Going Online**.

File utilities

This command gives you access to the File Utilities Menu. You
can perform the DOS functions of Lock, Unlock, Rename, Delete,
and see a Disk Directory from this menu without leaving the XE
Term program.

1-8 directories

Press a number from 1-8 and see the directory of the disk without
leaving the Functions Menu.

Quit to DOS

The Quit to DOS command exits the XE Term program and brings
up the complete ATARI DOS 2.5 Menu.

Your selection ?

This prompt invites you to choose a menu option. To select an
option, press the highlighted letter that begins that function's name.

Some of these functions start as soon as you select them from the
Functions Menu. Others call up different XE Term menus that offer
a new list of choices.

Buffer size: 14752

When you are using the XE Term program, it automatically sets aside a special area in memory called a buffer for use with the Capture Text and Upload Text functions. The size of that buffer (in bytes) is printed at the top of the screen. When you use either function, the buffer size reappears at screen top, and is updated so that you're always aware of the remaining free buffer space. If you're capturing text and the number shrinks below 1000 bytes, it's a good idea to save your text and clear the buffer before continuing.

LEAVING XE TERM

There are two ways to exit from the XE Term program.

If you do not want to use DOS, follow these instructions:

1. Go to the Functions Menu. If you are online, press [Select]; otherwise press [Return].

2. Turn off your computer and remove the XE Term Program Disk from the disk drive.

If you want to use DOS, follow these instructions:

1. Go to the Functions Menu. If you are online, press [Select]; otherwise press [Return].

2. Press Q (Quit to DOS).

The screen prompts:

Sure (Y/N)?

3. Press Y.

The screen displays the ATARI DOS 2.5 Menu.

You may then use the DOS commands or exit DOS by turning off the computer.

RETURNING TO XE TERM

If you want to return to XE Term after you are finished using DOS:

1. Turn off your computer.

2. Make sure the XE Term Program Disk is still in Drive 1.

3. Reload the XE Term program by turning on your computer again.

CHAPTER 2
GOING ONLINE

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

ONLINE SERVICES

There are three general types of systems you will probably go online with once you have your XM301 Modem set up and operating:

- Bulletin Board Systems (BBS)

- Information Services

- Other Personal Computers

Bulletin Boards and Information Services

For most bulletin boards and information services, your ATARI Computer System, complete with the XM301 Modem and the XE Term communications program is ready to go online. All you need are the telephone access number of the services and in some cases a user ID and password.

ATARI BBS

If you want to go directly online as you work through the examples in this manual, you can call the ATARI BBS in California. The number is 408/745-5308. The ATARI BBS is active 24 hours a day and will let you make contact online, as well as upload and download files.

For more information on local bulletin boards throughout the country, contact your local Atari User Group. Refer to the Customer Support section at the end of this manual for information on how to find the nearest Atari User Group.

A few bulletin boards require special settings for telecommunications attributes, such as parity and duplex mode. If a bulletin board requires non-standard values, it will provide them to you. The XE Term program has an Options Menu that lets you adjust these telecommunications attributes. To learn how to use the Options Menu, read the Options Menu section of Chapter 5. In a few quick steps, you can change the telecommunications attributes and begin dialing.

Personal Computers

The XM301 Modem can talk to other ATARI Computers, as well as non-Atari personal computer systems. The other computer must have a modem and some kind of communications software. The modem may not be an XM301—that's no problem. However, the other system will need to know that the XM301 Modem has a baud rate of 300.

Unlike information services and BBS's, other personal computer users are not always available and waiting for you to call them. You and the other personal computer user must set up a specific time to connect online. You also must decide who will make the call and who will set up to receive it.

Also, unlike bulletin boards and information services, communicating with either another ATARI Computer or any other personal computer will require changing the telecommunications attributes set for the XE Term program.

To communicate with another personal computer, follow these instructions:

1. Start at the Functions Menu. Press **O**. The screen displays the Options Menu.

```
┌─────────────────────────────────────┐
│ Options menu                        │
│ Input parity   -   now:  NONE       │
│ Output parity  -   now:  NONE       │
│ Left margin    -   now:  2          │
│ Duplex mode    -   now:  FULL       │
│ Translation    -   now:  ASCII      │
│      Your selection ?  ■            │
└─────────────────────────────────────┘
```

The Options Menu keeps track of the XE Term communications attributes. For detailed information on the options, see Chapter 5, under the Options Menu heading.

2. Press **D**.

The line, Duplex mode, switches from FULL to HALF. If you press D again, it will switch back to FULL. Press D until HALF is displayed.

When you use the half-duplex mode while communicating with another personal computer, the screen will display everything you type on the keyboard and everything the other user types. If you left the attribute on FULL duplex, you wouldn't see anything on the screen when you type. In other words, half-duplex tells your computer to display characters you type on screen; full-duplex tells it to display only what the other user types.

Caution: The standard default value for this attribute is FULL duplex. This is because most information services and bulletin boards automatically display all characters—those you enter and those it sends. If you change the attribute to HALF duplex and *then* call a service, you'll see every character twice. The service displays each character once and your computer displays it once.

Before you call an information service or BBS, be sure to change this attribute back to FULL.

3. If you are communicating with another ATARI Computer, press **T**.

The Translation line switches from ASCII to ATASCII. If you press **T** again, it will switch back to ASCII. Press **T** until ATASCII is displayed. ATASCII is the special character translation code used by ATARI Computers.

Caution: The standard default value for Translation is ASCII. This is because all other computers use the ASCII translation code. Before you call any system that is not an Atari, be sure to change this attribute back to ASCII.

If you are communicating with a non-Atari computer go to Step 4.

4. Press [Return].

The screen displays the message:

Save configuration to disk Y/N?

If you intend to continue communicating only with other personal computers after this session, press **Y**. The XE Term program stores the new attributes on disk. These will remain your attributes until you go back to the Options Menu and change them.

If you intend to call other services or BBS's after this session, press **N**. The XE Term program uses these values until you leave XE Term. The next time you start up XE Term, the original default attributes will return.

The screen displays the Functions Menu.

5. Decide whether you or the other computer user will initiate the call.

If you will make the call, go to the Dialing Menu (press **D**) and dial the other computer.
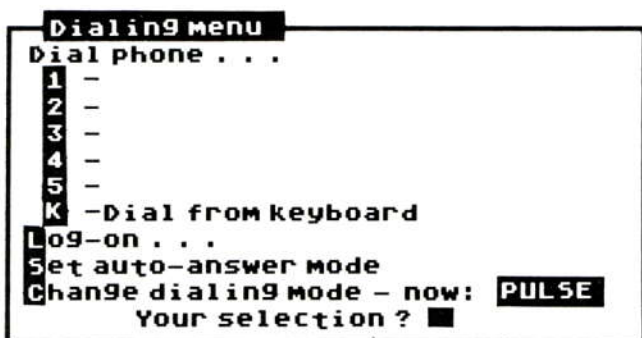
If the other computer user will make the call, go to the Dialing Menu (press **D**) and select the Set auto-answer mode command (press **S**). XE Term sets up to receive the call.

THE DIALING MENU

After you have the correct telecommunications attributes set in the Options Menu, you are ready to dial and go online. XE Term provides a Dialing Menu that makes connecting online easy. You can call another computer automatically, dial by typing the phone number, or set up to wait for another computer to call you.

To reach the Dialing Menu, start at the Functions Menu. Then press **D** (**Dialing . . .**).

The Dialing Menu appears.

```
┌──────────────────────────────────────┐
│ ██Dialing menu██                      │
│ Dial phone . . .                      │
│ █1█ -                                 │
│ █2█ -                                 │
│ █3█ -                                 │
│ █4█ -                                 │
│ █5█ -                                 │
│ █K█ -Dial from keyboard               │
│ █L█og-on . . .                        │
│ █S█et auto-answer mode                │
│ █C█hange dialing mode - now: ██PULSE██│
│        Your selection ? ██            │
└──────────────────────────────────────┘
```

If you want to return to the Functions Menu, make sure you are not currently performing a dialing task, then press **[Return]**.

Dialing Mode

Before you start making calls, you need to tell XE Term whether you have a rotary or touch-tone phone. To adjust your dialing mode, follow these instructions:

1. Go to the Dialing Menu. Look at the line that begins, Change dialing mode. You will see the word PULSE or TONE at the end of that line.

Press **C**.

The word switches from PULSE to TONE, or from TONE to PULSE.

2. Adjust your dialing mode by pressing **C** until the correct choice appears. Rotary phones use PULSE; touch-tone phones use TONE.

3. Press **[Return]**.

The screen prompts:

Save configuration to disk Y/N?

4. Type **Y**.

XE Term saves your dialing mode in a disk file that keeps track of your Dialing Menu information. Unless you change phones, you do not have to adjust the dialing mode again.

DIALING FROM THE KEYBOARD

The easiest way to dial another computer is to use the Dial from keyboard option.

Before you start, make sure the sound on your TV or monitor is turned on. It will help you tell whether you got a busy signal or have reached the other party.

If you are calling a bulletin board or information service that requests log-on information before starting to communicate with you, be sure you have your log-on information at hand. (Most log-on information includes a user ID and password.)

Follow these instructions to dial from the keyboard:

1. Go to the Dialing Menu. When the Dialing Menu appears, press **K**.

XE Term displays a "scratchpad" on which you type any number you like. Later you'll send that number to the modem.

2. Type the phone number. If you use 9 to dial an outside number, type:

9,

followed by the phone number. Be sure to include the comma. You can put the area code in parentheses and include dashes if you like. Use the **[Delete Bk Sp]** key or the **[Control]** with the arrow keys to correct mistakes.

The next time you use the Dial from keyboard option, the scratchpad will display this number again.

3. When the number is typed correctly, press **[Return]**.

The XM301 Modem dials the number. If you have a rotary phone, you will hear the pulses for each number. If you have a touch-tone phone, you'll hear the tones. When your modem reaches the other number, you will hear the phone ringing or a busy signal.

The Dialing Menu disappears. Your screen prepares to receive messages from the other computer.

CONNECTING ONLINE TO ANOTHER COMPUTER

If the screen displays the message:

Carrier detected!

you have connected online to the other computer. Your ATARI Computer now functions as a remote terminal in the other computer system.

After a few seconds the screen will display the first message from the other system. Information services and many bulletin boards will ask for your log-on ID and password. Type the responses required by that system. You must obtain your log-on information from the service or bulletin board.

If you fail to connect, the screen displays the message:

No connection made!

after your modem dials the phone number. One of the following may have happened:

- The line was busy. If your system's sound is on, you will hear the busy signal.

- There was no answer. After a certain number of rings, XE Term hangs up and tells you no connection was made. Check the number you're trying to reach and try again.

- Your modem was not hooked up to your system properly. Check the cord connecting your modem to the drive or printer and make sure it is connected properly.

- The phone cord was not connected to the modem or wall jack. Check that the cord is connected properly.

The two commands—Press [Select] and Press [Return]—switch you back and forth between online communication and the XE Term Menus:

Press [Select]

XE Term temporarily halts communication and returns control to you. The screen displays the Functions Menu. By pressing [Select], you can use all the XE Term functions without having to disconnect from the other system.

Press [Return]

XE Term returns you to terminal mode—brings you back online to the other system.

To learn how to transmit files to and from other computer systems, see Chapter 3, **Sending and Receiving Files**.

Hanging Up

When you finish communicating with the other system, you may need to tell your modem to hang up the phone. In many cases, however, the other system will automatically disconnect for you. If necessary, follow these instructions:

1. While you are still online, press **[Select]**.

The screen displays the Functions Menu.

2. Hold down the **[Control]** key and press **H**.

Your modem disconnects the phone. The screen shows the message:

Connection lost!

THE XE TERM PHONE BOOK

You don't have to type the phone number each time you want to call another computer. XE Term comes with a ''phone book'' that lets you keep up to five telephone numbers. After you enter those numbers, you can dial them by pressing a single key.

Entering a Number in the Phone Book

To enter a number in the XE Term phone book, follow these instructions:

1. Go to the Dialing Menu. When the Dialing Menu appears, press a number from 1 through 5.

The screen prompts:

Edit or Dial?

2. Type **E**.

The screen displays a blank line next to the number you selected.

3. Type the phone number. If you use a 9 to dial an outside number, type:

9,

followed by the phone number. Be sure to include the comma. You can put the area code in parentheses and include dashes if you like. Use the [Delete Bk Sp] key or the [Control] with the arrow keys to correct mistakes.

XE Term ignores letters in the phone book, so you can include a name or comment that identifies the phone number. For example:

1 - [(408)699-1234 BILL'S NO.]
1 - [(408)745-5308 ATARI BBS]

You can include a maximum of 30 characters in one phone book entry.

4. When the number is entered correctly, press [Return].

XE Term places the number in your phone book.

```
┌─────────────────────────────────────────────┐
│ ▐Dialing Menu▌                               │
│ Dial phone . . .                             │
│  ▐1▌ - 1 [(408) 745-5308 ATARI BBS]          │
│  ▐2▌ -                                        │
│  ▐3▌ -                                        │
│  ▐4▌ -                                        │
│  ▐5▌ -                                        │
│  ▐k▌   Dial from keyboard                     │
│ ▐L▌og-on . . .                               │
│ ▐S▌et auto-answer mode                        │
│ ▐C▌hange dialing mode - now:  ▐PULSE▌         │
│         Your selection ? ■                    │
└─────────────────────────────────────────────┘
```
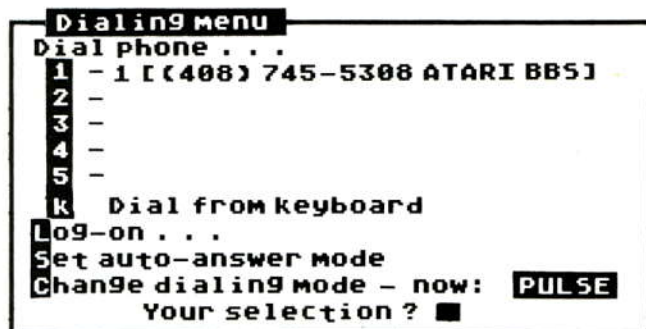
Dialing from the Phone Book

To dial using a number entered in the phone book, follow these instructions:

1. From the Dialing Menu, type the line number (1 through 5) to select the desired phone number.

The screen asks whether you want to Edit or Dial?

2. Type D.

The screen prompts:

Save configuration to disk Y/N?

This prompt appears only after you edit a phone book number. If you hadn't edited the number since you last used it, XE Term would begin dialing as soon as you typed D at the start of this step.

3. Type Y.

XE Term saves the telephone number in a disk file that keeps track of your Dialing Menu information. From now on, whenever you use XE Term, this phone number appears automatically in your phone book.

After the phone number is stored on disk, your modem begins dialing the other computer.

LETTING OTHER COMPUTERS CALL YOU

When you communicate with another ATARI or another personal computer, you may not always want to be the one to do the calling. The Dialing Menu has an option that lets other computers call your XM301 Modem.

To set up your XE Term to wait for an incoming call, follow these instructions:

1. Go to the Dialing Menu.

2. When the Dialing Menu appears, type S.

The screen displays this message:

Waiting for call. SELECT to abort.

You are now in "auto-answer" mode. That is, your XM301 Modem is waiting to receive a call from another computer. When another computer calls you, you can begin communicating online just as you would if you had done the calling.

3. To leave the wait-for-a-call mode, press **[Select]**.

The Dialing Menu appears again.

4. Press **[Return]**. The Functions Menu appears.

CHAPTER 3
SENDING AND RECEIVING FILES

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

FILE TRANSFER COMMANDS

After you connect online to another system, you will probably want to send and receive files. There are two kinds of files: data and text. You'll always want to transmit data files accurately, bit by bit. You may or may not need to be that particular when you transfer text files.

XE Term comes with two pairs of commands that transfer files. One pair:

Send XMODEM
Receive XMODEM

transfers files using XMODEM protocol, the error-checking procedure used most commonly in telecommunications.

You can transfer both data and text files using XMODEM protocol. So why not always use XMODEM? XMODEM is slower than transmitting without error-checking. Also, because each bit is checked as it is transmitted, you are more likely to get a transmission error with XMODEM. Then you would have to start over.

If you are transferring text such as letters, lists, airline schedules, and stock reports, it may be quicker and easier to use the second pair of commands:

Upload text
Capture text

Upload Text sends a specified file to the other system.

Capture Text differs from the other three commands, which only allow you to transfer discrete files that have already been defined.

You can use Capture Text not only to receive files, but also to save any information you see on the screen while you're online. Capture Text stores all information—characters you type as well as characters sent by the other system—from the moment you start the command to the moment you stop it.

XE Term holds the information in a temporary storage area of your computer's memory called the buffer. When you stop using the Capture command, XE Term saves the information in a disk file you specify.

17

You can go on typing information while Capture Text is operating. Capture Text creates a permanent record of a selected portion of your online communication.

You can use Capture Text to:

- Receive a discrete file (without error-checking)

- Save bulletin board messages, menus, and lists in a permanent file

- Keep a permanent record of your online communication

Before You Start Transferring Files

The four file transfer commands work the same for every system with which you communicate. However, before you begin transferring, you need to know what each particular system expects from you.

For example, information services and bulletin boards may have one area—one menu selection—in which you can transfer files. You need to know how to access that area or selection. Also, you need to know whether that system will send files with or without XMODEM protocol, and whether the system expects any special messages or commands from you before you transfer.

Contact the service and find out this information before you start transferring.

Exchanging Files with CompuServe

CompuServe uses its own unique form of error-checking when it transfers files—A-protocol. XE Term automatically recognizes A-protocol, so you can send and receive files to and from CompuServe as easily as any other service.

TRANSFERRING TEXT FILES: UPLOAD/DOWNLOAD COMMANDS

The procedure for sending and receiving files using the Upload and Download commands are identical, except that you choose the Upload Text command to send files and the Capture Text command to receive files.

Follow these instructions to send or receive files:

1. Dial the other system. When you connect online, go to the menu selection or area of the service or bulletin board which is set up to transfer files.

2. Press [Select].

XE Term temporarily stops communicating and the Functions Menu appears on the screen.

3. If you want to send a file, type **U**. This selects the Upload Text command.

If you want to receive a file or capture on-screen information, type **C**. This selects the Capture Text command.

The screen prompts:

File to upload: _____

or

File to capture: _____

4. Type the drive number and the name of the file. To send a file, specify an existing file. To receive a file, you can choose any name within the Atari file-naming conventions. For example, type:

D2:SCHEDULE

to send or receive a file named SCHEDULE on Drive 2. If you do not specify a drive number, XE Term uses Drive 1.

5. Press [Return].

XE Term returns you to terminal mode—brings you back online to the other system. The screen prompts you to Press START to begin transfer.

6. Be sure the other system is ready to begin transmitting or receiving the file. Then press [Start].

Caution: Do not press [Start] until the prompt, Press START to begin transfer, has disappeared. XE Term will not receive your [Start] command while the prompt is displayed. When you start uploading a file, the size of the file in bytes appears at the top of your screen. This number decreases as the file is sent, showing you how much remains to be sent.

After you press [Start], XE Term begins sending or capturing the file or information. The screen prompts:

Press SELECT to stop transfer

7. Press [Select] to interrupt sending a file or to finish receiving text.

Caution: The [Select] command does not work while the prompt, Press SELECT to stop transfer, is displayed.

If you are sending a file, you simply have to wait until the file transfer ends. When XE Term finishes sending the file or when you press [Select] to finish receiving text, the screen displays the prompt:

Done!

8. If you are not online (if you pressed [Select] in Step 7), press [Return].

XE Term puts you back online.

Capturing Information to the Printer

The Capture Text command can direct incoming information directly to your printer instead of saving it in a disk file. To print out information you see on your TV or monitor screen, make sure your printer is connected properly. Then follow the steps described in the section on Transferring Text Files.

When you reach Step 3, the screen prompts:

File to capture: _____

Instead of typing a drive number and filename, type:

P:

Then follow Steps 4 through 8 just as you would to Capture Text to a file.

The printer will not begin printing when you press [Start]. It will only begin printing after you press [Select] to finish receiving information.

TRANSFERRING DATA FILES: XMODEM PROTOCOL

The steps you take to send and receive files with XMODEM protocol are similar to those you take to Upload and Capture Text. Before you start, be sure the other system supports the XMODEM error-checking protocol.

Follow these instructions to send and receive files with XMODEM protocol:

1. Dial the other system. When you connect online, go to the menu selection or area of the service or bulletin board which is set up to transfer files.

2. Press [Select].

XE Term temporarily stops communicating and the Functions Menu appears on the screen.

3. If you want to send a file using XMODEM, type S. This selects the Send XMODEM command.

If you want to receive a file using XMODEM, type R. This selects the Receive XMODEM command.

The screen prompts:

File to send: _____

or

File to receive: _____

4. Type the drive number and the name of the file. To send a file, specify an existing file. To receive a file, you can choose any name within the Atari file-naming conventions. For example, type:

D2:SCHEDULE

to send or receive a file named SCHEDULE on Drive 2. If you do not specify a drive number, XE Term uses Drive 1.

5. Press [Return].

The screen prompts:

Text or Binary?

6. If you are transferring a text file, type T. If you're transferring a data file or a program, type B.

XE Term puts you back online. The screen prompts you to Press START to begin transfer.

7. Be sure the other system is ready to begin transmitting or receiving the file. Then press [Start].

Caution: Do not press [Start] until the prompt, Press START to begin transfer, has disappeared. XE Term will not receive your [Start] command while the prompt is displayed.

After you press [Start], XE Term begins sending the file or gets ready to receive the file. The screen prompts:

Press SELECT to stop transfer

You can press **[Select]** to interrupt the file transfer while it is in progress. However, the **[Select]** command does not work while the prompt, Press SELECT to stop transfer, is displayed. If you press **[Select]** during transmission, the word Error! appears temporarily on your screen and transmission is halted.

The screen displays a period (.) each time a block of data is transferred successfully. The screen displays a slash (/) each time an error is detected. When XE Term finds an error, it transmits the block of data again. XE Term retries ten times. If there is still a transmission error, XE Term aborts the file transfer.

When XE Term finishes sending or receiving the file, the screen displays the prompt:

Done!

THE 130XE AND THE RAMDISK

If you have an ATARI 130XE Computer, XE Term will automatically install the DOS 2.5 RamDisk when you load XE Term. You can use the RamDisk (Drive 8) as an additional capture buffer, or save a downloaded program to Drive 8 (D8), and then go offline before saving the program to disk. Using the RamDisk will save online connect time as the RamDisk is faster than your ATARI Disk Drive.

For detailed information on the use of the RamDisk, see the *ATARI 130XE Owner's Manual* or the *ATARI DOS 2.5: 1050 Disk Drive Owner's Manual*.

CHAPTER 4
MANAGING YOUR FILES

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

The XE Term program comes with several features that help you to manage your disk files. You can change the status of a file while you're communicating online with another system. These features can save time when you use them just before or just after you transfer files.

For example, if you want to send a file but forgot which drive it is on, you can go off-line temporarily, look at your disk directories, find the file, and then send it.

VIEWING YOUR DISK DIRECTORIES

You can view the files in your disk directories at any time while you are using XE Term. To view your directories, follow the steps below:

1. Go to the Functions Menu. If you are communicating online, press [Select]; otherwise press [Return].

2. When the Functions Menu appears, look at the line that reads:

1 - 8 directories

Type the number of the disk directory you want to view.

You can type any number from 1 through 8. If you have only one disk drive, type 1 to display your disk directory. If you have an ATARI 130XE with DOS 2.5, type 8 to display the RamDisk directory.

The screen displays the directory of the selected disk drive.

```
┌──────────────────────────────────────┐
│ DIRECTORY: DRIVE 1 ├───────────────   │
│ *DOS      SYS 037 *DUP      SYS 042   │
│ *RAMDISK COM 009 *AUTORUN SYS 182     │
│ *HANDLER OBJ 020 *HANDLER DOC 236     │
│  181 FREE SECTORS                     │
└──────────────────────────────────────┘
```

The displayed directory lists the following information:

- The name and extension of each file on the disk

- The number of sectors that file occupies

- The number of free (unused) sectors on the disk

If there are more names in the disk directory than can fit in the directory window, you are prompted to press **[Return]** for more names or **[Esc]** to stop looking at the directory. To return to the Functions Menu from the last directory screen, press any key.

FILE UTILITIES MENU

The File Utilities Menu provides a list of commands that allows you to lock, unlock, rename, and delete your files.

To display the File Utilities Menu, go to the Functions Menu and type F.

```
File utilities menu
Lock file
Unlock file
Rename file
Delete file
1 - 8 directories
 Your selection ? ■
```

Here is a summary of the File Utilities:

Lock file

Type **L** to Lock file.

XE Term asks you to specify a drive number and filename.

Type: D[n]:filename

where **n** is the drive number and **filename** is the name of the file.

Use the Lock file command to prevent you — or anyone else — from changing, renaming, or accidentally erasing a file. You will still be able to read the file, but you won't be able to write to it.

Unlock file

Type **U** to Unlock file.

Type the drive number and filename just as you would to lock a file (see above).

24

Rename file

This command allows you to rename a file.

Type **R** to Rename file.

The screen shows the following prompt:

Rename: _____

Type: D[n]:oldfilename,newfilename

where:

n is the drive number.

oldfilename is the current name of the file.

newfilename is the new name you want to give to the file.

Delete file

Type **D** to Delete file.

This command erases a file from the diskette, increasing the available space on the disk.

1-8 directory

The File Utilities Menu also lets you view your disk directories. If you type a number, 1 through 8, XE Term displays the directory of that disk drive. This is the same command that appears on the Functions Menu. For more information, see the heading, Viewing Your Disk Directories, at the beginning of this chapter.

ATARI DOS 2.5 MENU

When you leave XE Term, you can call up and use the DOS 2.5 Menu. Follow these steps:

1. If you are not already there, go to the Functions Menu.

2. Press **Q** (Quit to DOS).

The screen prompts:

Sure Y/N?

3. Press **Y.**

You leave XE Term and the screen displays the DOS Menu.

You may use the DOS commands or exit DOS just as you normally do. To return to XE Term, you must turn off your computer and reload the XE Term program.

CHAPTER 5
ADVANCED FEATURES

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

The XE Term program comes with two powerful features that make communication easier and more flexible for the advanced user. The automatic log-on feature, one of the commands in the Dialing Menu, allows you to log on to one selected service or bulletin board by pressing a single key. The Options Menu lets you adjust the standard communications attributes such as parity, duplex mode, and translation.

Also included on the XE Term Program Disk is a special document file, named HANDLER.DOC, that contains the technical specifications for the XM301 Modem. The advanced user can either read the information on the screen or print it out. HANDLER.DOC explains how to use HANDLER.OBJ, the device driver.

AUTOMATIC LOG-ON

XE Term lets you create and store a sequence of commands that will automatically log you on to a service or bulletin board. The automatic log-on works on the same principle as the XE Term phone book, but is more powerful. In addition to automatically dialing a phone number, the log-on waits for messages from the other system and enters the required log-on responses.

Set up an automatic log-on to the bulletin board or information service you use most often. It will save you having to log on manually every time you call that service.

Creating a Log-On Sequence

To create or edit a log-on sequence, follow these steps:

1. Go to the Dialing Menu (press **D** in the Functions Menu).

2. Type **L**.

The screen prompts:

Edit or Do log-on?

3. Type **E**.

The screen tells you to Edit log-on sequence and displays two empty lines.

4. Type in your log-on sequence. (Read the following section on the Log-On Sequence Format, to see what kinds of information strings XE Term supports.) Use the **[Delete Bk Sp]** key or the **[Control]** and the arrow keys to erase mistakes.

This log-on sequence for CompuServe is typical:

|555-1212|[P]^C[W:]00000,000^M[W:]ART-FELIX^M

5. When you are finished, press **[Return]**.

The Dialing Menu appears.

6. Press **[Return]** again.

The screen prompts:

Save configuration to disk Y/N?

7. Type **Y**.

XE Term saves your log-on sequence in a disk file that keeps track of your Dialing Menu information.

Using the Automatic Log-On

After you create the log-on sequence, you can use it any time.

Follow these steps:

1. Go to the Dialing Menu.

2. Type **L**.

3. When the screen asks whether to Edit or Do log-on, type **D**.

4. XE Term sends the log-on sequence to your XM301 Modem, which dials the other system, waits for signals from that system, and logs you on.

To cancel an automatic log-on, press **[Select]**.

Log-On Sequence Format

You can include four types of commands in your log-on sequence:

- Dial a phone number and wait to connect (this part is identical to the XE Term phone book).

- Pause for 3 seconds.

- Wait for a certain character before proceeding.

- Send a string of characters.

28

The log-on sequence can be a maximum of 79 characters long. Surround the phone number by the | character, which you type by holding [Shift] down and pressing = .

To pause 3 seconds, type: [P].

To wait for a given character, type:

[Wx]

where x is the character you expect the other system to send. For example, to wait until CompuServe finishes sending its USER ID: prompt, you want to wait for a colon (:). Type:

[W:]

Enter control keys with a ^[Shift] and the * key followed by the ASCII equivalent of the key (the control code + 64). For example, to send a Carriage Return, type:

^M

To send a Control C, type:

^C

Here again is the log-on sequence example for CompuServe:

|555-1212|[P] C[W:]00000,000^M[W:]ART-FELIX^M

THE OPTIONS MENU

The Options Menu lets you change communications attributes so that your modem can reach systems that do not support the standard default attributes of the XE Term program.

The Options Menu does not appear as a selection in the Functions Menu because it will be used rarely.

To reach the Options Menu, follow these steps:

1. Go to the Functions Menu.

2. Press O.

The Options Menu appears.

XE Term has set the attributes listed in the Options Menu to their most commonly used values.

Caution: The default values for these attributes are shown below. You will need to restore the default values before you can communicate with many services and bulletin boards.

```
┌─────────────────────────────────────────┐
│ ▐ Options Menu                           │
│ █nput parity   – now:  NONE              │
│ █utput parity  – now:  NONE              │
│ █eft margin    – now:  2                 │
│ █uplex mode    – now:  FULL              │
│ █ranslation    – now:  ASCII             │
│      Your selection ?  ■                 │
└─────────────────────────────────────────┘
```

The following is a summary of the attributes in the Options Menu:

Input parity

Type I to cycle through the following choices:

NONE	—	ignores parity (bit 7)
EVEN	—	checks for even parity
ODD	—	checks for odd parity
CLR	—	always sets bit 7 to 0

Output parity

Type O to cycle through the following choices:

NONE	—	bypasses any parity setting
EVEN	—	sets bit 7 for even parity
ODD	—	sets bit 7 for odd parity
SET	—	always sets bit 7 to 1

Left margin

Type L to toggle the left margin setting between 0 and 2. If you change the left margin while communicating online, the screen is cleared when you return to terminal mode.

Duplex mode

Type D to toggle between full- and half-duplex mode.

In half-duplex mode, your computer displays on the screen the characters you type. In full-duplex mode, it does not. Most services and bulletin boards display both the characters they send and the characters you type (send to them). Therefore, you must use full-duplex mode with most systems. If you used half-duplex, you'd see characters twice, once when the other system displays them and once when your computer does. Use half-duplex for direct "computer-to-computer" communications.

Translation

Type **T** to toggle between ASCII and ATASCII translation code.

XE Term communicates with both translation codes. Other ATARI Computers and many Atari-based bulletin boards use ATASCII code. Most other systems use ASCII. If a system does not use ASCII code, it should inform you so that you can change the translation.

TECHNICAL SOFTWARE SPECIFICATIONS

The complete software specifications for the XM301 Modem are contained on the XE Term Program Disk in a file called HANDLER.DOC.

Follow the instructions below to access the XM301 Modem technical specifications.

1. Go to the Functions Menu. If you are communicating online, press **[Select]**; otherwise press **[Return]**.

2. Press **Q** for the Quit to DOS function.

3. Press **C** for the Copy function of DOS. The screen prompts:

COPY — FROM, TO?

4. If you want the technical specifications to be viewable on the screen, type:

D1:HANDLER.DOC,E:

When the document appears on the screen it will begin scrolling. Press **[Control] [1]** to stop the scrolling. Press **[Control] [1]** again to start the scrolling.

If you want the document sent to your printer for a permanent copy of the specifications, type:

D1: HANDLER.DOC,P:

If your printer is correctly hooked up, the document will be printed.

This technical documentation explains how to talk to the XM301 and similar ATARI Serial I/O modems through the software.

Also included on the disk is a device driver program called HANDLER.OBJ. If you wish to create your own custom terminal or BBS software using the XM301 Modem, append the HANDLER.OBJ file to your program disk.

APPENDIX A
GLOSSARY

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

Acoustic Coupler A device with earmuff-like cups that uses a telephone to hear tones sent or received by a computer to the telephone network; used in over-the-phone transmission of data between computers. Also called acoustic modem.

Analog Data Electronic information that bears an exact relationship to the original information. For example, a telephone electronic signal carries an analog data representation of the human voice.

ASCII Abbreviation for American Standard Code for Information Interchange (pronounced ask-ee). Each standard 8-bit information code represents a single alphabetical character or a number.

ATASCII Atari's specialized version of the ASCII code, developed to handle the ATARI Computer's enhanced graphics capability.

Asynchronous Data Transmission Transfer of data in which each transmitted character is preceded by a start bit and a stop bit.

Baud A variable unit of data transmission, usually equal to one bit per second.

Baud rate The speed at which data is transferred between computers or communications equipment.

Bit Short for binary digit. A number in a numerical system having two (2) as its base. The values are 0 and 1, which correspond to ON and OFF.

Bit Rate The speed at which bits are transmitted. Expressed in bits per second (bps); often synonymous with baud rate.

BBS Abbreviation for Bulletin Board System.

Buffer A storage device which holds data temporarily. Often used to compensate for different speeds in data transmission rates. For example, data received at 1200 bps may be stored momentarily before it is printed at a lower speed.

Carrier A continuous electronic frequency capable of being modulated - or varied - with an information-carrying signal.

Dedicated Lines Telephone lines used exclusively for telecommunications. User leases a dedicated line by paying a set fee rather than per-call or per-minute charges.

Direct-Connect Modem A modem (MOdulator-DEModulator) connected directly to the phone system for use in data transmission. Contrast with acoustic coupler.

Download/Upload The process of transferring and saving a program over telephone lines. Downloading refers to transferring a program from a central computer to a remote terminal. Uploading sends a program from a remote terminal to a central computer. Many bulletin board systems make programs and games available to callers through downloading. Callers to BBS's, on the other hand, often donate programs they've developed for the BBS by uploading.

Full-Duplex Data transmission in both directions simultaneously. Can be likened to a phone conversation in which both parties can talk at the same time.

Half-Duplex Data transmission in both directions, but only one direction at a time. Can be likened to a CB conversation in which both parties can talk, but only alternately.

Handshaking Protocol An exchange of predetermined signals by modems and their respective terminals when a connection is established. Modems can "handshake" and transfer data only if they are similarly configured—for example, at 300 bps, full-duplex transmission.

Mark The signal equivalent of a binary 1 (i.e., the presence of a signal).

Modem See Direct-Connect Modem and Acoustic Coupler.

Parallel Transmission A method of data exchange which transmits all the bits comprising a character or word simultaneously. Imagine all the bits marching abreast.

Parity Bit A bit added to a group of bits to make the total of all bits odd or even.

Public Domain Software Software that is not protected by copyright laws and is therefore free for all to reproduce.

RS232C A set of standards developed by the Electronics Industry of America (EIA) that standardizes the interface requirements between modems and data terminal equipment.

Serial Transmission A method of data exchange in which each bit of a character is sent sequentially rather than simultaneously as in parallel transmission. Imagine the bits marching in single file.

Space Signal equivalent of a binary 0 (i.e., the absence of a signal).

Start/Stop Bits Bits that signal the beginning or end of an asynchronous serial transmission.

Switched-Telephone Network The familiar dial-up phone system; so-called because the phone system is a network of local offices where electronic switching equipment automatically routes calls to the proper destination.

SysOp Abbreviation for System Operator, the individual who maintains a bulletin board system.

Terminal Software A computer program that converts a microcomputer into a "smart" terminal capable of interacting with a central-site computer. XE Term gives your ATARI Computer the instructions that let it communicate with another computer over the phone lines.

X/ON-X/OFF Mnemonic abbreviations for the "start/stop transmission" signals sent by a receiving modem; they tell a transmitting modem when to start or stop sending information.

APPENDIX B
XM301 MODEM SPECIFICATIONS

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

- Modulation/Demodulation:
    Frequency shift keying (standard Bell 103)

- Data Rate: 300 baud (bps)

- Data Interface: SIO

- Line Interface: Direct connect, FCC part 68 approved

- Carrier Indicator: LED

- Modem's Modular Telephone Jack: USOC RJ11C

- Telephone Dialing Method: Touch tone (DTMF) or Rotary (Pulse)

- Auto-Answer/Auto-dial Capability

- Audio Feedback: TV/Monitor Speaker

- Transmitter Frequency:

Originate

Mark 1270 Hz +/- .5%
Space 1070 Hz +/- .5%

Answer

Mark 2225 Hz +/- .5%
Space 2025 Hz +/- .5%

Transmit Level: -9.0 dBm to -16 dBm

- Receiver Frequency:

Originate

Mark 2225 +/- 30 Hz
Space 2025 +/- 30 Hz

Answer

Mark 1270 +/- 20 Hz
Space 1070 +/- 20 Hz

Sensitivity: -13 dBm to -46 dBm

Carrier Detect
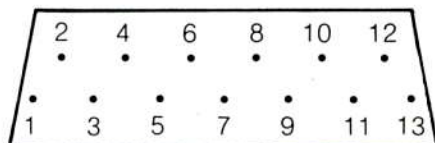Threshold: On: -44 dBm
                    Off: -47 dBm

• Bit Error Rate: No more than 1 in 10^5 bits

• Power Consumption: 5V @ 60mA supplied by computer

Environmental Requirements

• Operating
  Temperature: 1 to 50 degrees C
  Humidity: 0 to 95% (non-condensing)
  Altitude: 0 to 12000 feet
  Vibration: 0.1g (5-500Hz)

• Non-Operating (transport & storage)
  Temperature: -40 to 70 degrees C
  Humidity: 0 to 95% (non-condensing)
  Altitude: -500 to 50000 feet

SERIAL I/O (PERIPHERAL) PORT

1. Clock Input
2. Clock Output
3. Data Input
4. Ground
5. Data Output
6. Ground
7. Command
8. Motor Control
9. Proceed
10. + 5/Ready
11. Audio Input
12. NC
13. Interrupt

APPENDIX C
TROUBLESHOOTING GUIDE

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

Here are answers to a number of commonly asked questions about telecommunications, modems, bulletin board systems, and information services.

Question: When I follow the instructions for loading the XE Term program into my computer—first turning on the disk drive, inserting the XE Term Program Disk, then turning on the ATARI Computer—all I get is a READY prompt on my TV screen. What's wrong?

Answer: A language cartridge—such as ATARI BASIC—may be plugged into your computer. Or there may be a loose connection—check all connections and make sure your disk drive is turned on.

Question: The XE Term program receives a carrier tone, but the modem's READY light doesn't light up. What should I do?

Answer: You may have a bad connection or the carrier signal may be too weak. Press the [Reset] key to end the call and return to the Functions Menu, then redial.

Question: XE Term is already connected to a service, but a Connection lost! message appears on the screen. What should I do?

Answer: The telephone line has been disconnected. You will automatically be returned to the Functions Menu, from which you can redial.

Question: What should I do if I establish a connection with a service and nothing happens? Or what if random characters appear on the screen?

Answer: Often services and bulletin board systems require you to press [Return] several times to begin communications. If this doesn't help, you most likely have a bad connection—press [Reset] to hang up and return to the Functions Menu, then try again.

Question: As I type on the keyboard, nothing appears on the screen. What's wrong?

Answer: The service isn't echoing the characters you type. Go to the Options Menu, then press **D** to set Duplex to Half. This setting is necessary for direct communication with another ATARI Computer.

Question: As I type on the keyboard, each character appears twice on the screen. What's wrong?

Answer: Both your computer and the service are echoing the characters you transmit. Press **[Select]** then **O** to go to the Options Menu, then press **D** to set Duplex to Full.

Question: Can I use my ATARI XM301 Modem and XE Term to communicate with non-Atari computers?

Answer: Yes. Your ATARI XM301 Modem operates at what are known as Bell 103 data-transmission standards—300-bit (30 characters) per second, full-duplex transmission (it sends and receives data simultaneously). This means your ATARI Computer can now exchange information with literally millions of similarly equipped computer systems.

Question: We have two extension phones. What happens if some-one picks up the other phone while I'm connected to a service?

Answer: The information you receive will be garbled. To avoid this, disconnect any extension phones while you're on line. Don't leave the extension off the hook or you'll receive garbled data when the extension phone picks up any noise.

Question: My phone has the "call-waiting" feature—it beeps if someone tries to reach me when I'm already talking on the phone. What happens if someone calls while I'm connected to a service?

Answer: Because XE Term treats the beep as extraneous noise, you'll receive garbled information. The connection may also be dropped when someone calls and a "call-waiting" beep is sounded.

APPENDIX D
ASCII CHARACTER CODES

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

Decimal Code	Generated by Key Combination	ASCII Meaning	Character or Function by XE Term
0	Control ,	NUL	
1	Control A	SOH	
2	Control B	STX	
3	Control C	ETX	
4	Control D	EOT	
5	Control E	ENQ	
6	Control F	ACK	
7	Control 2	BEL	Sound BELL
8	Delete/Bk Sp	BS	Destructive backspace
9	Tab	HT	Cursor 5 spaces right (Tab)
10	Control J	LF(NL)	Cursor to start next line
11	Control K	VT	
12	Control L	FF	Clear Screen
13	Return	CR	Cursor to start current line
14	Control N	SO	
15	Control O	SI	
16	Control P	DLE	
17	Control Q	DC1	Use to logically unlock keyboard of answering modem
18	Control R	DC2	
19	Control S	DC3	Use to logically lock keyboard of answering modem
20	Control T	DC4	
21	Control U	NAK	
22	Control V	SYN	
23	Control W	ETB	
24	Control X	CAN	
25	Control Y	EM	
26	Control Z	SUB	
27	Esc	ESC	
28	Control -	FS	
29	Control =	GS	
30	Control +	RS	
31	Control *	US	
32	Space	Space	Space
33	!	!	!
34	"	"	"
35	#	#	#
36	$	$	$

Decimal Code	Generated by Key Combination	ASCII Meaning	Character or Function by XE Term
37	%	%	%
38	&	&	&
39	'	apostrophe	'
40	(	(	(
41	)	)	)
42	*	*	*
43	+	+	+
44	,	comma	,
45	−	dash	−
46	.	period	.
47	/	/	/
48	0	0	0
49	1	1	1
50	2	2	2
51	3	3	3
52	4	4	4
53	5	5	5
54	6	6	6
55	7	7	7
56	8	8	8
57	9	9	9
58	:	:	:
59	;	;	;
60	<	<	<
61	=	=	=
62	>	>	>
63	?	?	?
64	@	@	@
65	A	A	A
66	B	B	B
67	C	C	C
68	D	D	D
69	E	E	E
70	F	F	F
71	G	G	G
72	H	H	H
73	I	I	I
74	J	J	J
75	K	K	K
76	L	L	L
77	M	M	M
78	N	N	N
79	O	O	O
80	P	P	P
81	Q	Q	Q
82	R	R	R
83	S	S	S
84	T	T	T

Decimal Code	Generated by Key Combination	ASCII Meaning	Character or Function by XE Term
85	U	U	U
86	V	V	V
87	W	W	W
88	X	X	X
89	Y	Y	Y
90	Z	Z	Z
91	[	[	[
92	/	/	/
93	]	]	]
94	^	^	^
95	__	underscore	__
96	Control .	grave accent	(diamond)
97	a	a	a
98	b	b	b
99	c	c	c
100	d	d	d
101	e	e	e
102	f	f	f
103	g	g	g
104	h	h	h
105	i	i	i
106	j	j	j
107	k	k	k
108	l	l	l
109	m	m	m
110	n	n	n
111	o	o	o
112	p	p	p
113	q	q	q
114	r	r	r
115	s	s	s
116	t	t	t
117	u	u	u
118	v	v	v
119	w	w	w
120	x	x	x
121	y	y	y
122	z	z	z
123	N/A		
124						
125	Control ;	curly bracket	{
126	N/A		
127	Shift Delete/Bk Sp	DEL	

(N/A = Not Available)

APPENDIX E
FCC REQUIREMENTS

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

This device has been granted a registration number by the Federal Communications Commission, under Part 68 rules and regulations for direct connection to the telephone lines. In order to comply with these FCC rules, the following instructions must be carefully read and applicable portions followed completely:

1. Direct connection to the telephone lines may be made only through the standard plug-ended cord furnished to the utility-installed jack. No connection may be made to party or coin phone lines. Prior to connecting the device to the telephone lines, you must:

2. Call your telephone company and inform them you have an FCC-registered device you desire to connect to their telephone lines. Give them the number of the lines to be used, the make and model of the device, the FCC registration number and ringer equivalence. This information will be found on the device or enclosed with instructions, as well as the jack suitable for your device.

3. After the telephone company has been advised of the above, you may connect your device if the jack is available, or after the telephone company has made the installation.

4. Repairs to the device may be made only by the manufacturer or the authorized service agency. This applies at any time during and after warranty. If such unauthorized repair is performed, registration, connection to the telephone lines, and remainder of warranty period all become null and void.

5. If, through abnormal circumstances, harm to the telephone lines is caused, this device should be unplugged until it can be determined if your device or the telephone line is the source. If your device is the source, it should not be reconnected until necessary repairs are effected.

6. Should the telephone company notify you that your device is causing harm, the device should be unplugged. The telephone company will, where practicable, notify you that temporary discontinuance of service may be required. However, where prior notice is not practicable, the telephone company may temporarily discontinue service, if such action is reasonably necessary. In such cases, the telephone company must (A) promptly notify you of such temporary discontinuance, (B) afford you the opportunity to correct the condition, and (C) inform you of your rights to bring a complaint to the FCC under their rules.

7. The telephone company may make changes in its communications facilities, equipment, operations, or procedures, where such action is reasonably required in the operation of its business and is not inconsistent with FCC rules. If such changes can be reasonably expected to render any customer's devices incompatible with telephone company facilities, or require modification or alteration, or otherwise materially affect its performance, written notification must be given to the user to allow uninterrupted service.

APPENDIX F
RADIO AND TELEVISION
INTERFERENCE INFORMATION

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

Like any electrical appliance, this Modem uses and produces radio frequency energy. If it's not installed and used properly according to the instructions in this guide, the equipment may cause interference with your radio and television reception.

The Modem has been type tested and found to comply with the limits for a Class B·computing device in accordance with the specifications in Subpart J of Part 15 of the FCC rules. These rules are designed to provide reasonable protection against such interference when the equipment is used in a residential setting. However, there is no guarantee that interference will not occur in a particular home or residence.

Operation of noncertified peripherals with this modem is likely to result in interference with radio and TV reception. Shielded cables should be used on all I/O connectors; otherwise radio emissions may exceed FCC Class B limits.

If you believe this equipment is causing interference with your television reception, try turning the equipment off and on. If the interference problem stops when the equipment is turned off, then the equipment is probably causing the interference. With the equipment turned on, you may be able to correct the problem by trying one or more of the following measures:

• Reorient the radio or television antenna.

• Reposition the equipment in relation to the radio or television set.

• Move the equipment away from the radio or television.

• Plug the equipment into a different wall outlet so the equipment and the radio or television are on different branch circuits.

If necessary, consult your ATARI Computer retailer or an experienced radio/television technician for additional suggestions.

Another helpful resource is *How to Identify and Resolve Radio-TV Interference Problems,* a booklet prepared by the Federal Communications Commission. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

CUSTOMER SUPPORT

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
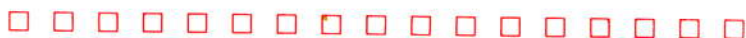
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P.O. Box 61657
Sunnyvale, CA 94088

Please write the subject of your letter on the outside of the envelope.

We suggest that you contact your local Atari User Groups. They are outstanding sources of information on how to get the most out of your ATARI Computer. To receive a list of the user groups in your area, send a self-addressed envelope to:

Atari User Group List
P.O. Box 61657
Sunnyvale, CA 94088

Also, an updated list of Atari User Groups is available for downloading from the Atari Bulletin Board System—phone (408) 745-5308 with your new ATARI XM301 Modem and XE Term!

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