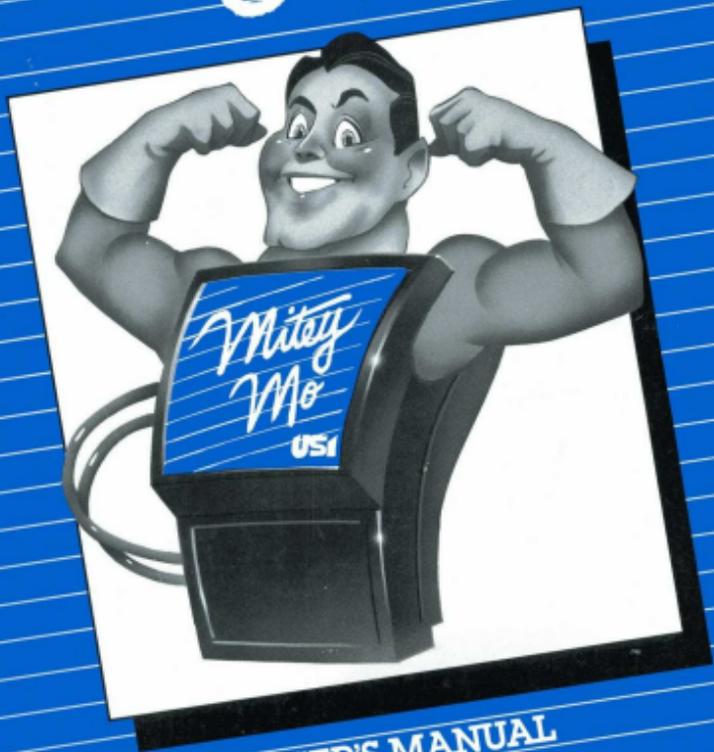
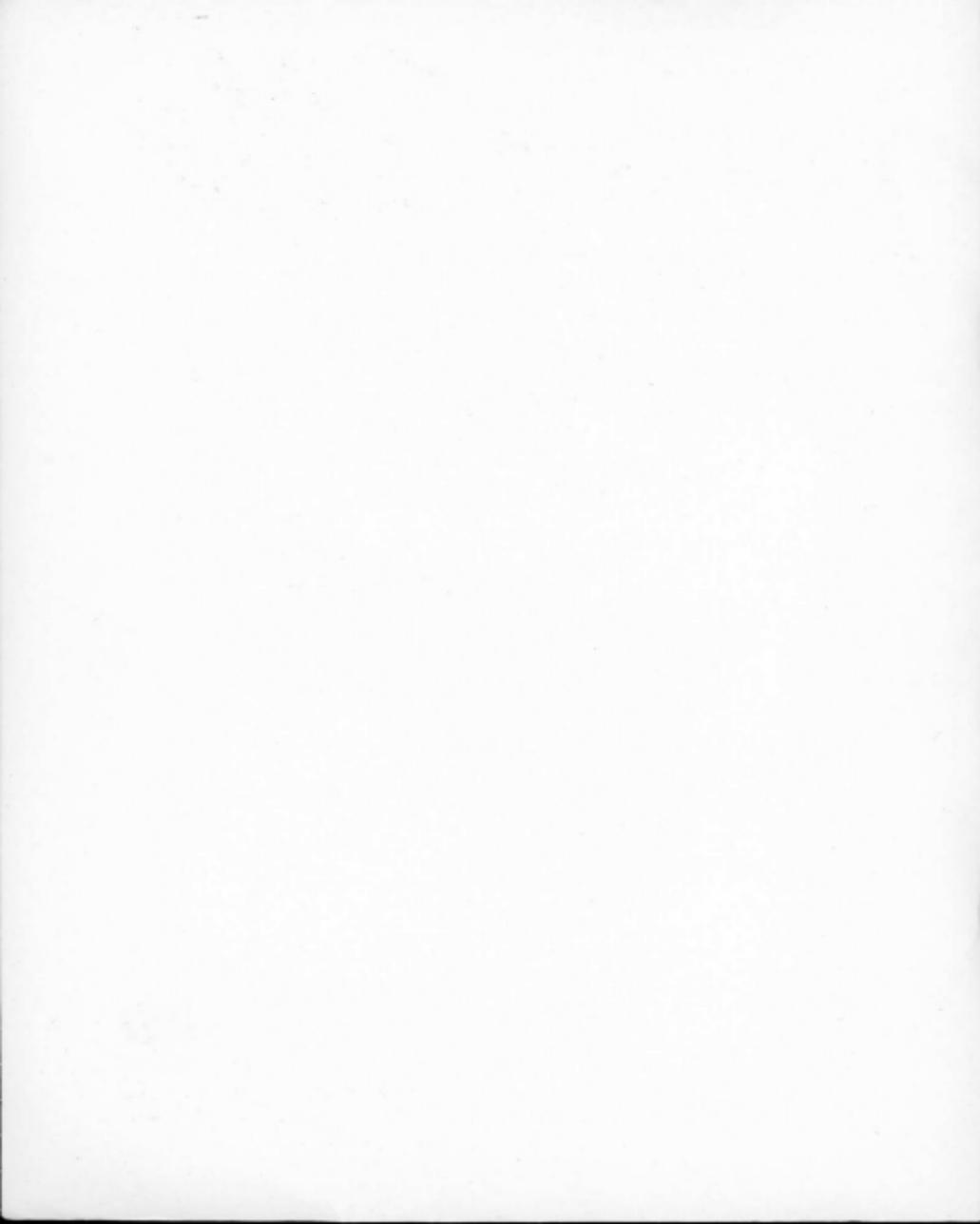


Witey MoTM



USER'S MANUAL

US1



Witey Mo

USI'S ADVANCED TECHNOLOGY MODEM
THAT TURNS YOUR COMMODORE 64®
INTO A COMMUNICATIONS GLANT

USER'S MANUAL

BY KARIN CRILLY-HAYS

USI

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Contents

Getting Acquainted 5

Benefits and Services 6

Setting Up Your System in Four Easy Steps 8

Power Up 10

Operating Your System 12

Getting Ready to Go Online 12

Changing Mitey Mo's Preset Communications Values 13

The Communications Options Menu 16

Communications Option 1: Placing a Call Using Your
Computer Keyboard 17

Communications Option 2: Placing a Call Using Your
Telephone Dial 21

Communications Option 3: Answering a Call 24

Communications Option 4: Changing the Preset
Communications Values 28

Communications Option 5: Reviewing or Printing Data from
The Buffer Memory 29

Using the Function Keys 30

Online Overview 36

National Networks, Local Area Services, and Bulletin
Board Systems 36

Getting Started with Services and Databases 37

What Is a Bulletin Board System? 38

What to Expect When You Go Online 39

Directory of National Networks 40



Troubleshooting 44

Glossary 46

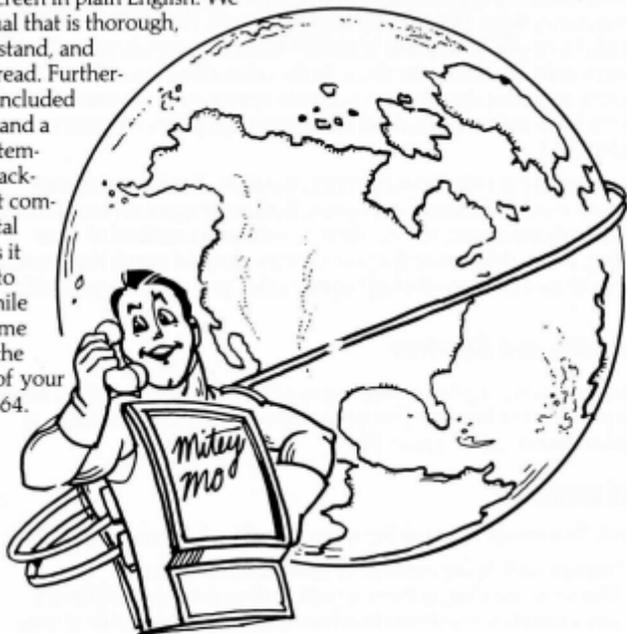
Federal Communications Commission and
Telephone Company Information 48

Specifications 52

Warranty and Service Policy 50

Getting Acquainted

USI International created Mitey Mo because we felt that sending and receiving information with computers over phone lines (telecommunicating) should be easy, inexpensive, and fun. We wanted a modem and software package friendly enough for the novice user and advanced enough for the most sophisticated user regardless of age. We started with this mighty little modem that combines the latest in technology with the convenience of small size and easy installation. To that we added software written specifically for this modem that gives directions on the screen in plain English. We wrote a manual that is thorough, easy to understand, and enjoyable to read. Furthermore, we've included phone cables and a function key template in our package to make it complete. Our total system makes it easy for you to get started while at the same time bringing out the full capacity of your Commodore 64.





These are some of Mitey Mo's feature-rich qualifications:

- ▶ Automatically dials telephone numbers (Autodial)
- ▶ Receives data from remote computers while unattended (Auto-Answer)
- ▶ Automatically redials last number (Auto-Redial)
- ▶ Provides a smooth scrolling screen
- ▶ Allows onscreen review
- ▶ Has the ability to print and store communications
- ▶ Permits simultaneous two-way communication (Full Duplex)
- ▶ Communicates at 300 baud (bits per second)
- ▶ Permits user to reprogram communications parameters
- ▶ Has easy-to-follow on-screen directions

Mitey Mo enlarges your world by linking you to all kinds of information. It enables your computer to exchange information with other computer systems over regular telephone lines. Mitey Mo takes the signals from your computer, translates them into signals your phone understands, and transmits them. In the other direction, Mitey Mo accepts incoming signals from a remote system over the same telephone lines and converts them into a language your computer can understand.

To participate in this two-way communication, the two computer systems must understand each other. Both must agree on such factors as transmission speed, size of "data" words, and a method of error testing. Mitey Mo can make your Commodore 64 match the requirements of most systems through options that you program yourself.

Benefits and Services

Telecommunicating has something to offer each member of the family. Here are a few ideas. For a more complete list, see the Directory of National Networks on page 40.

THE BENEFITS

The following are some of the major benefits of telecommunicating:

- ▶ You can do it in the comfort of your home or office.
- ▶ There's no waiting, as there is with mail or newspaper delivery.
- ▶ Vast quantities of information become instantly available at your convenience, day or night.

THE SERVICES

Different users have different needs for the information and services available by way of telecommunication. Here's a sample of the diversity:

For the Business Person

The latest news and stock reports
Electronic mail
Job opportunities
Daily commerce reports
Industry data sources

For the Student and Educator

Access to reference libraries
Conversations with professionals
Opportunities to publish your writing
Courses at home

For the Home Manager

Banking
Catalog shopping
Airline and hotel reservations
Family-topic databases and conferencing

For the Fun of It

Games
Movie reviews
Sports stories and scores
Collaborative novel writing



Setting Up Your System in Four Easy Steps

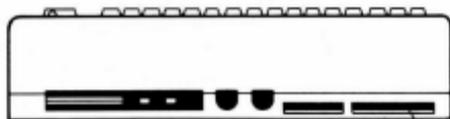
IMPORTANT NOTICE

The following procedures will prevent possible damage to Mitey Mo, your Commodore 64, and your cassette or diskette:

- ▶ Always make sure your Commodore 64 is turned off when you insert or remove the Mitey Mo modem.
 - ▶ Always make sure your diskette or cassette is out of its drive unit before you turn the unit on or off.
-

Step 1

Locate the user port on the back of your Commodore keyboard. It is the wide slot on the far right as you face the back of the computer.



User port

Step 2

Carefully but firmly push Mitey Mo into the slot. You will hear and feel it "click" into place.

Step 3

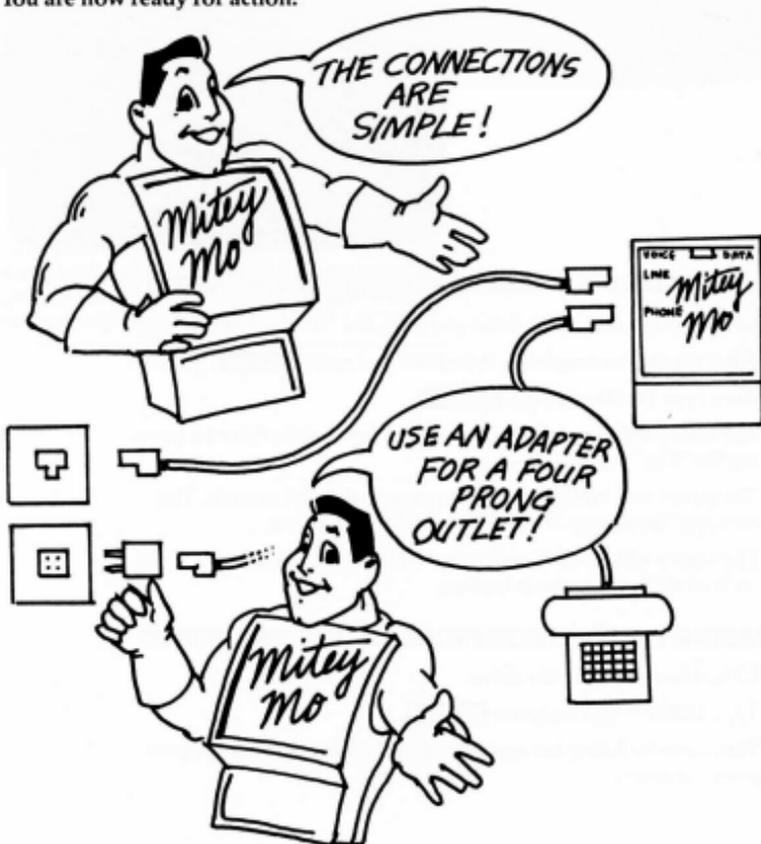
Most phones have a detachable cord, as shown. Use the eight-foot cable, provided in the package, to connect Mitey Mo to the nearest telephone outlet. Place one end in the wall outlet, and the other in the modem outlet labeled LINE.

Step 4

Use the two-foot cable provided in the package, or the cable supplied with your phone, to connect Mitey Mo's PHONE outlet to your telephone.

If the end of the cable that attaches to the phone doesn't have a modular plug, leave it in place. Use the existing phone cable and insert the end of the telephone cable into the modem's PHONE outlet.

You are now ready for action.



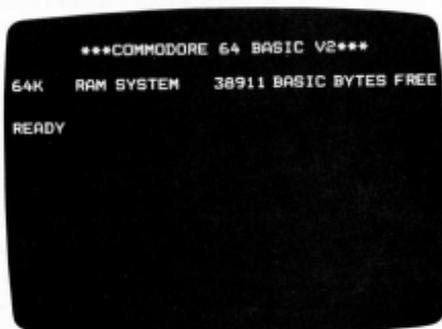


Power Up!

Check again to make sure there is no cassette or diskette in the drive unit before turning on the power to the unit.

Turn on the power to your Commodore 64 keyboard, monitor, and diskette or cassette drive.

The screen should look like this:



LOADING THE SOFTWARE PROGRAM USING A CASSETTE

- ▶ Install the cassette in the drive and press the "Rewind" lever.
- ▶ After rewind is completed, type **NEW** and press **RETURN**.
- ▶ Then type **LOAD** and press **RETURN**.
- ▶ The screen will now inform you to start the cassette drive by pressing the "Play" lever.
- ▶ The screen will initially clear for approximately 24 seconds. The message "Searching—Found Mitey Mo" will appear.
- ▶ The screen will again clear for approximately 2 minutes and 10 seconds while the program is loading.

LOADING THE SOFTWARE PROGRAM USING A DISKETTE

- ▶ Install the diskette in the drive.
- ▶ Type **LOAD**"8,1** and press **RETURN**.
- ▶ The screen will clear for approximately 14 seconds while the program is loading.

When loading is complete, the screen will look like this:



MITEY MO WELCOMES YOU
TO USI'S ADVANCED TECHNOLOGY MODEM
THAT TURNS YOUR COMMODORE 64
INTO A COMMUNICATIONS GIANT

USI INTERNATIONAL
71 PARK LANE, BRISBANE, CA 94005
(415) 468-4900

NOTE

After the software has been loaded in the system, it is no longer necessary to keep the cassette or diskette in the drive unit. It is a good practice to remove the software from the drive unit and put it back in its protective cover at this time to prevent it from being damaged by an electrical surge or other disturbance.



Operating Your System

Getting Ready to Go Online

The title page you saw earlier will remain on the screen for a few seconds, after which it will be automatically replaced by the following display:

**DON'T LET THE
COMMUNICATIONS
VALUES SCARE YOU-
THEY'RE
EASY !!**



```
PRESET COMMUNICATIONS VALUES

Bauds:          300
Linefeed       OFF
Parity:        MARK
Stopbits       1
Wordsize       7 BITS
CAPS only     NO
Delete Key    BACKSPACE
TV/Monitor    WHITE on BLUE
```

Do you accept these Preset Values?

If yes, tap Y If no, tap N

The communications values are just Mitey Mo's way of finding out if there will be a "fit" with the computer system you want to talk to.

- ▶ Mitey Mo is preset to fit with most public access systems. Therefore, the preset values only need to be changed in special circumstances.
- ▶ Reference to the user's manual, or a call to the customer service department, for the service being contacted, will inform you of any changes that may be necessary.

To accept the preset values, type **Y**.

- ▶ The screen will automatically display the various communications options. Proceed directly to the description of the Communications Options Menu on page 16.

If you need to change any of the values, type **N**.

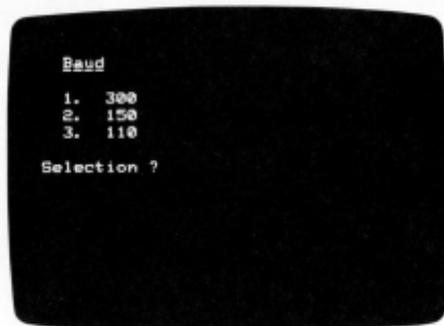
- ▶ The items listed in the screen above will appear one at a time on individual screens so you can make the required selection.

Changing Mitey Mo's Preset Communications Values

All eight items from the previous display will come up one at a time.

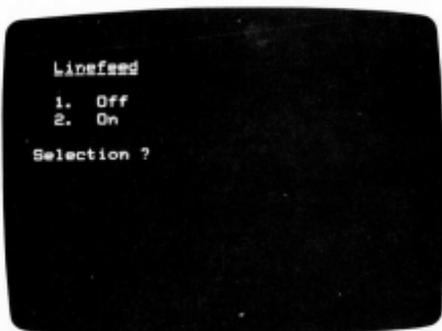
- ▶ The line immediately under the option indicates the number corresponding to the current setting. If you accept this value, press **RETURN** to move to the next item.
- ▶ If you wish to make a change, indicate your selection by pressing the number of your choice.
- ▶ As soon as all necessary changes have been made, you may go to the Communications Options Menu by pressing the **STOP** key.

Most systems use 300 baud unless otherwise stated.

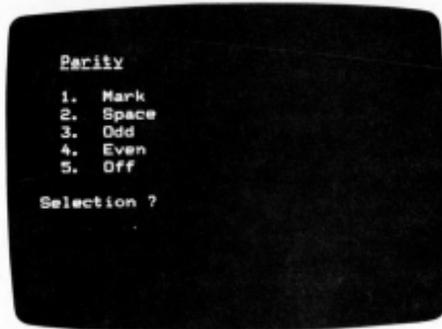




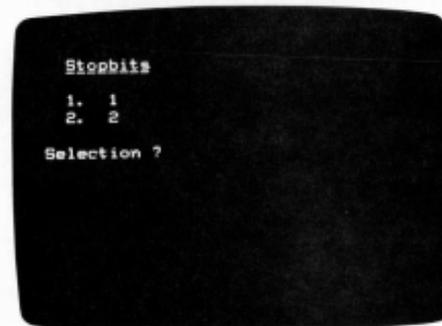
The Commodore 64 incorporates automatic linefeed. Therefore select "Off" unless the system you are calling requires the linefeed function to be "On."



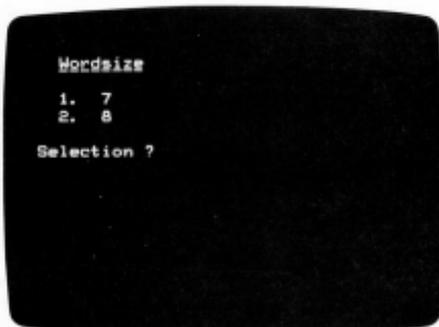
Parity is the way the remote system checks for errors. "Mark" is usually accepted unless otherwise required by the remote system.



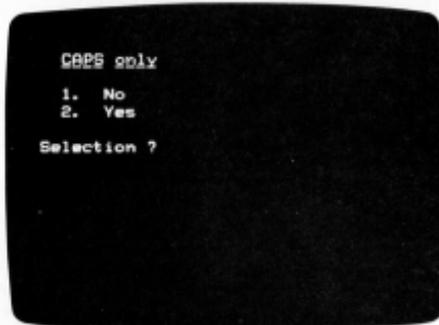
Stopbits is a signal indicating the end of a character. Systems using 300 baud usually use one stopbit.



Wordsize refers to the bits that are necessary to define a character, not the actual length of a word. The most common word size is seven bits.

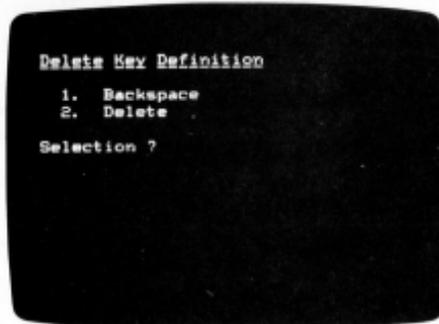


"Yes" results in all UPPER CASE letters when online. Some people find them easier to read.



This code is used to activate the delete backspace key.

- Commodore, Apple, and IBM systems use the "Backspace" code.





The top row is called the "Status Line" (see page 31).

Try each option to see which combination provides the clearest print on your screen.

If you have a monochrome screen, use of these function keys will produce different levels of contrast.

RCV DPL FMT REW

TV/Monitor Display

Select display colors using the Function Keys:

- f 1 changes CHARACTER color
- f 3 changes BACKGROUND color
- f 5 changes BORDER color
- f 7 changes STATUS LINE color

After selecting colors, press RETURN to go to Communications Options.

After making your selection on this final screen, press **RETURN** to bring up the Communications Options Menu.

The Communications Options Menu

After you have accepted the preset communications values or made the appropriate changes, the following menu will come up on your screen:

Communications Options

1. To place a call using keyboard (Autodial).
2. To place a call using telephone dial (Manual Dial).
3. To answer a call (Auto-Answer).
4. To change the Preset Communications Values.
5. To review or print data in buffer.

Selection ?

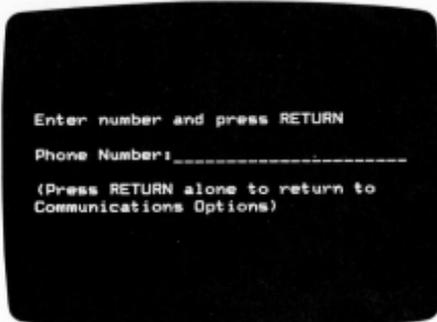
Decide which one you want and press the number opposite your choice.

A detailed walk-through of the operations associated with each of the options follows.

Communications Option 1: Placing a Call Using Your Computer Keyboard

Follow these directions when you wish to make a call using your Commodore keyboard.

After you have selected Option 1, your screen will look like this:



A bright blinking square will appear after the words "Phone number."

- ▶ Enter the number you are calling and press **RETURN**.
- ▶ It is not necessary to use the area code if you are calling a number in your area.
- ▶ It is also not necessary to use () or - in the telephone number.
Example: (415) 468-4900 may be entered as **4154684900**.
- ▶ If you are calling from a phone that requires an outside line, see page 21 for directions.





Your new screen will look this:

```
Set Modem VOICE/DATA switch to DATA
Press RETURN to continue
```

Follow the directions on the screen:

- ▶ Move the Modem switch to DATA.
- ▶ Press **RETURN**

The new screen will initially look like this:

```
Waiting for dial tone
Dialing _____
Waiting for the number to answer
```

If there is no answer, these lines will be added:

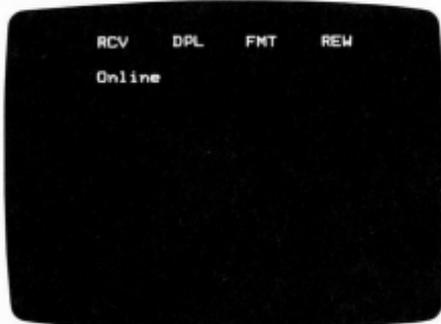
```
No answer
Clearing the line
One moment, please
```

Just watch the screen. The monitor is telling you what is happening on your telephone line.

- ▶ If the number you are calling isn't reached the first time, either because the line is busy or the number doesn't answer, the call will automatically be placed again and again until answered.
- ▶ If you want to know whether the line is busy or if there is no answer, try the manual dialing procedure, "Communications Option 2."

If you wish to stop the auto-redialing process, press **STOP** which will return you to the Communications Options Menu.

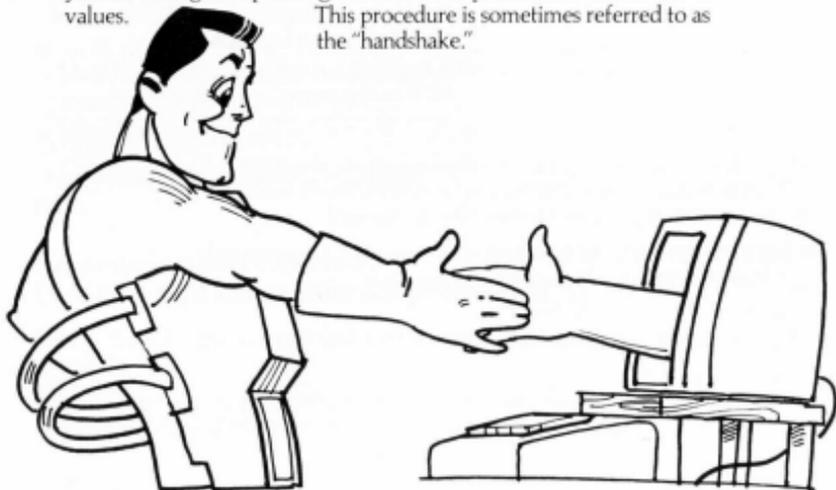
When your call is answered your screen will look like this:



The "Online" message indicates that you are now connected at both ends of the line.

- ▶ Press **RETURN** twice.
- ▶ This action is used to determine whether your system and the system you are calling are operating with the same preset communication values.

This procedure is sometimes referred to as the "handshake."





The abbreviations at the top of the screen represent the Status Line, which lets you know which function keys are on or off. (See explanation of Function Keys, page 30.)

- ▶ If a bright square appears to the right of **RCV**, it means your computer's temporary memory (the Receive Buffer) is ready to store information for later review or for printing.
- ▶ If a bright square appears to the right of **DPL**, it means that your system is operating on half-duplex. That is, it is transmitting data in only one direction at a time.
- ▶ If a bright square appears to the right of **FMT**, the modem will reformat the lines so that the left-hand margin is even, or "justified."
- ▶ If a bright square appears to the right of **REW**, it means that you are reviewing data that is stored in the buffer rather than looking at incoming data.

NOTE

If you want to record the subsequent communication in your system's temporary memory (Receive Buffer) for later review or printing, you must turn on the "receive" function at this time.

- ▶ Do this by holding down the **SHIFT** key and pressing function key **F1**.
 - ▶ A bright square will appear to the right of **RCV** on the screen.
-

You are now ready to begin your communication. The service, bulletin board, or person you are calling will ordinarily provide onscreen directions or a manual on how to proceed.

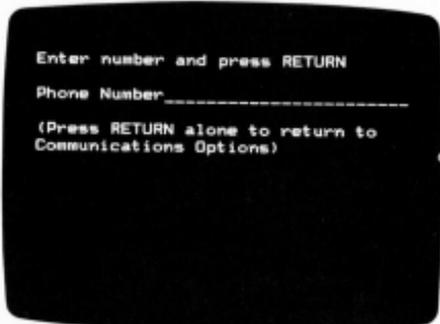
- ▶ For a preview of what to expect when online, be sure to read "Online Overview," beginning on page 36.

INSERTING A PAUSE IN A TELEPHONE NUMBER

If you are placing a call from a telephone line that requires that you obtain an outside line before you dial the desired number, it may be necessary to put a "pause" between the access number and the outside number.

Mitey Mo will permit you to install this pause as follows:

Remember the initial screen:



To install the pause:

- ▶ Type in the number you need to get the outside line. Many locations use the number 9.
- ▶ Next, type in a **p** for each three seconds it takes to get the dial tone for the outside line. You may want to try this first to find out how many seconds your phone requires.
- ▶ Now type in the phone number you are calling.

Sample entry: **9pp4684900** (the two **p**'s provide for a six-second pause).

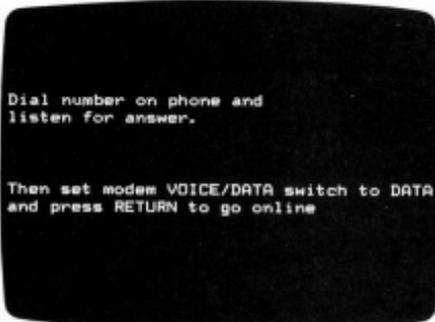
Communications Option 2: Placing a Call Using Your Telephone Dial

Follow these directions when you wish to make a call using your telephone dial.

- ▶ If, for any reason, you wish to return to the Communications Options Menu during the following sequence, press **STOP**.



After you have selected Option 2, your screen will look like this:



```
Dial number on phone and  
listen for answer.
```

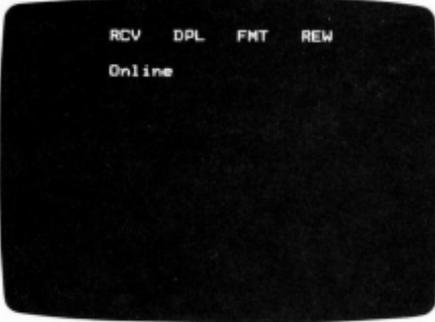
```
Then set modem VOICE/DATA switch to DATA  
and press RETURN to go online
```

If there is no answer or the line is busy, hang up and redial later.

If you get a connection, you will hear a loud "hum."

- ▶ Quickly move the modem VOICE/DATA switch to DATA.
- ▶ Press **RETURN** to go online. You will hear a change in the tone.

Your new screen will look like this:



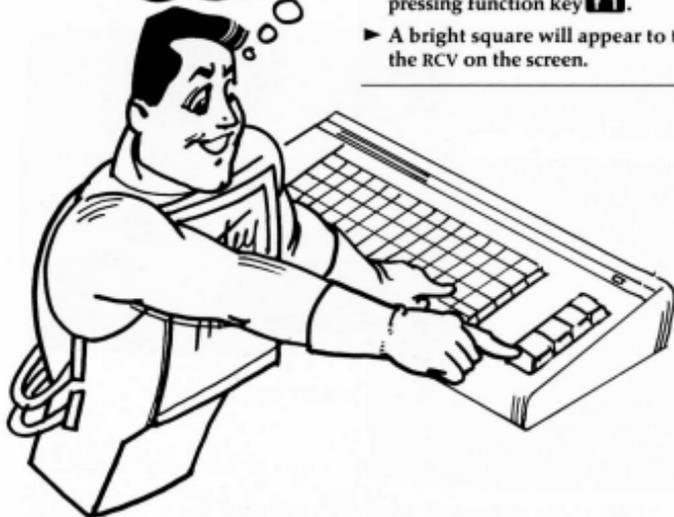
```
RCV  DPL  FMT  REW
```

```
Online
```

The "Online" message indicates that you are now connected at both ends of the line.

- ▶ Press **RETURN** twice.
- ▶ This action is used to determine whether your system and the system you are calling are operating with the same preset communications values.

THIS LOOKS
GOOD--I'LL
PUT IT IN THE
BUFFER!



NOTE

If you want to record a subsequent communication in your system's temporary memory (buffer) for later review or printing, you must turn on the RCV (Receive Buffer) function at this time.

- ▶ Do this by holding down the **SHIFT** key and pressing function key **F1**.
 - ▶ A bright square will appear to the right of the RCV on the screen.
-

You are now ready to begin your communication. The service, bulletin board, or person you are calling will ordinarily provide you with onscreen directions or a manual on how to proceed.

- ▶ For a preview of what to expect once you are online, be sure to read "Online Overview," beginning on page 36.



Communications Option 3: Answering a Call

Follow these directions when you want to receive a call on your system.

- ▶ If, for any reason, you wish to return to the Communications Options Menu during the following sequence, press **STOP**.

After you have selected Option 3, your screen will look like this:

```
1. Answer now
2. Wait for ring
Selection ?
```

If you want to answer a call now, read below. If you are waiting for the phone to ring, see page 26.

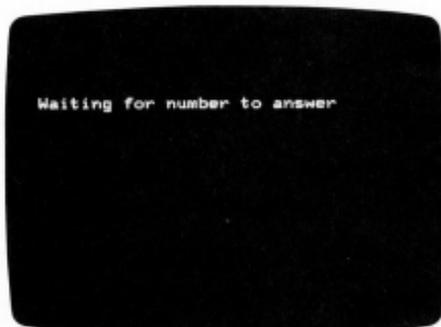
IF YOU ARE ANSWERING A CALL NOW

If the calling system is ready to transmit, select "Answer now" by pressing **1**.

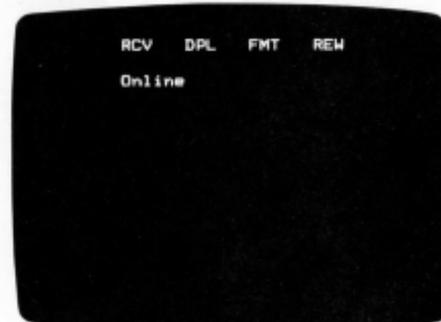
If you have selected the "Answer now" option, the screen will look like this:

```
Set modem VOICE/DATA switch to DATA
Press RETURN to go online
```

This message will appear until connection is made with calling system:



When the connection is made the screen will look like this:



The "Online" message indicates that you are now connected at both ends of the line.

- ▶ Press **RETURN** twice.
- ▶ This action is used to determine whether your system and the system you are connected to are operating with the same preset communication values.

The person answering the call usually begins by typing **hello**. This greeting will appear on both your screen and that of the calling system.



NOTE

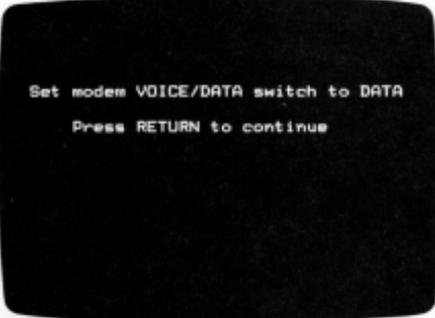
If your greeting is displayed in double letters—that is, “hheellloo”—your system is set on half-duplex. To set to full duplex, press function key **F3**.

You may now proceed with your communication.

IF YOU ARE WAITING FOR YOUR PHONE TO RING

If you are going to wait for the telephone to ring, select “Wait for ring” by typing **2**.

If you have selected the “Wait for ring” option, the screen will look like this:



Set modem VOICE/DATA switch to DATA
Press RETURN to continue

Follow the directions on the screen.

The screen is informing you of what is going on. You may leave this message on until you receive a call or press the **STOP** key to return to the Communications Options Menu.



Waiting for ring

When the phone rings, Mitey Mo will answer. The screen will look this:



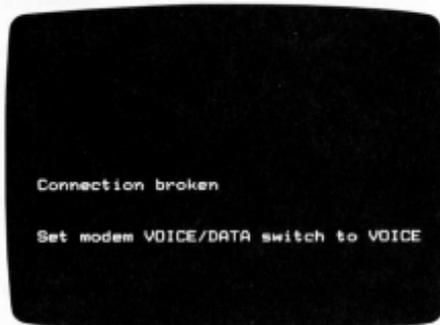
You may now proceed with your communication as described on page 19.

WHEN YOU ARE READY TO TERMINATE A CALL

There are several different ways a call can be terminated.

- ▶ Allow the other system to terminate the call.

After termination, the screen will look like this:



- ▶ Move the modem VOICE/DATA switch to VOICE. This will result in the same display as shown above.
- ▶ Press **STOP** and tap **RESTORE**. This will take you back to the Communications Options Menu.
- ▶ Turn off the computer. There is no need to turn off the disk or cassette drive if you are going to call another number.

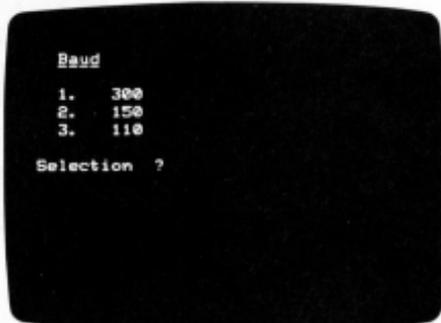


Communications Option 4: Changing the Preset Communications Values

Follow these directions when you want to change the preset communications values.

- ▶ If, for any reason, you wish to return to the Communications Options Menu during the following sequence, press **STOP**.

After you have selected Option 4, your screen will look like this:



You might recognize this as the first screen that appeared earlier under the heading "Changing Mitey Mo's Preset Communications Values" on page 13.

- ▶ After you select the baud rate required by the remote system, the next value will automatically appear on the screen.

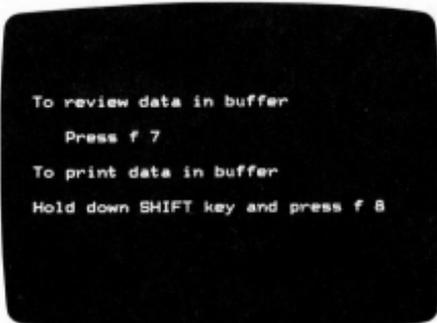
To complete the required changes, merely continue the selection process as each value comes up on the screen.

- ▶ The Communications Options Menu will return to the screen after the last preset value has been selected.

Communications Option 5: Reviewing or Printing Data from the Buffer Memory

Follow these directions when you want to review or print data that is in the Receive Buffer.

After you have selected Option 5, your screen will look like this:



Follow the directions on the screen.

TO REVIEW THE CONTENTS OF THE RECEIVE BUFFER

After you press **f 7**, the contents of the Receive Buffer will scroll on the screen.

If you want to stop the scrolling momentarily for closer viewing, press the **SPACE** bar.

▶ Press down on the **SPACE** bar again to continue the scrolling.

The scrolling will continue indefinitely until you take action to stop it.

▶ To stop the scrolling, press **f 7** again.

NOTE

Incoming data will not be captured by the Receive Buffer while a review is in progress.



TO PRINT DATA FROM THE RECEIVE BUFFER

To print the contents of the Receive Buffer, hold down the **SHIFT** key and press **f 8**.

If you want to stop the printer before it reaches the end of the contents of the Receive Buffer, press the **STOP** key.

If you want to restart the printer, printing will automatically start at the beginning of the Receive Buffer's memory.

Using the Function Keys

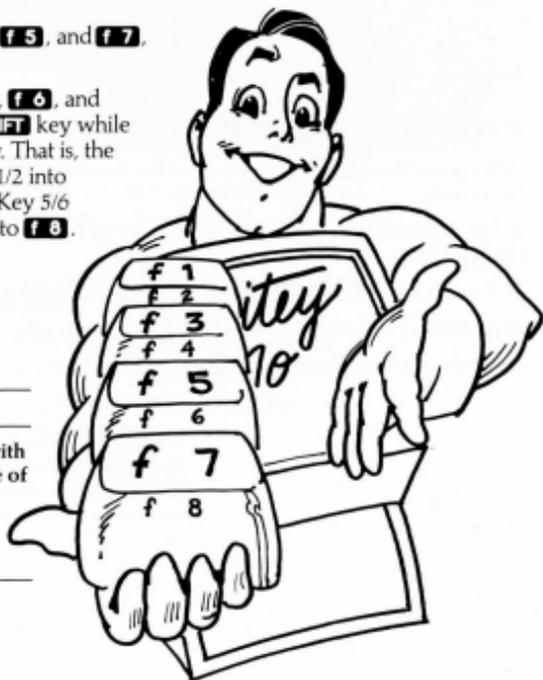
The function keys are the four keys on the far right of the keyboard. Mitey Mo has preset them for your convenience. They make it possible for you to perform certain operations without disturbing incoming or outgoing data.

- ▶ For function **f 1**, **f 3**, **f 5**, and **f 7**, simply press the key.
- ▶ For functions **f 2**, **f 4**, **f 6**, and **f 8**, hold down the **SHIFT** key while pressing the function key. That is, the **SHIFT** key changes key 1/2 into **f 2**, Key 3/4 into **f 4**, Key 5/6 into **f 6**, and Key 7/8 into **f 8**.

NOTE

Use the template provided with Mitey Mo to simplify the use of the function keys.

- ▶ Place template over the keys.
-



STATUS LINE

A Status Line appears continuously at the top of the screen when you are online to let you know which function keys are on.

- ▶ When one or more of the functions is on, bright squares appear to the right of the appropriate abbreviations. They look like this:

RCV ■ DPL ■ FMT ■ REW ■

The keys, their functions, and their abbreviations are as follows:

KEY	FUNCTIONS CONTROLLED	COMMAND LINE ABBREVIATION
1/2	Receive Buffer	RCV
3/4	Duplex/ Half-Duplex	DPL
5/6	Left-Margin Justification	FMT
7/8	Review/Print Control	REW

The use of each of the keys is described in detail below.

KEY 1/2: THE RECEIVE BUFFER

You may want to store the contents of your online call so that you can review it later when you are offline. Mitey Mo's software provides access to 24,000 bytes of memory in the Receive Buffer for this purpose.

- ▶ To start the buffer, simply hold down the **SHIFT** key and press **F1**. You can do this after you are online.
- ▶ To make sure the buffer is on, check the Status Line at the top of the screen when you are online. When the buffer is on, a bright square appears next to **RCV**. It looks like this: **RCV ■**

The buffer will automatically shut off when it is full.

If you want to retain additional incoming information after the buffer is full, you must clear the buffer of the existing data.

- ▶ You can retain the data already in the buffer by directing it to your printer. (See use of Function Key 7/8 below.)

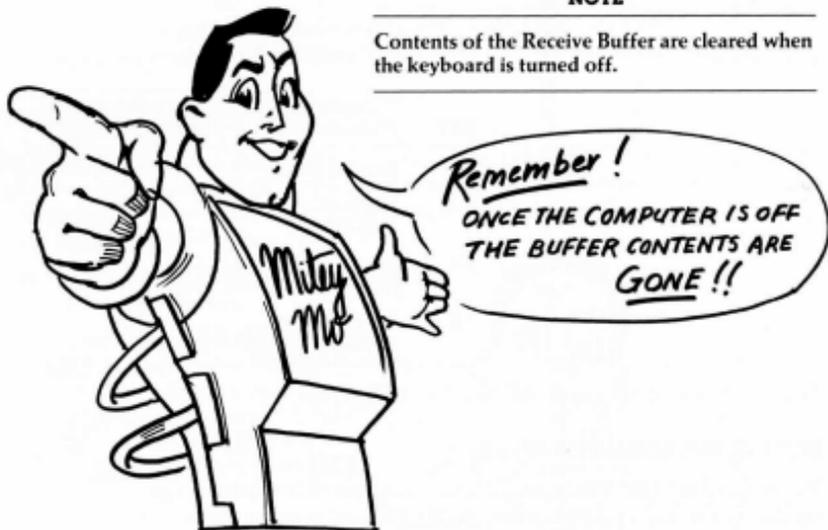


After the existing data has been printed, you can clear the buffer by holding down the **RESTORE** key and pressing **f1**.

You can then turn the buffer back on by holding down the **SHIFT** key and pressing **f1**.

NOTE

Contents of the Receive Buffer are cleared when the keyboard is turned off.



KEY 3/4: FULL DUPLEX OR HALF DUPLEX CONTROL

Half-duplex means your characters are printed from your keyboard directly to your screen.

- ▶ When you are finished sending your portion of the message, you will need to type the word **over** to signal the remote system that you are now ready to receive a message.

Full duplex means that the letters and symbols (characters) that you are transmitting are actually printed on your screen by being echoed back from the remote system. This is a useful function since you can see whether the message you are sending is what the remote computer is receiving.

- ▶ When you are in full duplex it is not necessary to type the word **over** when you are finished sending your portion of a message.

Full duplex is the preferred way to communicate.

- ▶ To select it, simply press **f 3**.
- ▶ No bright square will appear on the Status Line.

To select half-duplex, hold down **SHIFT** and press **f 4**.

- ▶ A bright square will appear on the Status Line next to **DPL**. It will look like this: **DPL ■**

KEY 5/6: LEFT-MARGIN JUSTIFY / FORMAT CONTROL

This feature permits you to line up the left margin of a message and remove excess spaces between words.

- ▶ The left-margin justification is particularly useful when data is sent out from an 80-character screen and received by Commodore 64's 40-character screen. In this circumstance, lines do not start evenly at the left side of the screen.

Formatting affects only incoming data, not characters typed on your keyboard.

To turn on Left-Justify/Format, hold down the **SHIFT** key and press **f 6**.

- ▶ A bright square will appear on the Status Line next to **FMT**. It will look like this: **FMT ■**

To turn off the Left-Justify/Format, press **f 5**.

- ▶ The bright square will disappear.

KEY 7/8: REVIEW/PRINT CONTROL

Review Control

You can review the information captured in the Receive Buffer on your screen.

- ▶ You might want the information received from an online call saved to study while offline. This will reduce online service and telephone company charges as well as leaving your phone line open more of the time.
- ▶ Also, you may want to review the contents of a message to determine if you want to print all or part of it.



To start the review simply press **F7**. The contents of the Receive Buffer will appear on the screen. A bright square will appear on the Status Line next to **REW**.

- ▶ To end the review, press **F7** again. The bright square will disappear to indicate the Review function is off.

You can activate the review while online, after disconnecting, or from Communications Option 5.

To pause briefly during a review to study the screen, press the **SPACE** bar. The display will freeze on the screen.

- ▶ To start the review again, simply press the **SPACE** bar again.

When you are finished reviewing be sure to turn off this function, since incoming data cannot be captured by the Receive Buffer while Review is on.

- ▶ To turn the review off, press **F7**.

NOTE

After a review, to capture incoming data again, turn the Receive Buffer back on.

As noted previously, the Receive Buffer is automatically cleared when the keyboard is turned off.

Printer Control

The 24,000-byte buffer memory is equivalent to approximately twelve pages of double-spaced typewritten text.

To print all or part of the information in the Receive Buffer, hold down the **SHIFT** key and press **F8**.

The Commodore VIC-1515/1525 printer will print the text exactly as received in the buffer. It will start printing at the beginning of the data in the memory and will stop whenever you choose.

- ▶ To stop printing before the end of the contents of the Receive Buffer, hold down the **STOP** key. Printing will halt at the end of the next line.



Online Overview

National Networks, Local-Area Services, and Bulletin Board Systems

Now that you have the know-how to communicate with remote systems, you need to know:

- ▶ What services are available
- ▶ How to gain access to them

This section is dedicated to helping you do just that.

Basically, there are three types of remote systems with which to telecommunicate. They are:

- ▶ National networks
- ▶ Local-area services
- ▶ Bulletin board systems



National networks offer the largest number of services, *local-area services* are similar to local newspapers, and most *bulletin board systems* are run by hobbyists, mainly for leaving and/or reading messages.

The numbers of local-area services and bulletin board systems are growing so rapidly that Mitey Mo suggests you regularly seek current information. Names and phone numbers are available from your computer store or local computer publications. This section includes a description of bulletin board systems and a preview of what happens once you are online.

Are these services and information sources free or offered for a fee? The three types of remote systems differ, with each type varying in how and for what, it charges.

- ▶ National networks charge a subscription fee and an online (connect-time) fee. Prime time is more expensive than non-prime time.
- ▶ Local-area services usually charge a flat monthly fee and allow unlimited online time without a fee.
- ▶ Bulletin board systems are usually free, although they sometimes solicit donations.

Getting Started with Services and Databases

If you are having trouble deciding which service or database is for you, the following suggestions may help.

- ▶ Determine your areas of interest.
- ▶ Refer to the alphabetical directory in this section for specific network and contact information.
- ▶ Pick one or as many as you like. On your telephone, call the service to obtain up-to-the minute details. Most services will send you a free package of information or a manual describing their services and rates in detail. The contact person will also tell you how to subscribe and how to get online.
- ▶ You can also obtain listings of local-area services and bulletin board systems at your local computer store or by reading computer magazines and newspapers.

Many people prefer to practice online skills on bulletin board systems first. They find this less expensive.



What Is a Bulletin Board System?

Bulletin board systems offer a great variety of information and services. They are frequently run by hobbyists and sometimes by businesses. Bulletin board systems serve the same purposes as a bulletin board at home or school: as a place to read and leave messages and to get information about software programs and new products. Also, they are places to learn of meetings and to discuss matters of mutual interest to computer users.

Bulletin board systems advertise in computer publications. Often, an ad includes the brand of computer the service uses. Don't let that intimidate you. Any type of computer is welcome to communicate! A typical ad might look like this.

MITEY MO BBS	24 hrs
415-468-4900	300 baud
COMMODORE	7/1/E

What do all the words and numbers mean?

- ▶ The name of the bulletin board system (BBS)
- ▶ The phone number that you call by computer
- ▶ The type of computer used by the BBS
- ▶ The hours during which that the BBS is available
- ▶ The baud rate used
- ▶ The preset values (*7* data bits / *1* stop bit / *Even* parity)

NOTE

Knowing the baud rate and preset values is imperative for going online. The preset communications values on your system must correspond to those of the system you are calling before you make your call or you will receive a garbled message on your screen.

The next section gives you a preview of what to expect once you are online.

What to Expect When You Go Online

There are three ways to present information once you have made a connection. National networks and local-area services provide manuals to explain their communicating methods. They might use the following individual techniques or some combination thereof:

- ▶ Menus
- ▶ Key words
- ▶ Direct commands

Bulletin board systems rarely provide a manual. Most use menus for simplicity and fun. A computer menu is similar to a menu in a restaurant. It is simply a list of available choices. An example of a menu is the Communication Options Menu you've seen before. You will indicate your selection by one of these methods:

- ▶ Typing the number by your choice
- ▶ Typing the first letter of a word
- ▶ Typing the whole word

The bulletin board system will continue giving you directions throughout the call. You need only to make a choice and respond with a number or letter. A good idea as a new user is to ask for help (usually obtained with a **?** or the letter **H**), or the word **HELP**. You will then be given a more detailed explanation of how to proceed. From then on you are on your own to choose what you'd like to see.

Many telecommunicators like to use the Receive Buffer and/or printer to review menus and commands when not online. If you print the menus and commands, you will be able to store them for future use.

It is important to log off using the appropriate command. Frequently that command is **G** for good-bye. Most bulletin board systems have only one phone line. If you simply hang up, the bulletin board system may not be available for someone else until the open line is noticed and corrected.

You may notice that many bulletin board systems are "busy" a great deal of the time. This is because they usually have only one line. Some systems are now limiting calls to 30 minutes or even less.

Be respectful of others and have fun!



Directory of National Networks

National networks contain information of interest in such diverse areas as business, education, home management, and recreation. Peruse these listings to find those subject areas of interest to you.

BRS After Dark

Summarizes (abstracts) journal articles

Mainly a research tool

Uses evening hours for lower rates

Sorts through large quantities of information quickly

Topics:

Professional journals

Science and medicine

Social science

Government studies

Industrial publications

Business and finance

Energy and environment

Education

Contact: BRS, 1200 Route 7, Latham, NY 12110, (800) 833-4707

CompuServe Information Service

Vast varieties of services under six categories:

Home services

Personal computing

Index

Business and finance

User information

Services for professionals

Popular special interest groups:

More than 30 topics, ranging from family topics to computers

Experts and novices all willing to answer questions

Bulletin board for messaging

Contact: CompuServe Information Service, 5000 Arlington Centre Blvd., Columbus, OH 43220, (614) 457-8600

Connexions

Jobs in high technology

Sends resume to potential employers

Contact: Connexions, 55 Wheeler St., Cambridge, MA 02138, (617) 492-1690

Delphi

Appointment calendar

Banking

Bulletin boards

Conference (popular multiuser talkshow)

Delphi-Oracle (experts answering any question)

Games

Infomania (many users writing a collaborative novel for fun)

Library (online encyclopedia)

Contact: General Videotex Corporation, 3 Blackstone Street, Cambridge, MA 02139, (617) 491-3393, (800) 544-4005

Dow Jones News/Retrieval

Has the largest number of subscribers

Timely and comprehensive financial information and news

Contact: Dow Jones and Company, Inc., P.O. Box 300, Princeton, NJ 08540, (609) 452-1511, (800) 257-5114

Electronic Information Exchange System (EIES)

Conference system

Serious forum topics for:

Aesthetics

Technologies

Bulletin board

Philosophies

Politics

Contact: CCCC at NJIT, 323 High St., Newark, NJ 07102, (201) 645-5211

Knowledge Index

Research tool of more than 10 million professional records

Possible to order copies by mail (lower cost)

Topics:

Agriculture

Business information

Corporate news

Engineering

Magazines

News

Books

Computers and electronics

Education

Government publications

Medicine

Psychology



Contact: Knowledge Index, Dialog Information Services, Inc.,
Marketing Dept., 3460 Hillview Ave., Palo Alto, CA 94304,
(800) 528-6050 ext. 415, (800) 352-0458 ext. 415 (in Arizona),
(800) 528-0470 ext. 415 (in Alaska and Hawaii)

NewsNet

More than 120 newsletters on the latest developments in a wide range of interests:

Advertising and marketing	Aerospace
Automotive	Building and construction
Chemical	Corporate communications
Education	Electronics and computers
Energy	Entertainment and leisure
Environment	Farming and food
Finance and accounting	General business
Government and regulatory	Health and hospitals
International	Investment
Law management	Manufacturing
Metals and mining	Office
Politics	Public relations
Publishing and broadcasting	Real estate
Research and development	Social sciences
Taxation	Telecommunications

Contact: NewsNet, Inc., Customer Service, 945 Haverford Rd., Bryn Mawr, PA 19010, (800) 345-1301, (215) 527-8030 in Pennsylvania

Official Airline Guides Electronic Edition (OAGEE)

Quickest access to flight information
Comparison shop for lowest flight fares

Contact: Official Airline Guides, 2000 Clearwater Drive, Oak Brook, IL 60521, (800) 323-3537, (800) 942-1888 (in Illinois)

Photonet

Communications for photographers Electronic mail
Bulletin boards Online magazine

Contact: Photonet, 500 Park Ave., New York, NY 10022, (212) 750-1386

The Source

Designed for the general public and novice user

Categories:

- | | |
|----------------------------|------------------------|
| Business/financial markets | Catalog shopping |
| Creating and computing | Education and career |
| Home and leisure | Mail and communication |

News and reference resources

Source Mail

- Sends letters to your mailing list
- Sends mailgrams
- Word processing

Post

- Bulletin board with a vast number of subject categories
- Personal computer grapevine

Public

- Subscribers publish online journals
- Earn royalties

Contact: Source Telecomputing Corp., 1616 Anderson Road,
McLean, VA 22102, (800) 336-3366, (800) 572-2070 (in Virginia),
(703) 734-7500 (outside United States)

Travelhost Network

Call from your hotel room

Categories:

- | | |
|----------------------------------|------------------------------|
| Electronic mail | Games |
| Job opportunities/resume sending | Restaurant and airline guide |
| Stocks | Travel club and reservations |

Contact: Travelhost Network, 6116 N. Central, Suite 1020, Dallas, TX
75206



Troubleshooting

SYMPTOM	PROBLEM	SOLUTION
Unable to go online	Lack of power in the system	Check for power to system
	Wrong telephone connections	Go through installation section again
	Modem VOICE/DATA switch in wrong position	Check switch location
	Remote computer not compatible	Remote modem should be a Bell 103 or equivalent
	Remote computer is busy, line rings but there is no answer or telephone is disconnected	Try manual mode (dialing phone number)
Unrecognizable data Example: XJ)8T,)4	Noisy or weak lines	Hang up and redial
	Phone off the hook	Check phone and all extensions
	Wrong preset communications values	Check preset communications values (i.e., stopbit, word size, and baud rate)
No letters appear on screen	Remote computer may not be echoing letters	Turn on local (half-) duplex by holding down SHIFT and pressing F 4
HHEELLLLLOO	Double letters	Turn off local (half-) duplex by pressing F 3
Error message Printer ERROR:Offline	Printer won't print; printer may have been connected after print command was given	Check power to printer; repeat command by holding down SHIFT key and pressing F 8

Receive Buffer won't activate

Receive Buffer is full

Clear contents of buffer by holding down **RESTORE** key and pressing **f 1**

Nothing in Receive Buffer

Contents are automatically cleared when computer keyboard is turned off

Review and/or print contents of buffer before turning off computer keyboard



Glossary

You may come across some of these words either in this manual or when you are communicating with another system.

Auto-answer: A modem feature that automatically responds to an incoming call, even if you are not there.

Autodial: A modem feature that allows the keyboard to dial phone numbers.

Auto-redial: A modem feature that redials the last phone number entered at preset time intervals until the number is connected or user discontinues.

Baud or baud rate: The rate of speed at which the modem transmits and/or receives data expressed in bits per second (bps). Mitey Mo can be user programmed to operate from 110 to 300 bits per second (bps).

Bell 103: The Bell System communications standard used for transmitting data at a baud rate of 300 bits per second (bps).

Carrier: The number and phone line you are calling or receiving.

Characters: The letters, numbers, punctuation marks, or other symbols on the keyboard.

Data: Another word for information.

Delete code: "Backspace" activates the delete/backspace key for Commodore, Apple, IBM, and IBM-compatible computers. "Delete" performs the similar function on DEC and VAX computers.

Downloading: The process of receiving information from another computer to store on your diskette or cassette. Mitey Mo allows you to save 24,000 bytes (approximately 12 double spaced pages) in temporary memory in the Receive Buffer. You can subsequently print out the information that is stored in the buffer before the buffer is turned off.

Duplex: Full duplex systems allow simultaneous two-way communication so that both systems can talk at the same time. Half duplex systems are limited to communications in only one direction at a time. Full duplex systems incorporate a feedback feature whereby the remote computer "echoes" back your message to your screen, so you can be sure it was received exactly as sent.

Function keys: The four keys on the right side of the Commodore keyboard that can be programmed for various tasks. Mitey Mo uses them for turning on and off the Receive Buffer, setting full or half-duplex, justifying the left margin, and reviewing and printing from the Receive Buffer.

Host: The controlling computer in a data-communications system. For

example, when you answer a call, you are the host. When you call another computer, it is the host.

Left-justify/format: A feature that removes spaces from the margin as well as within the lines, leaving only one space between words. The feature also reformats 80-character screens to 40-character. It brings the beginning of all lines to the left margin for easier reading.

Linefeed: A command that moves the cursor down one line on the screen. Mitey Mo's linefeed command is built in. This option applies to remote computers that do not have the ability to begin a new line of print on the screen.

Modem: It stands for *Modulate-Demodulate*. A device that enables a computer system to exchange information with other systems over ordinary telephone lines. The modem takes the signals from your computer, translates (modulates) them into signals your phone understands, and transmits them. The modem at the other end takes the signals from the phone and translates (demodulates) them into signals the other computer can understand.

Modular jack: Socket portion of user-removable telephone connection.

Modular plug: Plug on the end of the telephone connection cable.

Offline: The condition of a computer system not connected to a remote system.

Online: The condition of a computer system connected to a remote system.

Parity: A method that permits your computer and the remote computer to check for errors in incoming data.

Preset value: A value that is already selected on the system. It can be changed by the user and/or the software. Mitey Mo allows the user to change the values.

Receive Buffer: A device to temporarily store incoming and outgoing information that is viewed on the monitor screen.

Remote computer: A computer at another location that is linked to your computer through telecommunication features.

Stopbits: A signal indicating the end of a character.

SYSOP: The *systems operator* (contact person) of a bulletin board system.

Terminal mode: That time when Mitey Mo is online.

Transmitting: Sending information from one place to be received in another location.

Uploading: The process of sending information to another computer.

Voice/data switch: The switch at the top of Mitey Mo that controls the flow of words or data. Should be in the *DATA* position when transmitting and receiving information. Should be in *VOICE* position to use your telephone in a normal way.

Word size: The number of bits—that is, 0's and 1's—required to define a single character. Seven bits is adequate for most computer systems.



Federal Communications Commission and Telephone Company Information

The Federal Communications Commission has established rules that govern the use of modems connected to telephone lines.

Requirement to Notify Telephone Company

You are required by regulation to notify the telephone company of your intention to connect a modem to your telephone line. You must provide the following information with your notification.

- ▶ The telephone number of the line or lines to which the modem will be connected.
- ▶ The FCC Registration Number of the modem, located on the decal on the bottom of the unit.
- ▶ The Ringer Equivalence: 0.4A (also found on the modem decal).
- ▶ USOC Jack Type: RJ11C (standard modular telephone jack).

If a compatible RJ11C jack is not already installed, you may request that the telephone company install one. If an older four-prong jack is installed, you can get an adapter from a hardware or electrical supply dealer.

Prohibited Connections

FCC rules prohibit the connection of modems to party lines and to coin-operated telephones.

Possible Disruption of Telephone Service

Under certain circumstances, the telephone company may temporarily discontinue service and make changes in facilities and services that may affect the operation of your equipment. However, you will be given adequate notice in writing to allow you to maintain uninterrupted service.

In Case of Interference with Telephone Reception

In case interference is detected on your telephone line when your modem is operating, the following procedure is suggested:

- ▶ Check to make sure that your modem is firmly installed in the proper user port in your computer (see page 8).
- ▶ Check all telephone plugs to make sure they are properly installed.

If the problem persists, disconnect the modem.

-
- ▶ If the trouble ceases, the problem is probably with the modem. Do not reconnect to the telephone line. Return the unit to your dealer. Do not attempt to open, modify, or repair your modem. It has not been designed to be serviced by users.
 - ▶ If the trouble persists, the difficulty may be with your telephone line. Notify the telephone company.

In Case of Interference with Your Radio or Television Set

The modem generates and uses radio frequency (RF) energy. If it is not installed in strict accordance with the installation and operating instructions, it may interfere with radio and television reception.

This modem has been type-tested and found to comply with the limits for a Class B computing device in accordance with the specifications of Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If the modem does interfere with radio and television reception, which can be determined by disconnecting the modem, you can try one or more of the following:

- ▶ Reorient the radio or television antenna.
- ▶ Increase the distance between the computer system and the radio or television set.
- ▶ Plug the computer system and the radio or television into different electrical outlets.



Warranty and Service Policy

LIMITED WARRANTY MITEY MO MODEM AND COMMUNICATIONS SOFTWARE

Mitey Mo Modem (Hardware)

For a period of three years from the first date of purchase at the retail level, USI warrants to the owner of the modem, whether or not the original purchaser, that it will be free from defects in material and faulty workmanship under normal use.

In the event of defect or malfunction of the modem during this three year period, USI will, for only a \$7.50 service charge, repair or furnish replacement for those units or components thereof which, upon test and examination by USI, prove defective. This repair or replacement is your sole and exclusive remedy in the event of defect, malfunction, or failure of the unit.

Any attempt to open, modify, or repair the modem will void this warranty.

Mitey Mo (Communications Software)

This software program is sold "as is," without warranty as to its performance, merchantability, or fitness for any particular purpose. The entire risk as to the results and performance is assumed by you.

However, to the owner of the program, whether or not the original purchaser, USI warrants the cassette or magnetic diskette on which the program is recorded to be free from defects in materials and faulty workmanship under normal use for a period of ninety days from the date of original retail purchase. In the event of defect or malfunction of the cassette or diskette during this ninety day period, you may return it to USI for replacement for a service charge of \$3.00, provided that you include your warranty registration card or proof of original retail purchase when you return your unit to USI.

UNLESS OTHERWISE CONTRARY TO STATE LAW COVERING THE PURCHASE OF GOODS, YOUR SOLE AND EXCLUSIVE REMEDY IN THE EVENT OF A DEFECT IS LIMITED TO REPLACEMENT OF THE MODEM, DISKETTE, OR CASSETTE, AS THE CASE MAY BE.

PHONE COMPANY CHARGES FOR WRONG NUMBER AND PHONE CALLS NOT PROPERLY TERMINATED ARE SPECIFICALLY NOT COVERED BY THIS WARRANTY. THIS WARRANTY ALSO DOES NOT COVER LOSSES OR DAMAGES OF ANY KIND RESULTING FROM, OR IN, EQUIPMENT FAILURE.

IF FAILURE OF THE MODEM, CASSETTE, OR DISKETTE, OR ANY COMPONENT THEREOF, HAS RESULTED FROM ACCIDENT, ABUSE, OR MISAPPLICATION, USI INTERNATIONAL SHALL HAVE NO RESPONSIBILITY TO REPLACE THE MODEM, CASSETTE, OR DISKETTE UNDER THE TERMS OF THIS WARRANTY.

ANY IMPLIED WARRANTIES RELATING TO THE MODEM, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE THREE YEAR PERIOD FROM DATE OF INITIAL RETAIL PURCHASE. ANY SUCH IMPLIED WARRANTIES RELATING TO THE CASSETTE OR THE DISKETTE ARE LIMITED TO A PERIOD OF NINETY DAYS FROM THE DATE OF INITIAL RETAIL PURCHASE. (SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.) USI SHALL NOT BE LIABLE FOR INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THESE PRODUCTS. (SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MIGHT NOT APPLY TO YOU.) UNLESS OTHERWISE CONTRARY TO STATE LAW GOVERNING THE PURCHASE OF GOODS, USI'S LIABILITY SHALL NOT IN ANY CASE EXCEED REPLACEMENT OF THE PRODUCT CLAIMED TO BE DEFECTIVE OR UNSUITABLE.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

WARRANTY REPAIR PROCEDURE

If you believe that this product has become defective during the warranty period, please follow these procedures:

1. Phone or write to USI in order to receive your Return Authorization Number before you ship your unit to us. DO NOT RETURN A UNIT WITHOUT FIRST OBTAINING YOUR RETURN AUTHORIZATION NUMBER.
2. Please pack your unit well.
3. Include your name and address, your Return Authorization Number, and proof of original retail purchase or your warranty registration card.
4. Include a brief written description of the problem you are having with your modem, cassette or diskette.
5. Include a check for the proper amount (\$3.00 for cassette or diskette; \$7.50 for the modem), made out to USI International, to cover the cost of handling and return shipping.
6. Ship your unit, UPS or postage prepaid, to:
USI International
Att: Customer Service
71 Park Lane
Brisbane, CA 94005
Telephone: (800) 468-4900
7. Please allow approximately three weeks for repair and return of warranted items.



Specifications

Data:	Serial, binary, or asynchronous 7 or 8 bits 1 or 2 stopbits Odd, even, or no parity									
Operation:	Full or half-duplex									
Dialing Capability:	Touch-tone or rotary-dial pulse dialing									
Communications Options:	Autodial, manual dial, and auto-answer									
Compatibility:	Bell System 103									
FCC Compliance:	Part 15 and Part 68									
Data Rate:	110, 150, 300 (software selectable)									
Modulation:	Frequency shift keyed									
Connection:	Direct to phone line with RJ11C or RJ11W modular plug									
Power Requirements:	9 volts AC and 5 volts DC from computer									
Transmission Frequencies:	<table><thead><tr><th></th><th><i>Originate</i></th><th><i>Answer</i></th></tr></thead><tbody><tr><td>Mark</td><td>1270 Hz</td><td>2225 Hz</td></tr><tr><td>Space</td><td>1070 Hz</td><td>2025 Hz</td></tr></tbody></table>		<i>Originate</i>	<i>Answer</i>	Mark	1270 Hz	2225 Hz	Space	1070 Hz	2025 Hz
	<i>Originate</i>	<i>Answer</i>								
Mark	1270 Hz	2225 Hz								
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	<i>Originate</i>	<i>Answer</i>								
Mark	2225 Hz	1270 Hz								
Space	2025 Hz	1070 Hz								
Transmit Power Level:	12 dBm nominal									
Receiver Power Range:	-9 dBm to -38 dBm									
Internal Oscillator Frequency:	4.032 MHz									
Ringer Oscillator Frequency:	4.032 MHz									
Ringer Equivalence:	0.4A									
Temperature Range:	-10 degrees Celsius to +45 degrees Celsius									
Size:	5 inches × 3 inches × 1 inch									
Weight:	4.5 ounces									

