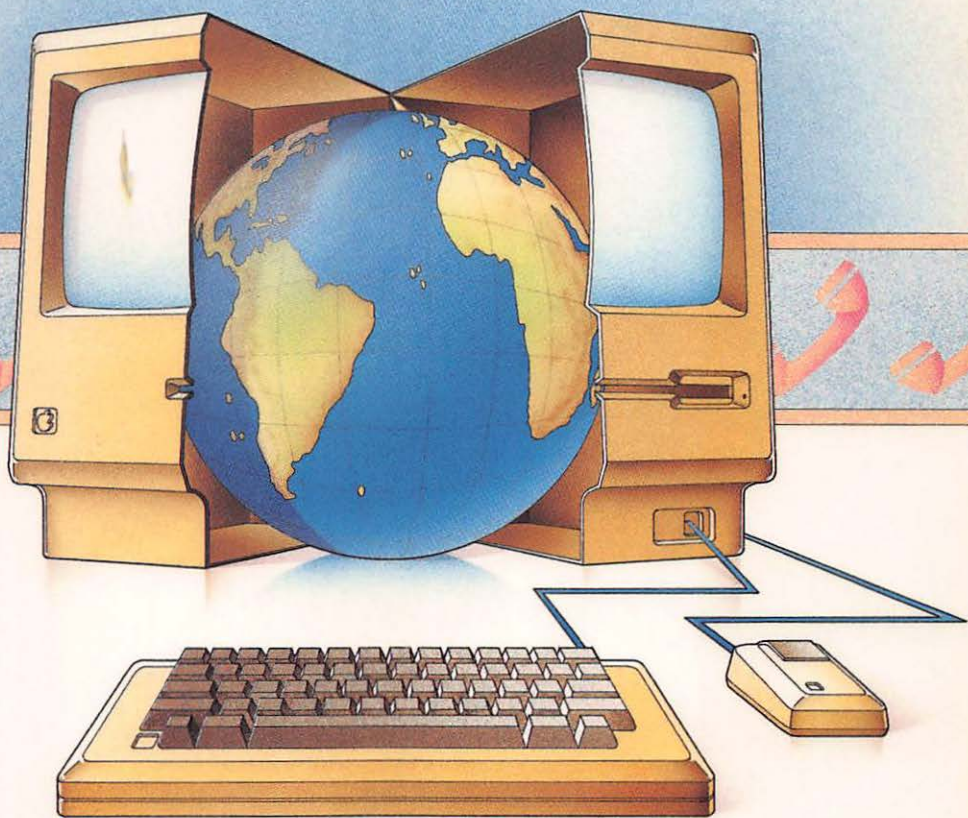


# MACTALK

Telecomputing on the Macintosh™



Sheldon Leemon and Arlan Levitan

Link your Macintosh to the outside world.  
A complete guide to everything from choosing  
a modem and software to accessing information  
services and electronic bulletin boards.

A **COMPUTE! Books** Publication

\$14.95

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Telecomputing on the Macintosh™

Sheldon Leemon and Arlan Levitan

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# Foreword

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**W**hether you use your Macintosh at home or at the office, whether you use it to calculate profit margins or to create letters and reports, you use it alone. There's only room for one person at the keyboard. And you probably have only a limited amount of software to run on the Macintosh.

Your computer, meant to help you process and manipulate information, is limited in what it can do for you. You can do only so much with just one machine. That is, unless you begin telecomputing.

With your Macintosh, a modem, the proper software, and a telephone, you'll quickly find that you and your computer are *not* alone. There are thousands of people out there you can communicate with. And there are huge computers yours can "talk" to. It's really only a phone call away.

*MacTalk, Telecomputing on the Macintosh* shows you how to begin telecomputing. You'll learn what you need, and more important, what you can afford, when you're looking for the right modem and terminal software. There's a section devoted to getting you started, illustrating how to connect your telecommunications system and how to get in touch with—online with—other computers. Entire chapters describe the most popular information services, like CompuServe, The Source, Dow Jones News/Retrieval, and others.

These huge databases can provide you with an almost limitless supply of information. From today's stock prices to this minute's news, from research facilities to multiplayer games, there's a flood of information out there. Using your Macintosh, you can divert part of that flood into your home or office.

Hundreds of electronic Bulletin Board Systems (BBSs) are also available. You can get in touch with other Macintosh owners (or anyone who has a modem and a computer). You can ask questions, get replies, and learn what your computer can really do. There's even free public domain software you can pull into your Macintosh, broadening your program library.

Even before you begin, *MacTalk, Telecomputing on the Macintosh* will be there to help you make intelligent decisions.

Do you need a modem with autodial? Does the terminal software you're considering include Mac-to-Mac transfer capability? And once you get online, whether it's with CompuServe or the Knowledge Index, *MacTalk*, *Telecomputing on the Macintosh* shows you how to get the most out of your time and your money.

Telecomputing is one of the fastest growing areas of personal and business computing. That's not surprising. It turns your Macintosh into a chameleon—an electronic edition of the *Wall Street Journal* one moment, a message delivery system the next.

You and your computer need never be alone again.

# Chapter 1

When Mac Talks,  
Who Listens?

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□□□□□□□□

# When Mac Talks, Who Listens?

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**T**he Apple Macintosh is a powerful tool for storing, manipulating, and retrieving information quickly and conveniently. But no matter how advanced or even revolutionary its design may be, it, like all other personal computers, has limitations. In order to take advantage of its power, you need programs to perform tasks. You also need some method of entering the information that the programs will manipulate. These simple requirements disguise a multitude of problems.

First, you must find a program that performs the task and buy it or (heaven forbid) write one yourself. There are a relatively small number of programs commercially available, and one person would be able to write even fewer. Of this number, there's a much smaller group that you could afford to buy or that you would be able to write. To top it off, there are some applications that just won't run on the Macintosh, either because it doesn't have enough memory and/or storage space, or because one Macintosh doesn't have a multiuser capability.

Second, the type of task that your Macintosh can perform is limited by the amount of information you can enter from the keyboard. You may, for example, want to use a computer to create a catalog of all your favorite recipes. You could categorize them by type (appetizer, soup, main course, dessert), main ingredient (beef, veal, tofu), cooking time, degree of difficulty, caloric content, and cost. Then, when you wanted to find a fancy main dish you could prepare in ten minutes for a dollar and a half, you would search through all the recipes to find one that met all (or at least some) of those criteria. The program might even print out the correct proportion of ingredients for any number of servings. Actually, it would be a pretty neat program. But think about the effort needed to put such a system together. Unless you find a commercial program called *MacRecipe*, you've got some work to do setting up all the categories with your favorite database program. Next, you would have to type in the recipes. At 15 minutes on the keyboard for each recipe, it might take you months to enter all your favorites. It won't take you long to realize the massive size of the task.

Does this mean that the Macintosh may be only insanely mediocre, little better than a VIC-20 with an upside-down trackball? Of course not. It's just that some jobs are too big for any one personal computer (or any one personal computer owner). No Mac is an island.

### Electronic Communications

That's where computer communications comes in. There are a lot of other computers out there, with powers and abilities far beyond those of your single Macintosh. By establishing a communications link between your Macintosh and other computers, you can vastly expand your electronic horizons. Instead of personally entering volumes of information into your own recipe program, you might connect your Macintosh via telephone to a huge mainframe computer which already has thousands of recipes on file, and run that computer's program from your own kitchen. Or if you prefer a more personal touch, you might trade recipes over the phone with other computer owners by having their computer talk to yours. Either way, computer communications not only spares you the trouble of entering each piece of information, but also gives you access to an information base much greater than any you might come up with yourself.

Such examples can scarcely begin to illustrate the ways telecommunications can enhance your computing experience. Perhaps the most common way is to subscribe to a computer information service. When you connect your computer to a service, you're in fact hooking up your keyboard and display screen to the system's mainframe computers. With your personal computer as a remote terminal, you can run programs as if those huge mainframes were in your own home.

Information utilities like CompuServe and The Source offer a wide variety of services. They maintain large databases which allow quick retrieval of information, ranging from stock prices and airline schedules to late-breaking news from the wire services. They offer you the opportunity to write your own programs in one of several programming languages, and even to store and execute those programs on the host system. You can play games online, either against the computer or with other users. It's possible to use these services for online shopping, banking, stock trading, and making travel arrangements. Most important, these services allow you to commu-

nicate with other users, either by electronic mail, online conference calls, or in public message areas. By using these facilities, you can find up-to-the-minute news about computers and peripherals, notices of hardware and software for sale at bargain prices, as well as hints and tips about using your own computer.

Another popular forum for electronic communications is the computer bulletin board. Unlike the information services with their vast resources, bulletin boards are run by dedicated individuals using their own personal computers. Thus, only one person can communicate with the system at a time. These boards vary in subject and scope, from simple public message services to elaborate systems with personalized message delivery, from boards with separate sections for different kinds of messages to those with large libraries of free public domain software programs. They may be devoted to a single computer (like the Macintosh) or have sections of interest to owners of many different machines. They may be devoted to subjects unrelated to computers, like science fiction or religion. There are even a number of dial-in computer dating services.

These applications are typical examples of what you can do with telecomputing right now. The future is even more promising. Telecommunications is one of the fastest growing areas of personal computing. More and more often you hear of computer hardware and software companies starting bulletin boards for customer support. Direct distribution of software via communications lines may not be far behind. Businesses are making greater use of communications networks to link up personal computers at their branch offices. This may make it increasingly popular to work, at least part of the time, at home and "telecommute." As banks become equipped to handle computer banking, the cashless society, in which most monetary transfers are handled electronically, may become a reality. In short, the possibilities are as intriguing as they are limitless.

### The Bottom Line

A logical question might be "What's the catch?" Many people assume that telecomputing must be extremely complicated, expensive, or both. For one thing, telecomputing has a confusing jargon, phrases like *baud rates*, *parity*, and *stop bits*. Explanations of these terms are invariably followed by diagrams of electrical signals. And the equipment used in

## When Mac Talks, Who Listens?

telecomputing may seem unfamiliar, even strange, with all the lights and switches on the modem, and terminal emulation software that has to be set up (or *configured*, as they may put it) a certain way. Don't let this intimidate or deter you. In reality, telecomputing requires the skills of an appliance operator, not those of a technician. You don't need to know anything about computer programming. And you certainly don't have to know the technical theory of how such communications take place, no more than you need a degree in electronics to watch television.

In truth, it's about as hard to set up the Macintosh for telecommunications as it is to hook up a VCR. You may have to read the instructions and follow them step by step. You may have to do some simple troubleshooting if it doesn't work the first time. But once you have everything hooked up, your system looking like the photo in figure 1-1, you needn't give it another thought.

**Figure 1-1. A Telecommunications System**



Macintosh, modem, phone, and terminal software are all you need.


## When Mac Talks, Who Listens?

The expense of telecomputing is even less of an obstacle. In fact, once you've bought your Macintosh, the additional investment to begin telecomputing is almost negligible. In its simplest form, telecommunications requires nothing more than a modem (a device which connects your Macintosh to a phone line) and terminal software. The least expensive modems (which are nonetheless fully functional) can be found for as little as \$50 to \$100. And as for terminal software, there are some quite good programs in the public domain which are available for only a nominal fee. While it's true that commercial database services charge fees (some of which are astronomical) for hooking up to their computers, the most popular of the information utilities charge as little as \$6 an hour. Though it's certainly possible to run up large bills even at that rate, if you use your online time efficiently you can keep charges to a minimum.

One of the most common misconceptions about personal computers is that they isolate people from human contact. The popular image is of the videogame addict, staring mindlessly into the screen, the young hacker forsaking school work and play, or the hopeless hobbyist, spending endless dollars for new equipment. The truth is that very few people use computers for the sake of computing. They simply use the computer to add a new dimension to their normal activities and interests. Nowhere is this more evident than in the area of computer communications. Behind all the hype about information whizzing around at the speed of light, telecomputing is about communications. Sure, people who telecompute talk about their computers. But they also exchange ideas on all kinds of subjects. They make jokes. They argue. They meet new people, make new friends, sometimes even get married to each other.

Apple says that the Macintosh is the computer for the rest of us. Go online with it and get in touch with the rest of us.

a. b. c. d. e. f.



# Chapter 2

## Telecommunications: Practice and Theory

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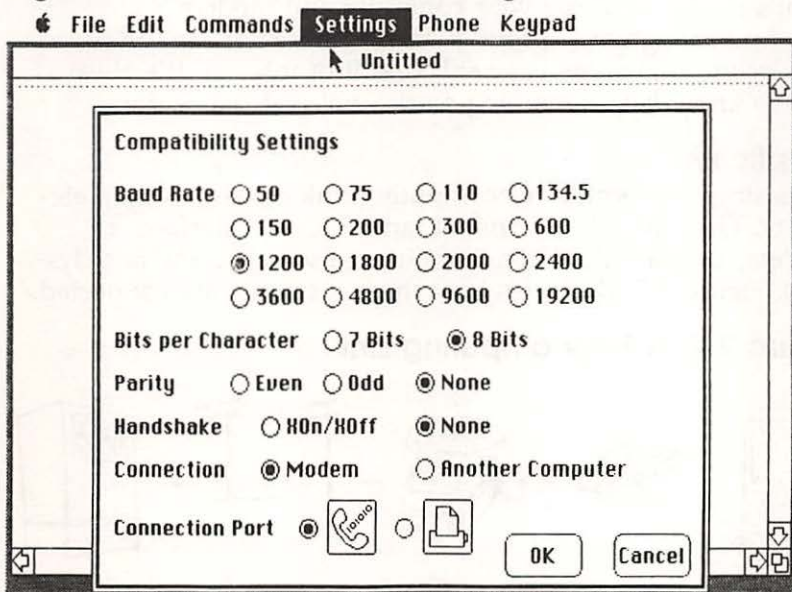
CCCCCCCC

# Telecommunications: Practice and Theory

One of the things computer novices have trouble with is simply adjusting to the jargon. People comfortable with computers, just as any group comfortable with its tools, often use acronyms when they refer to their machines, or even parts of these machines. You're probably already familiar with some of the more common ones. It's certainly easier to say *Mac* and *RAM* rather than *Macintosh* and *Random Access Memory*.

To make it even more obscure, telecomputing has a language all its own. Experienced telecomputerists use a set of terms and buzz words as much to identify themselves as members of a group as anything else. The jargon can be imposing. (Although this book tries to eliminate as much of the jargon as possible, it's almost impossible *not* to use some of the terminology. That's why you'll find a glossary in the back of this book.) One look at something like figure 2-1, which is a screen from Apple's *MacTerminal* program, is often enough to send the curious running for a dictionary.

Figure 2-1. *MacTerminal's* Settings



Don't be put off by the illusion of complexity. The details of telecommunications may be complicated, but the fundamental concepts are really quite simple. While some purists may object to the liberties taken in this presentation of technical topics, they should keep in mind that the overriding concern to a newcomer is clarity and comprehension. The Macintosh manual itself steers well clear of any detailed discussion of the technical intricacies of the computer. This chapter imitates that approach—it will initiate the neophyte into modem use with as little technical saber rattling as possible. There's a good reason for this. Most of us simply want to get our systems up and running; we don't really care what the parts are called. It's much like any mechanical or technical device; what goes on inside is secondary to the result.

As the previous chapter said, the theory of telecommunications certainly isn't necessary to use your computer and modem. In fact, if you want to get your system up and running right away, you can skip these explanations and turn to chapter 3, "Getting Started." There you'll see instructions on how to connect your computer, modem, and telephone line.

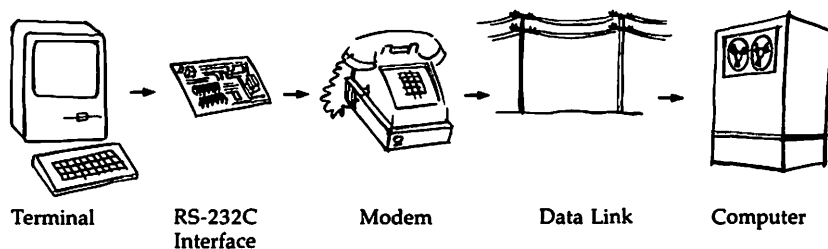
But some background into telecomputing is worth the short time it takes to read through this. There's important information here, information that will help you understand what's going on inside your computer and modem.

And though this information isn't necessary to the process of telecomputing, you may still find it of interest. It's always nice to know *how* something works, not just that it does.

## Simplicity

In its simplest form, a telecomputing link consists of five elements. They include a terminal, an RS-232C interface, a modem, a data link, and a computer (also called the *host* system). Figure 2-2 illustrates how these elements are connected.

**Figure 2-2. A Telecomputing Link**



There's no magic involved. There are simple explanations for both the elements' names and their functions.

A *terminal* usually consists of a keyboard and some method of displaying information. A terminal's primary functions are showing characters being sent and received to the user, and sending characters typed in on its keyboard to the remote host. Why the name *terminal*? Take a look at figure 2-2 again. The terminal is at one end of the link. As a matter of fact, many of the first telecomputing links were simply connections between two terminals—there was no computer involved. Two terminals "terminated" the ends of the link.

One of the very first terminals was the Teletype machine. It used paper rather than a video screen to display data. The Teletype did nothing fancy. While many of today's terminals have extensive text-formatting capabilities, the Teletype, or TTY, as it came to be known, did little but print characters it sent and received on its roll of paper.

By using a *terminal program*, your Macintosh can act as the terminal element in a link. Terminal software running on your Macintosh is said to be *emulating*, or imitating, a terminal. Almost all terminal programs have the ability to act as a *glass TTY*, using the Macintosh's screen instead of paper. Some terminal programs can also mimic the most popular of today's terminals. For instance, *MacTerminal* can make the Macintosh behave like a DEC (Digital Equipment Corporation) Model VT100 or IBM (International Business Machines) Model 3278. Saying that these two terminals are popular is somewhat of an understatement. There are probably more DEC VT100s and IBM 3278s around than all other types combined.

Emulation of a specific terminal can make it possible to substitute a Macintosh in situations where the host computer is designed to work only with that kind of terminal. There are some trade-offs. While the display of the Macintosh, with its 80-column lines, is certainly readable, it's no match for the clarity of most terminals. Also, very few emulations are perfect. A microcomputer emulating a specific terminal may not always act like the real McCoy.

Why substitute a Macintosh for a terminal? After all, terminals are usually a lot cheaper than a microcomputer. The answer is that the Macintosh can do far more than a terminal. It can not only display and send data, it can also store the information received on a disk and automate much of the

work associated with telecomputing. You'll see some of these capabilities in greater detail a bit later in chapter 5, "Macintosh Terminal Software."

### Interfaces

Let's get back to our telecomputing link. In figure 2-2, you'll notice that RS-232C *interfaces* connect modems to computers. Mysterious, this RS-232C thing, isn't it? Not if you know where this acronym comes from. It stands for Recommended Standard 232. The number 232 has no significance other than identifying which Electrical Industry Association (EIA) standard we're talking about. The C means that the standard has been revised three times. RS-232C is simply a rule which describes a standard plug and socket with predefined connection points.

The interface acts as a well-defined "gateway" through which our terminal (Macintosh) and remote host (any other computer) transfer numeric data to and from the modems.

Your Macintosh comes equipped with an RS-232C interface. The connector on the back of the Macintosh which is noted with the telephone symbol has only 9 pins instead of the 25 officially associated with RS-232C. Don't worry. Very few of the official connections are actually needed for telecomputing. The Macintosh's interface has all it needs.

### Links, Modems, and Hosts

*Data links* are connections between two points made by using what communications specialists call the "switched common-carrier network." Most people refer to it as the telephone system.

Things are still pretty simple, aren't they? Your Macintosh, when running the appropriate software, is your terminal. Your phone line is the data link. You need only one more thing to equip your system for telecomputing: a *modem* (pronounced moe-dem).

A modem's job is to turn numeric data within computers into sound (modulation) and change sound back into data (demodulation). They MODulate and DEModulate. Put them together and you've got MODEM.

Modems were developed some years ago by Bell Laboratories and were used, for the most part, with business computers. Since they were connected directly to the phone

lines, AT&T felt modems were part of the telephone network and subject to their regulation. Sometime later a new way of tying into the phone network was developed by an independent mobile telephone company called Carterphone. This method, called *acoustic coupling*, was soon used by non-AT&T modem manufacturers to hook their devices to phone lines without wiring directly into the network.

AT&T maintained that acoustically coupled modems and radio telephones were subject to regulation. Failure to comply with AT&T rules governing interconnection was grounds for discontinuing service. Carterphone was forced out of business and sued AT&T. The case went all the way to the Supreme Court, where Carterphone prevailed.

Since that time, the Federal Communications Commission (FCC) has greatly broadened the number and types of devices which may be connected to your local telephone network. Modems that hook right into your modular telephone jack account for the bulk of the devices bought for home computer systems today.

The remote computer, or *host*, on the other end of the link can be anything from an Atari 800 to an IBM mainframe. Its size doesn't really matter. Large or small, the host is running a program of its own which expects calls from other modem-equipped computers. The only difference is that the large computers can handle lots of telecomputing links at one time, while a microcomputer host can usually handle only one.

That completes the telecomputing link. Five elements, when combined, which allow your computer to talk to another computer. But how do they actually communicate?

### Computer Code

Sometime ago, someone came up with the idea of a standard code for alphanumeric data so that different kinds of computers could exchange information. The code assigned numeric values from 0 to 127 to each character. ASCII (American Standard Code for Information Interchange) was the result.

But ASCII wasn't the first code. One of the earliest was called Baudot. It was created by Emil Baudot, and though his code is no longer used, his name lives on. The term *baud rate* is still used to describe the transmission speed of a modem.

IBM even made up its own code, called EBCDIC. IBM's Extended Binary Coded Decimal Interchange Code never really caught on outside the IBM mainframe world.

The Macintosh uses what's termed a "superset" of the ASCII standard. The Macintosh character set contains 256 characters rather than ASCII's 128. Codes 0-127 are identical to the ASCII standard, but 128-255 are used for special characters unique to the Macintosh. However, when communicating with other microcomputers, only codes 0-127 are generally used.

### Code Breaking

Let's take a look at how these numeric codes are used to transmit information. How about these three characters?

M	a	c
---	---	---

The ASCII codes for these letters are:

077	097	099
-----	-----	-----

These numbers are in decimal, or base ten, the numbering system we use in everyday life. Computers, however, use the binary numbering system. Binary numbers are in base two. The only characters are ones and zeros. Since computers are in effect electrical devices, they know only whether an individual bit is on (1) or off (0). The binary equivalent of:

077	097	099
-----	-----	-----

is a series of ones and zeros that looks like this:

1001101	1100001	1100011
---------	---------	---------

Not only is this format easy for a computer to work with, but it's also easy to transform into sound and send over telephone lines.

### Parity

ASCII character codes (at least those from 0 to 127) can be represented as strings of seven bits, or individual pieces of information. In the early days of telecommunications it was discovered that noise on the telephone lines could interfere with data transmission. There had to be some way to tell if what was received was what was transmitted. Adding another bit to the beginning of each string provided a crude form of error detection called *character parity*.

This extra bit was called a *parity bit*. *Even* or *odd parity* schemes could be used. It worked like this: If even parity was in effect, the total number of ones in any character would always be even. If the seven-bit code for an ASCII character had

an even number of ones in it, the parity bit was set to zero. The parity bit was set to one if the seven-bit string had an odd number of ones.

Using an even parity scheme, the binary numbers for the *M-a-c* characters:

M	a	c
1001101	1100001	1100011

become:

01001101	11100001	01100011
----------	----------	----------

The receiving software would then remove or strip the parity bit and work with the seven remaining bits. If a string contained an odd number of bits before stripping, it was assumed to be an error and would be resent.

Odd parity worked in a similar manner, requiring an always-odd count of ones. Parity is a moot point for most microcomputer users today. This type of error checking dates back to the days when electromechanical devices such as Teletypes were in heavy use. The gears and cams of these machines were much more prone to introducing errors than modern equipment. Few systems use parity-checking schemes these days. Many systems, in fact, use the parity bit for data instead of error checking. This allows computers to send and receive all 256 Macintosh characters, rather than just the 128 of the ASCII set. In a case such as this, there is *no parity*.

The previous strings:

1001101	1100001	1100011
---------	---------	---------

become:

01001101	01100001	01100011
----------	----------	----------

We still use eight-bit strings, but use only the leftmost bit for representing special characters.

The data is almost ready to be sent. The last things that must be added are *framing bits* that delimit the beginning and end of each string. They're usually called *stop* and *start* bits. A start bit of zero is inserted at the beginning of each character, while a stop bit of one is appended to the end.

### High and Low

Modems use two sets of frequencies to send and receive data. Just for simplicity's sake, let's call them high and low. One modem will send data using the high voice and listen for data

from the other end in the low voice. The other modem does just the opposite. One modem uses the assigned frequencies in what is called *answer* mode while the other is in *originate* mode. If both devices were in the same mode, each would hear both itself and the other modem at the same time. It would be unable to tell what it sent from what it should be receiving.

Each voice, high and low, has two octaves. We'll refer to these as *space* and *mark*. By convention, the tone associated with a one is mark; the tone associated with a zero is space. Also by convention, the normal state of a phone line when no data is being transferred is a continuous mark tone. This could be considered as a constant stream of ones.

Thus, to signal the beginning and end of each character, a zero is inserted as a start bit and a one as a stop bit before and after each string. The eight-bit strings:

01001101    01100001    01100011

become ten bits long and look like this:

0010011011 0011000011 0011000111

The data is ready to transmit. Modems have no innate intelligence when it comes to data. All a modem does is take the series of ones and zeros which were passed to it by a computer, convert them to marks and spaces, and then turn them back into ones and zeros on the other end.

## Talk, Talk

Here's a *quiet* telecommunications link, composed entirely of all marks (ones) waiting for some data:

MM  
MM

You're hunched over your keyboard, happily telecomputing and oblivious to everything that's going on inside your machine. If you type:

M a c

the ASCII codes for which are:

077                      097                      099

your Macintosh recognizes what you entered as:

01001101    01100001    01100011

Your telecommunications software sticks in start and stop bits, changing the strings to:

0010011011 0011000011 0011000111

The data is sent to the modem, which changes the zeros and ones into mark and space tones. Now it looks like this:

SSMSSMMSMM SSMMSSSSMM SSMMSSSSMMM

which is then superimposed over the quiet line of solid marks:

MMMMSSMSSMMSMMMMMMMMSSMMSSSSMMMMMMMMSSMMSSSSMMMMMMMM

The receiving modem changes it back into a stream of ones and zeros:

11110010011011111110011000011111100110001111111

It's the telecommunications software running in the computer on the other end that watches the incoming stream of ones and zeros from the modem. By convention, the first zero says "Hey! The next eight bits are a character and the ninth bit will be a one. After you see that one, watch for the start of another character!"

The extraneous ones introduced by the constant mark tone and our start and stop bits are removed so that the three strings again appear as:

01001101 01100001 01100011

which a person at the other end of the telecomputing link sees as:

M                    a                    c

That's how it all works. One computer talks to another in binary, through the interpretation of the modem. It all happens much faster than it took to explain.

### File Transfers

One of the most powerful features made possible by telecomputing is the ability to transfer actual computer programs and other types of information between computer systems. The act of saving data received over a telecomputing link onto a permanent storage medium (such as a microfloppy disk or hard disk) is called *downloading*. The system sending such data is said to be *uploading*.

Occasional glitches or noise or a poor phone connection can introduce errors in the data. Sometimes that's not so

important. If you're downloading a newspaper article, for instance, it really isn't vital that *every* letter received is absolutely correct. You'll be able to figure out the meaning of a word if there's a spelling error here or there. But when you're downloading another computer program, errors can be disastrous. Even the smallest one can keep the entire program from working.

For file transfers which require high degrees of accuracy, we're forced to become diplomatic. We rely on *handshaking*, or *protocols*. These are simply agreed-upon methods by which the programs running in both computers not only transfer the data, but also carry on a running dialogue with each other. In effect, the receiving computer takes each small part, or block, of data and comes up with a code. The sending computer does the same. The codes are compared, and if they don't match, the block is transmitted again.

Typically, the sender repeats a block a finite number of times before deciding to call the whole thing off, aborting the transfer process entirely.

There are several different error-detection schemes used, but the *Xmodem* protocol developed by Ward Christensen is the method most frequently used by microcomputer-based bulletin board systems (see chapter 12).

Though the *Xmodem* protocol is better than no protocol at all, it's far from perfect. Under very specific circumstances involving multiple errors, it will fail to catch a bad block. Because of this, some terminal programs include the option for transferring files with their own protocol, usually more involved than *Xmodem*. The catch is that both the sending and receiving party must be using the same rules, which means each must own a copy of the same program. If the file transfers you plan to do allow no room for error, these more reliable transfers are likely to be best.

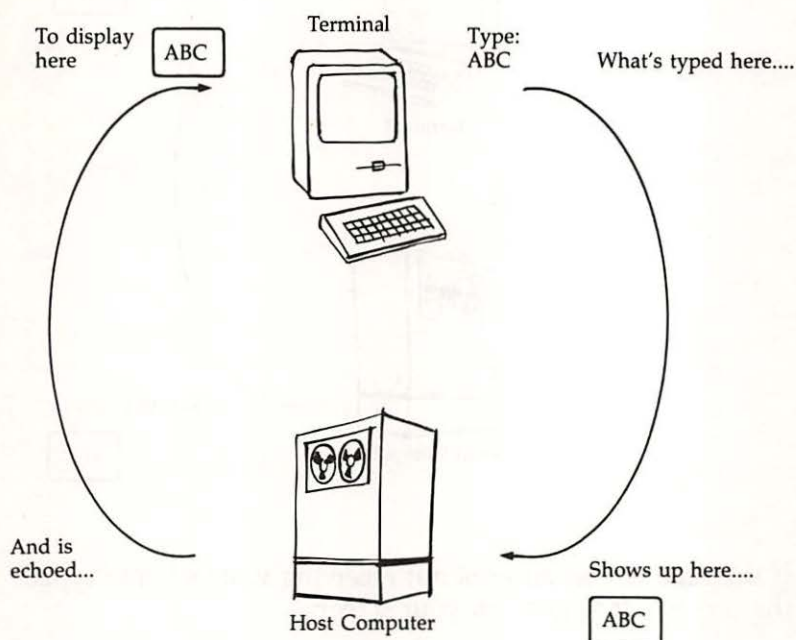
For more details on transferring files, including Mac-to-Mac and Mac-to-non-Mac transfers, refer to chapter 13.

### Bits and Pieces

There are a couple more terms you should at least be familiar with. *Duplex* indicates whether the remote computer of a telecomputing link is echoing what's typed at the terminal end. Most telecomputing links are in *full duplex* mode. The remote computer actually echoes every character as it's typed on

the terminal's keyboard. Figure 2-3 illustrates this arrangement.

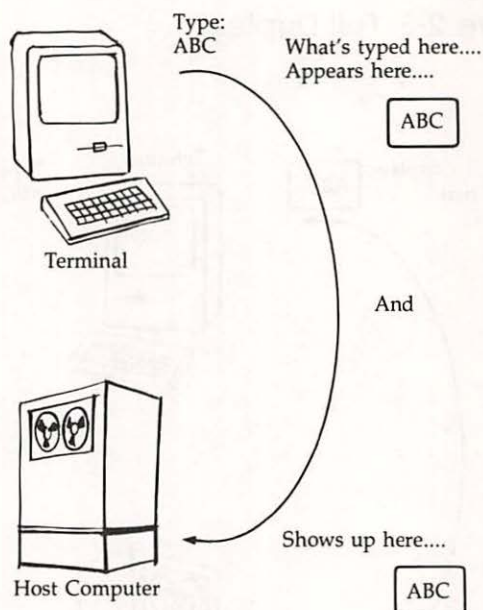
**Figure 2-3. Full Duplex**



This loop arrangement makes it easy to spot any problems with the remote end. If there is trouble with the way the terminal software parameters in the Macintosh are set up, you'll see garbled text on the screen.

In a *half duplex* link, what's typed at the terminal keyboard is sent right to the terminal screen. This is also called *local echo*. Take a look at figure 2-4 for half duplex's method of sending characters.

Figure 2-4. Half Duplex



If the remote computer is not receiving what's being typed, the text won't appear on your screen.

This brief view of the theory of telecommunications isn't exhaustive, of course. It would take chapters to do that. But if you're like most people, it's the result, not the process itself, which is of more interest. That's why the next chapter, "Getting Started," begins you moving toward your goal—telecomputing.

# Chapter 3

## Getting Started

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# Getting Started

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**S**etting up your Macintosh telecommunications system is just not that difficult. Once you've made your modem and software decisions (see chapters 4 and 5 for aid in buying those items), the rest is almost a matter of putting tab A in slot B. By following these step-by-step instructions, you can be telecomputing in 30 minutes.

The instructions here are by necessity quite general. They'll serve for almost everyone, no matter what modem you have or what service you're trying to access. However, it's suggested that you familiarize yourself with your modem's installation instructions before going on.

## Gathering Together

Make sure that you have the following:

1. Telephone with modular jacks
2. Modem with power supply and modular phone cords
3. Mac-to-modem cable (supplied with Apple modems—purchased separately for most others)
4. Small screwdriver with insulated handle (not necessary for Apple's modem cable)

## Quick-Start Checklist

1. Turn the power to your Macintosh off and unplug it from the outlet.
2. Touch any large metal object (a desk, for instance) to discharge static build-up. This is just a precaution to minimize the chance of a static discharge damaging some of the more sensitive components on the Macintosh mother board. Better safe than sorry.
3. Attach one end of the Mac-to-modem cable to your modem. Only one end will fit. A quick look at the plug should identify which end is which, since the modem and Macintosh jacks are different sizes. Tighten any screws just enough to firmly secure plug to jack.
4. Attach the other end of the cable to the Macintosh's modem port (identified with the telephone icon). Tighten any screws just enough to firmly secure plug to jack.
5. Examine the modular jacks on the modem. Your modem will hook up to the telephone line and any phone in one of three ways, depending upon the number and labeling of the

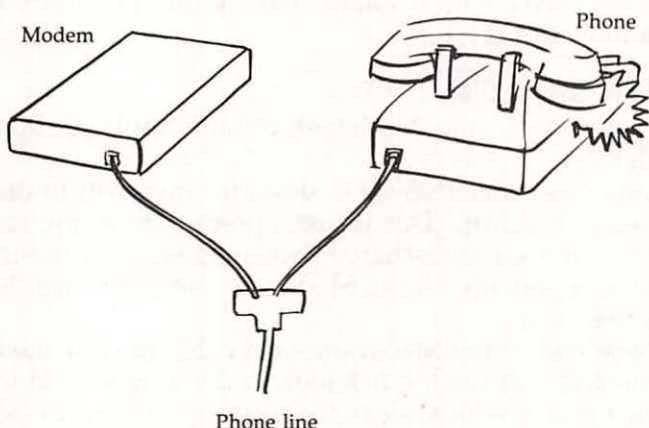
## Getting Started

jacks. See below for each number/label combination.

5-A. If there is only one modular jack on the back of the modem:

- A1. Unplug the cord connecting your telephone to the telephone line at the modular jack (typically located on a baseboard).
- A2. Install a modular RJ11C T connector at the modular jack.
- A3. Reinstall the modular plug of your telephone in one of the T connector's two jacks.
- A4. Install a modular cord between the second jack of the T connector and the modem jack. A relatively short cord is usually supplied with modems of this type and may not be enough to reach your work area. If the cable is too short, any standard modular cord may be substituted.
- A5. Skip to step 6.

Figure 3-1. Step 5-A



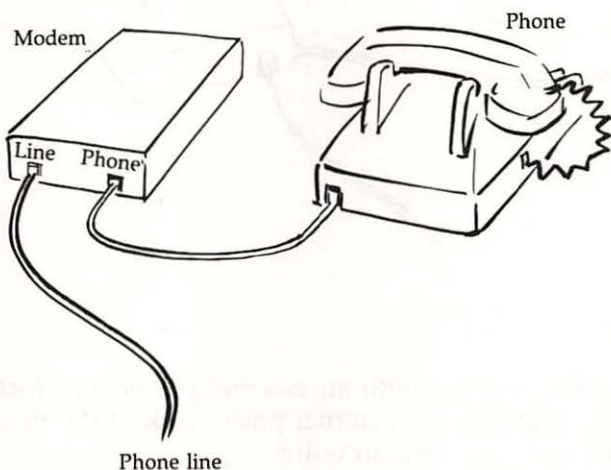
5-B. If the modem has two jacks, one labeled *Line*, the other *Phone*:

- B1. Remove the modular cord connected to the base or back of your telephone.
- B2. Insert the plug at the free end of the cord you just disconnected into the modem jack labeled *Line*.

## Getting Started

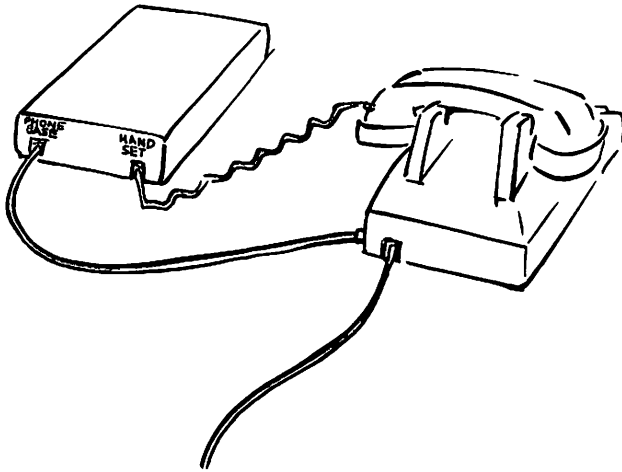
- B3. Attach one end of a modular cord to the modem jack labeled *Phone*.
- B4. Attach the other end of this cord to the jack on the base or back of your telephone.
- B5. Skip to step 6.

Figure 3-2. Step 5-B



- 5-C. If the modem has two jacks, one labeled *Handset*, the other *Phone base*:
  - C1. Remove the coiled cord attached to the handset from the side jack on the telephone base.
  - C2. Attach the free end of this coiled cord to the modem jack labeled *Handset*.
  - C3. Connect the supplied cord between the side jack of the telephone base and the modem jack labeled *Phone base*.

Figure 3-3. Step 5-C



Phone line

6. Most modems come with an external power transformer. Plug one end into the external power jack of the modem and the other end into an outlet.
7. Turn the modem's power switch to *on*. If there's an external switch on the modem labeled *Voice/Data*, make sure it's in the *Voice* position.
8. Plug your Macintosh back into the outlet.
9. Verify that your telephone is still working by lifting the receiver off the hook and listening for a dial tone. If there's none, double-check the accuracy and integrity of all your connections. If everything seems to be correct, but there's still no tone, remove the modem by reversing the installation steps. Call the computer store you bought your modem from or get a friend who is handy with phone wiring to come over. Don't call your local telephone company until all other means have been exhausted. The telephone company is not responsible for non-Bell equipment hooked into phone lines. If they come to your house, they'll typically tell you that the problem is not with your phone line and charge you \$30 for the service.

If everything went fine and your telephone is still working, relax. You're all done.

### And You're Off

Insert your terminal program disk into your Macintosh and turn the computer's power switch on. After the desktop appears, open the disk if necessary by double-clicking its icon, or by selecting the icon with a single click and then choosing the *Open* option of the *File* menu. Start your terminal application by double-clicking its icon or opening it via the menu.

Select the menu option which, according to your documentation, lets you check or change the communications parameters. Make sure that the terminal program is set up for:

Word Length . . . . 8 Bits  
Parity . . . . . None  
Stop Bits . . . . . 1  
Duplex . . . . . Full  
Baud Rate . . . . . 300 or (If your modem supports it) 1200  
Flow Control . . . . XON/OFF (Optional)

These terminal settings will work on almost every commercial information service in the United States and on the great majority of computerized bulletin board systems.

### Packets

If you decide to use any of the commercial information services, such as The Source or CompuServe, you'll very likely access them by using something called a *packet-switching network*. Packet-switching networks, like GTE's Telenet and Tymshare's Tymnet, make it possible for you to access the computers of a remote service with just a local phone call. Don't worry about how these networks operate—it's not necessary to understand how they work to telecommunicate.

Since you may not have the number of any local bulletin board systems, we'll make use of your local Tymnet or Telenet number to get online for the first time. What you'll see may not be very interesting, but it will demonstrate a bit of the process of telecomputing. And it won't cost anything but the price of the phone call. (Note: You may not live in an area served by a packet-switching-network local number. In that case, if you go through the following procedure, you'll have to pay long-distance charges.)

Call Telenet customer service at (800) 336-0437; in Virginia, call (800) 572-0408. Ask the operator for your local Telenet number. You'll be asked for your area code and city.

## Getting Started

The Telenet representative will look up your local number, or numbers, and give you the information. Write it down and save it for later use.

Now call Tymnet customer support at (800) 336-0149 and ask for your local number. Write that down, too.

If your modem and terminal program include an autodial function, instruct your Macintosh to call your local Telenet number. (If you don't have autodial, you'll have to do the dialing manually.) When the other system answers, you may see a message saying *CONNECT*, or something to that effect. If your modem has a built-in speaker, you'll hear the other system answer.

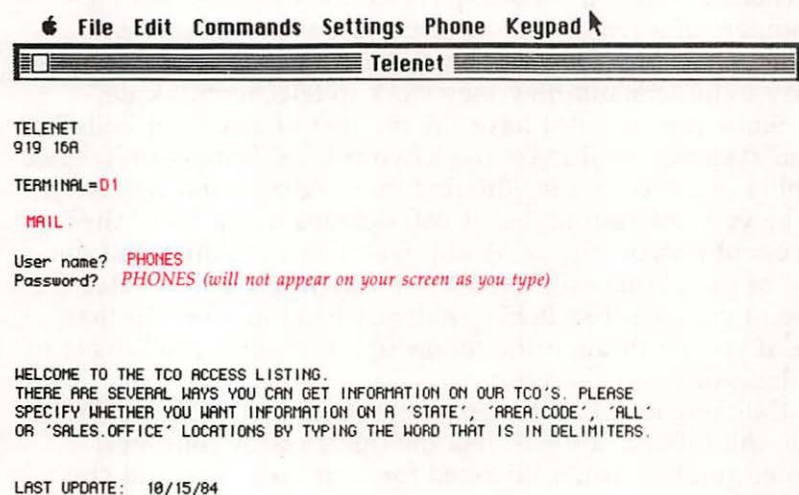
Hit the Return key once and wait a few seconds. If nothing happens, hit Return again. You'll eventually see something like this:

```
TELENET
415 211E
TERMINAL=
```

Type *D1* and hit Return.

(For the rest of this example, anything that actually is displayed on your screen by the Telenet system is in normal text. Respond as indicated by the text in second color. Hit the Return key after every entry.)

Figure 3-4. Telenet



## Getting Started

File Edit Commands Settings Phone Keypad

Telenet

\* NEW TELENET CENTRAL OFFICE  
\* NEW 1200 BAUD ACCESS AVAILABLE  
% NEW TELENET CENTRAL OFFICE ADDED CURRENT MONTH  
\$ NEW 1200 BAUD ACCESS AVAILABLE ADDED CURRENT MONTH  
% NEW LEAD NUMBER/NUMBER CHANGED

GTE/TELENET PROVIDES LOCAL NETWORK ACCESS IN THESE U.S.  
CITIES OF 50,000 POPULATION OR MORE. IN-WATS ACCESS IS AVAILABLE  
IN OTHER LOCATIONS. 1200 BPS ACCESS NUMBERS REQUIRE THE USE OF  
BELL 212- OR VADIC 3405- COMPATIBLE MODEMS, AS NOTED.  
(B) = BELL 212, (V) = VADIC 3405, (B/V) = EITHER BELL 212 OR VADIC 3405.

< > INDICATES THE ACTUAL LOCATION OF TELENET FACILITIES. IN  
SOME CASES, LOCAL ACCESS MAY REQUIRE EXTENDED METRO TELEPHONE SERVICE  
OR INVOLVE MESSAGE UNIT CHARGES.

TELENET CUSTOMER SERVICE:  
CONTINENTAL USA -- 800/336-0437  
IN VIRGINIA -- 800/336-0437  
OUTSIDE CONTINENTAL USA -- 703/442-2200

TELEMAIL CUSTOMER SERVICE:  
CONTINENTAL USA -- 800/368-3407  
IN VIRGINIA -- 703/689-6056

STATE OR AREA CODE OR ALL OR SALES OFFICE:

STATE

DO YOU WANT INWATS OR A STATE BEGINNING WITH A-TO-L? <YES OR NO>

NO

PLEASE ENTER TWO-CHARACTER STATE IDENTIFIER.

NC

	300 BPS	1200 BPS
NC 704 ASHEVILLE	252-9134	(B/V) 252-9134
NC 704 CHARLOTTE	332-3131	(B/V) 332-3131
NC 919 DAVIDSON	549-8139 <RESEARCH TRI. PARK>	(B/V) 549-8139
NC 919 DURHAM	549-8139 <RESEARCH TRI. PARK>	(B/V) 549-8139
NC 919 FAYETTEVILLE	323-4501	(B/V) 323-4501
NC 919 GREENSBORO	273-2851	(B/V) 273-2851
NC 919 HIGH POINT	889-2253	(B/V) 889-2253
NC 919 RALEIGH	549-8139 <RESEARCH TRI. PARK>	(B/V) 549-8139
NC 919 RESEARCH TRI. PARK	549-8139	(B/V) 549-8139
NC 919 WINSTON-SALEM	725-2126	(B/V) 725-2126

ANOTHER STATE? NO

MAIL DISCONNECTED 00 31 00:00:02:33 33 15

That was pretty easy, wasn't it? Now let's try to find the Tymnet numbers in North Carolina. Have your computer call the local Tymnet number. If you see nothing after Tymnet answers, hit Return. If that doesn't work, enter A1. As with the Telenet example, the words in the second color indicate the responses you should make. Press Return after each.

## Getting Started

Figure 3-5. Tymnet

File Edit Commands Settings Phone Keypad

Tymnet

-3437-015-  
please log in: INFORMATION

SYSTEM F28 WILL BE TEMPORARILY UNAVAILABLE FROM  
23:00 16-NOV-84 TO 07:00 (PST) 17-NOV-84.  
FREMONT OPERATIONS:BT

TYMNET INFORMATION SERVICE

Welcome to TYMNET's Information Service! TYMNET is the world's largest Public Data Network, with local access in over 500 U.S. cities and access to and from over 50 foreign countries. If you need more help, please don't hesitate to call one of our sales offices listed in the directory for more personal and extensive help with your application. To exit this service, please type the word 'EXIT'.

1. HELP IN USING THE INFORMATION SERVICE
2. DIAL-UP ACCESS INFORMATION
3. DATA BASE AND TIMESHRARING SERVICES AVAILABLE OVER TYMNET
4. INTERNATIONAL ACCESS INFORMATION
5. X.25 PRODUCTS CERTIFIED BY TYMNET
6. PERSONAL COMPUTER COMMUNICATION PRODUCTS VERIFIED BY TYMNET
7. HOST TYPES CURRENTLY INTERFACED ON TYMNET
8. TYMNET SALES OFFICE DIRECTORY

TYPE THE NUMBER OF THE DESIRED MENU ITEM FOLLOWED BY A CARRIAGE RETURN: 2

TYMNET DIAL-UP ACCESS INFORMATION

TYMNET is the world's largest Public Data Network with dial-up local access in over 500 cities nationwide. For a list of telephone numbers for your state, or modem information, select the appropriate entry from the menu.  
To return to the main menu, type the word 'UP'. To exit, type 'EXIT'.

1. LIST OF STATES AND AREAS
2. LIST OF ACCESS NUMBERS FOR A SPECIFIC STATE OR AREA
3. LIST OF ALL ACCESS NUMBERS SORTED BY STATE / CITY
4. LIST OF ALL ACCESS NUMBERS SORTED BY NODE NUMBER
5. INFORMATION ON CHANGED NUMBERS AND NEW CITIES
6. INFORMATION ON MODEMS

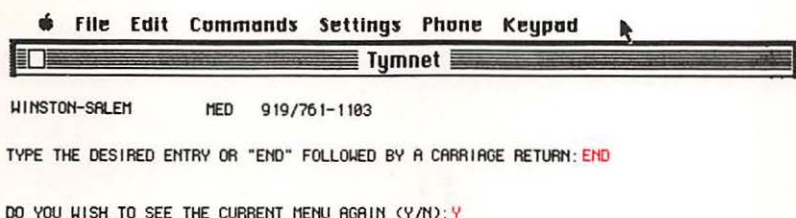
TYPE THE NUMBER OF THE DESIRED MENU ITEM FOLLOWED BY A CARRIAGE RETURN: 2

ENTER THE NAME OF THE STATE FOR WHICH YOU DESIRE INFORMATION

TYPE THE DESIRED ENTRY OR "END" FOLLOWED BY A CARRIAGE RETURN: NORTH CAROLINA

STATE / CITY	DENSITY	TELEPHONE #	MODEM TYPE	COMMENTS
(IF NOT VADIC 3467 MODEM)				
NORTH CAROLINA				
ASHEVILLE	LOW	704/253-3873		
CHARLOTTE	HIGH	704/376-2545	BELL 113	
CHARLOTTE	HIGH	704/376-2544	BELL 212A	
DURHAM	MED	919/549-8952		
FAYETTEVILLE	LOW	919/323-4282		
GREENSBORO	MED	919/273-8332		
GREENVILLE	LOW	919/758-7854		
HIGH POINT	LOW	919/882-6858		
RALEIGH	LOW	919/829-8536		
WILMINGTON	LOW	919/343-8778		

## Getting Started



From here on, experiment a little with the information available. Don't worry about making mistakes. You really can't hurt the remote or your own computer.

### Troubleshooting

If you have trouble getting online, double-check the following points:

1. Check all of your system and phone cables to make sure they're secure.
2. Is all of your equipment turned on?

If everything seems to be working but the display seems garbled, there may be a problem with the communications parameters you have set in the terminal program.

If the data on your screen looks like this:

XX'XXX&#XXXs

you've probably set the baud rate incorrectly. Make sure your Macintosh is set at the same speed as the remote system.

Does your screen look only partly garbled? If you expect to see *Enter Logon Please* and instead see:

#nt#r L#G#N Pl#as#

check your parity setting.

If everything you try fails, there are several places you can look for help. Ask your modem or terminal software dealer. Or go to a local computer users group meeting. Often, you'll find dozens of people there who are experienced telecomputerists. Don't be shy. As a rule, they're more than happy to help beginning users get online.

This has been only a brief taste of what lies in store. You're connected and ready to talk to the outside world through your Macintosh. That's what the rest of this book is for—helping you climb that mountain of information with your Mac and modem.

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# Chapter 4

## Selecting a Modem

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# Selecting a Modem

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**B**uying a modem can be a confusing experience. There are literally hundreds of different brands available, and usually several models of each brand. Finding the best one to fit your needs, as well as your pocketbook, can be intimidating.

Fortunately, there are actually few things you have to deal with in choosing a modem right for both you and your Macintosh. Compatibility with the computer and the terminal software you intend to use is foremost. A modem that won't "talk" to your Macintosh or your terminal software is of little use. The features, both number and type, that you want on your modem are the second considerations. The price of a modem (within a particular brand) is directly related to its features.

This chapter tries to eliminate the confusion of modem selection. Although we won't tell you *which* modem to buy, we'll provide you with the information you need to make an intelligent decision. By describing the most common and desirable amenities found in today's modems, you'll at least know what to look for.

## Direct Connect Versus Acoustic Coupler

Direct connect modems, which plug directly into a standard modular telephone jack (RJ11), are the rule today rather than the exception. But before the FCC loosened restrictions on interconnecting equipment with the telephone network, computer hobbyists relied on modems equipped with acoustic couplers. Since these modems did not create a direct electrical link between the device and the phone lines, they weren't subject to regulation.

Instead of plugging into the phone line, acoustic modems are equipped with round rubber cups. A standard telephone handset is then placed atop the modem—the rubber cup covering the earpiece of the handset contains a miniature microphone; the cup covering the mouthpiece, a speaker. The elements were coupled only by sound waves moving through the small pocket of air between them. Thus, this type of modem was said to be *acoustically coupled*. The primary weakness of acoustic coupler modems is that they are susceptible to noise on the phone line as well as noise in the room. They're rarely used now, since the price of more reliable direct connect

units has dropped below the average price of the acoustic models still available.

### De Facto Apple

Perhaps the most prudent purchase for many Macintosh owners will be one of the modems marketed by Apple for use on the Mac. Their price includes the proper cable to connect Macintosh and modem, and their instruction booklets include chapters that deal specifically with using them with the computer. Another advantage is that since it's the manufacturer's de facto standard modem, the special features of the Apple modems are likely to be supported by most commercial terminal software. The Apple modems also represent a fair value for your dollar. Their pricing places them squarely in the middle of the range for units offering similar features.

### Other Manufacturers

Modems made by other companies generally don't come with connecting cables since there's some variation in the type of RS-232 plugs found on the back of different computers. A cable designed to connect these modems with a Macintosh must usually be purchased separately and may range in price from \$20 to \$40, depending on the quality of parts used and the length of the cable.

In an attempt to make life simpler, several modem manufacturers have put together packages which contain a modem, a Macintosh-to-modem cable, and in some cases terminal software. These packages are a good idea—just make sure that the modem can be used with software other than its accompanying programs.

### Smarts

Many modems produced today have a certain degree of intelligence built into them. Some actually have a microcomputer, of sorts, inside them that controls such functions as autodial, dialing speed, length of rings, and other settings.

A good deal of credit for the proliferation of intelligent modems must be given to the Hayes Microcomputer Company of Norcross, Georgia. Hayes was one of the pioneers in creating intelligent modems, and its series of SmartModems is well respected in the industry and has gained wide acceptance with computer users.

Terminal programs have been written to take advantage of the high degree of modem control that the Hayes command structure allows. That's why you see so many intelligent modems advertised as Hayes-compatible. In fact, the commands associated with both the Apple 300 and 1200 modems are almost identical to the Hayes command set.

### Speed + Features = Price

The major determinants of a modem's price are the maximum speed at which it can send and receive data, and the number and variety of other features it includes.

A low-end modem's top speed is usually 300 bits per second (bps). Such modems range in price from \$50 to \$280, depending on what other features are included. Often, 300 bps modems are referred to as *Bell 103* (a telephone company standard) compatible. Up until about 1983, 300 bps modems were the standard for microcomputer users.

*Bell 212*-compatible units are able to handle data transmissions at both 300 and 1200 bps and used to average \$500 to \$700 in price. Recent developments in computer chip technology have seen several manufacturers, notably Anchor Automation and Qubie' Corporation, break the \$400 list price barrier with full-featured 300/1200 bps units.

The net effect of this downward price pressure is that there now exists some degree of overlap in the actual selling prices of high-end 300 bps units and low-end 1200 bps modems. The differences are generally cosmetic rather than in areas of reliability and performance. The higher priced model may be housed in a high-tech case, have almost every conceivable feature, and come with documentation that's extremely complete. The economy unit will typically have only the features its manufacturer feels are most important, comes with brief and somewhat terse documentation, and may be housed in a plain casing. Cosmetics aside, both premium and budget modems will function almost identically when put to the test.

The 2400 bps modems are part of the new wave of telecomputing. While they're twice as fast as 1200 bps units and operate on standard voice-grade telephone lines, they command a premium price (\$800-\$1,500). Sometimes referred to as *CCITT V.22 bis* units, these modems allow 2400, 1200, and 300 bps transmission.

### What's Baud?

The terms *high-*, *medium-* and *low-speed* are relative to transmission over regular (voice-grade) telephone lines. Specially prepared, dedicated (referred to as *conditioned*) telephone lines are often used by businesses to support data transmission rates from 9600 to 57,600 bits per second. Both the conditioned lines and the modems used to support these high transmission rates are expensive and are limited to point-to-point transmissions. In other words, the line is permanently installed between two locations and cannot be used to connect to the regular telephone network. Conditioned lines are out of the question for most microcomputer users.

Some people use the term *baud* when referring to transmission speed. They refer to medium- and high-speed units as *1200 baud* and *2400 baud* modems. This is deceptive, even incorrect.

Baud is used to reference the division of each second into discrete and tiny pieces (also referred to as signal modulation) by a modem's electronic circuitry.

A 300 bps modem's signal is indeed modulated at 300 baud. Since each tiny division holds one bit of data, the effective transmission rate is 300 baud per second times 1 bit per baud, or 300 bps.

Things take a different turn with 1200 bps units. You might expect each second to be divided into 1200 pieces. Not the case: 1200 bps units actually divide each second into 600 pieces. Using a technique called *four-level phase shift keying*, each piece can represent a string of two bits.

This isn't as complicated as it may seem. All it means is that by using a particular method that plays with the phase characteristics of the modem's signal, each baud can be in one of four acoustic phases, each representing one of four bit-pair combinations. These combinations are:

**00 or 01 or 10 or 11**

There you have it. Each baud can be in one of four phases, each representing exactly two discrete bits. Multiply 600 baud per second by 2 bits per baud and you end up with 1200 bits of information per second (1200 bps).

Knowing this, it may come as no surprise to learn that 2400 bps units also use a modulation rate of 600 baud. What's different is the method of phase shift keying. Thus, 2400 bps units use a method which yields 16-level phase shift keying, whereby each piece or baud can represent a string of four bits. The possible combinations multiply.

0000 or 0001 or 0010 or 0011 or  
0100 or 0101 or 0110 or 0111 or  
1000 or 1001 or 1010 or 1011 or  
1100 or 1101 or 1110 or 1111

With a 2400 bps modem, each baud can be in one of 16 phases, with each representing exactly four discrete bits. Multiply 600 baud per second by 4 bits per baud and you have 2400 bits of information per second.

This is why we should avoid the use of the terms *1200 baud* and *2400 baud* when referring to modems. Both devices are actually 600 baud units utilizing clever schemes to pack more than one bit in each baud. *Bits per second (bps)* is the better term to replace the commonly used *baud*.

Under most transmission schemes used today, it actually takes ten bits to send one character of data. Therefore, the approximate character-transmission speeds of 300, 1200, and 2400 bps units under optimal conditions are 30, 120, and 240 characters per second, respectively.

### What's It Worth?

Is the premium price commanded by medium- or high-speed units a worthwhile investment? That depends on your telecomputing style.

Do you plan to make heavy use of commercial information services such as CompuServe, The Source, Delphi, or Dow Jones News/Retrieval? Since, at the moment, none of the commercial services offers 2400 bps service, spending a lot of money on a 2400 bps modem is probably not a good idea.

But why don't such services offer 2400 bps service? It's almost a Catch-22 situation. There has to be a 2400 bps modem on both ends of the connection, yours and theirs. Since very

few people own 2400 bps units right now, information services see limited returns from investing in 2400 bps modems while the price of the new technology is still quite high.

At today's prices, medium-speed 1200 bps units generally yield the best price/performance ratio. Commercial information services usually charge a premium on transmission rates higher than the standard 300 bps. Regardless of the subjective differences between different speed modems, you must balance these surcharges against the decreased time required to receive and/or transmit a given amount of data.

Here's a quick example. Suppose Margaret is a frequent user of the Just Folks Information Service. She calls only during the evening (referred to as *nonprime time* by the commercial information services) and spends about five hours a month on Just Folks with her 300 bps modem.

Assume that Just Folks's hourly charges are:

\$7.75/hour for 300 bps, nonprime time

\$3.00/hour surcharge for 1200 bps, nonprime time

Margaret's yearly cost for accessing Just Folks at 300 bps is:

$\$7.75/\text{hour} \times 5 \text{ hours/month} \times 12 \text{ months/year} = \$465.00$

If Margaret used a 1200 bps unit instead, her yearly cost could be reduced to:

$\$10.75/\text{hour} \times 1.25 \text{ hours/month} \times 12 \text{ months/year} = \$161.25$

That's a savings of \$303.75. Quite a difference!

This is admittedly a "best case." It assumes that with a 1200 bps modem, Margaret will stay online to Just Folks only one-quarter of the time spent with a 300 bps unit. Depending on what she's doing online, the reduction may not be so dramatic. But given the rate structure of Just Folks, using a 1200 bps modem looks extremely attractive.

### Style

How much time you'll save by using a higher speed modem depends on your own telecomputing style. You must also take into account the indecision factor. The system will be waiting the same amount of time for you to figure out what you want to do, whether you're connected at 1200 or 300 bps. Let's examine the styles of two distinctly different users—Mr. Peavy and Ms. Planck.

Mr. Peavy randomly browses through the databases offered by Just Folks. He frequently pauses to consider all the options and stops the stream of information so that he can read everything as it's presented. One of his favorite things is to type messages back and forth to other users using the chat or conference functions. When he gets electronic mail from his friend, Ms. Planck, he composes replies online, using the simple but slow text editor that Just Folks provides.

Ms. Planck, on the other hand, treats each of her sessions on Just Folks as if it were a dangerous mission. Her primary objective is to log on, get exactly what she wants, and log off as quickly as possible. Each of her forays into Just Folks is carefully planned, using the index of databases given in her manuals. She doesn't read the complete text of information as it moves across her screen; instead, she downloads or saves her entire telecomputing session on disk or in memory for perusal after she's offline. Her electronic letters to Mr. Peavy are composed on her Macintosh with her own word processor, before she enters Just Folks, and sent all at once in a smooth stream (uploaded) by her Macintosh terminal software.

As a result of their different telecomputing styles, it's easy to see that for a given amount of information transferred, Mr. Peavy would tend to spend much more time online than Ms. Planck, and would have higher monthly charges. With its usual surcharges, a 1200 bps modem might do nothing but raise his monthly bill.

As in the previous example, these cases are admittedly extreme. Your personal telecomputing style will likely be a blend of Peavy's and Planck's, and may in fact vary from time to time.

### Rate Raises

What happens if Just Folks decides to spend the money and support 2400 bps? To justify their investment in new equipment, they place an \$8 an hour surcharge for nonprime-time 2400 bps connection. Margaret, who has by now traded in her low-speed modem for a 1200 bps unit, sits down and tries to figure out if a 2400 bps modem is a better idea.

Just Folks's hourly rate schedule is now:

\$7.75/hour for 300 bps, nonprime time  
\$10.75/hour for 1200 bps, nonprime time  
\$15.75/hour for 2400 bps, nonprime time

## Selecting a Modem

Margaret's yearly cost for accessing Just Folks at 1200 bps is:  
 $\$10.75/\text{hour} \times 1.25 \text{ hours/month} \times 12 \text{ months/year} =$   
 $\$161.25$

If she used a 2400 bps unit instead of her 1200 bps modem, the yearly cost could be reduced to:

$\$15.75/\text{hour} \times 0.625 \text{ hours/month} \times 12 \text{ months/year} =$   
 $\$118.13$

While moving from 300 to 1200 bps saved Margaret about \$300 for the year, the difference between 1200 and 2400 bps is only a little over \$40. The key in this example is the additional surcharge imposed for 2400 bps.

This basic method can be used to estimate variations in operating costs of different speed modems for accessing information services, computer-based bulletin board systems, or even school computers. All you need to do is plug in the appropriate connect time or rates.

### Cost Effectiveness and Response Time

The cost effectiveness of a medium- or high-speed modem also depends on how quickly the system you're connected to responds to your commands. When a system is heavily loaded with hundreds of users, it's very common to experience periods of slow response time. In fact, if the system is very busy, a 1200 bps user can wait just as long as a 300 bps user for requests to be processed. Data may be transmitted in spurts rather than in a continuous stream, lowering the effective transmission rate. In such a situation, a 2400 bps connection would be an even more expensive form of overkill.

Because of such heavy use, the effective data transmission rates of some information services during the evening (8:00 p.m. to midnight EST) at 1200 bps have often been "clocked" below 300 bps. If this is the case, there's no advantage to be gained at 1200 bps—it actually costs more than using a low-speed unit for the same amount of data. Optimal effective transmission speeds on the commercial services seem to be from 1:00 a.m. to 7:00 a.m. EST. If you're a night owl, you can take advantage of this.

Response time is usually no problem on computer-based

## Selecting a Modem

bulletin board systems (BBSs). Since a BBS is normally used by only one person at a time, the remote system can devote its full attention to you, which means no degradation of transmission rates.

Many 2400 bps modem manufacturers see BBSs as the key to a quick acceptance of this transmission rate by both the general telecomputing community and commercial information services. A BBS needs only one modem, so it's more likely to make the investment in new equipment.

Several modem manufacturers are said to be working with system operators (sysops) of a number of popular bulletin boards to start a seed program for 2400 bps modems. By special arrangement, 2400 bps units will be made available to selected sysops at prices very close to that of 1200 bps modems.

Industry-wide support of such a plan would certainly be welcome. If significant numbers of BBSs move to support 2400 bps, it will provide an incentive for the telecomputing community to acquire high-speed modems. Because BBSs do not generally charge for connect time, the only charges are for local or long-distance telephone use. On voice-grade lines the telephone service providers charge by straight clock time (the telephone line itself could care less what your transmission speed is), and the additional cost of a 2400 bps modem can be recovered fairly quickly.

As the numbers of 2400 bps modem owners grow, one of the major commercial information services will probably move to offer 2400 bps service. Its competitors won't be far behind. The greater the perceived size of the 2400 bps market, the lower the imposed 2400 bps surcharges will be.

Should you spend the extra money for a 1200 bps- or 2400 bps-capable modem?

The case is weak at best. Although buying a 1200 bps modem can save you money over the long run, it's a decision you have to evaluate yourself. What's your telecomputing style? What kind of services do you want to access? Asking yourself questions like these can help in the decision making. But the potential savings you may see by purchasing a 2400 bps modem is still very low, considering the limited support of 2400 bps transmission. If that support improves, then you can reevaluate your modem needs.

### Pieces of the Whole—Modem Features to Look For

#### Answer/Originate

Modems use two sets of frequencies to send and receive data. Let's, just for simplicity's sake, call them *high* and *low*. During a telecommunications session, one of the two modems involved sends data using the *high voice* and listens for data from the modem on the other end in the *low voice* spectrum. Its counterpart does just the opposite.

The modem using the high set of assigned frequencies is said to be in **answer** mode. The modem assuming the lower set of frequencies is in **originate** mode. If the two devices were in the same mode (using exactly the same frequencies) each would "hear" both itself and the other modem at the same time. Each modem would be unable to differentiate what it's sending from what it should be receiving.

A modem with the ability to use either answer or originate mode is your best bet.

#### Autoanswer

**Autoanswer** allows your computer to use telecommunications software which requires your modem to handle other computers calling your system. When a modem is in autoanswer mode, it automatically "picks up" the line when called and uses the set of frequencies assigned to answer mode. Bulletin board systems and private electronic mail systems are probably the most common applications of modems with autoanswer. To best operate these systems, there has to be some way to transfer data without someone actually having to sit beside the phone. That's why almost all the remote systems you'll call are equipped with autoanswer modems. Though this feature is handy at times, especially if you're planning on setting up a BBS, it's not vital, or even necessary, for most people.

#### Autodial

Many modems can automatically dial the telephone numbers of remote computer systems. A modem with **autodial** can eliminate all the wasted time spent picking up the phone and dialing. A few keystrokes or a couple of clicks of the mouse (if the software you're using supports the mouse) places the call.

## Selecting a Modem

A flexible autodial system will support both pulse (rotary type) and tone dialing. The most sophisticated units can actually test the phone line to see if it supports tone dialing, and if not, will revert to pulse dialing.

It's also helpful to be able to mix pulse and tone in the same sequence. It's almost a must for users whose local telephone exchange does not react to tone dialing and who wish to use alternative long-distance services such as MCI and Sprint. These services generally require tone dialing. If the terminal program in use supports sending lengthy dialing commands to the modem, the modem could pulse-dial the alternative long-distance-service access number and then switch to tone dialing to complete the call.

Although autodialing might seem like an unnecessary luxury (like power windows on a car), it's very important to have when using smart terminal software that can log onto a system automatically. Such software can save time and money, either by calling up the database and automatically retrieving information without any user intervention, or by helping you log on for a short period of time, download the information you want, log off and evaluate the information, and then log back on to get more information.

If you're constantly accessing BBSs, you've probably run into more than your share of busy signals. An autodial modem with the proper software can keep redialing the BBS number. As soon as the board is available, the connection is made.

### Call Status Monitor

It's often helpful to be able to listen to what's happening on the phone line while an autodial modem is making a call. Some modems have internal speakers which allow you to listen to the progress of the call, making it easy to tell if the system is busy or if the line is noisy. After connecting to the remote system, the speaker shuts off.

One advantage of this feature is that you can hear recorded messages from the phone company telling you of a changed or disconnected number. Considering the mortality rate of bulletin board systems, a call status monitor can be pretty handy.

Other modems, those without built-in speakers, report on the progress of a call with messages on the Macintosh screen.

A typical series of messages might be:

## Selecting a Modem

DIALING 555-1212....RINGING....CONNECT.

or

DIALING 555-1212....RINGING....NO ANSWER...DISCONNECTED

Some modems can also detect a busy signal.

DIALING 555-1212....BUSY....DISCONNECTED

### Indicator Lights

Status lights can help when you're trying to figure out a communications link problem. They can tell you if there is an active modem on the other end of the line, if your computer is really sending data, and whether data is being received. They're also used to indicate whether your modem is set in autoanswer mode.

### Unnecessary Frills

**Full/half duplex switch.** Remember the discussion of full and half duplex in chapter 2? In full duplex mode, what's typed on the Macintosh keyboard is echoed by the system you're connected to. If the system is not capable of a full duplex session, you can't see what you type on your Macintosh's screen. In such situations a modem with a half duplex mode will echo the character you type, or show it on the screen. This feature is of limited use since most terminal programs handle this chore.

**On-board dialing directories.** Some modems can keep a list of phone numbers in memory and dial them on command. That's fine for terminal software which lacks any degree of sophistication. You'll find that the autodialing features within most terminal programs for the Macintosh eliminate the need for this feature.

### Wrapping It Up

In summary, stick with an intelligent modem whose command codes are supported by the terminal software you wish to use. Those with autodial (the most commonly used feature), answer/originate, and autoanswer should adequately serve most Macintosh owner's telecomputing needs.

Whether you opt for a 300, 300/1200, or 300/1200/2400 bps unit is a matter you'll have to weigh against your own personal needs, wants, and means.

## Selecting a Modem

Also consider the quality of the documentation that comes with a modem and the length of the manufacturer's warranty. Modems, typically quite reliable, usually come with two-year (or longer) warranties.

The following summaries of modem features are far from exhaustive. There are many other excellent brands and models available. The modems listed here are intended to give you a fair representation of the features and prices commonly encountered in today's modem market.

### Macintosh Modem Sampler

*Unless otherwise noted, all modems listed here do not include connecting cables or terminal software.*

**Volksmodem—\$79.95**

**(Macintosh-Volksmodem cable—\$12.95)**

**Signalman Mark XII—\$399.95**

Anchor Automation, Inc.

6913 Valjean Avenue

Van Nuys, CA 91406

(818) 997-6493

Anchor's Volksmodem is a budget-priced 300 bps unit. The Volksmodem does not support autodialing or any other intelligent modem functions. However, its price reflects the lack of features. It is extremely compact and is powered by a 9-volt transistor-style battery (not supplied). Anchor also sells a pre-fabricated cable connecting the Macintosh to a Volksmodem.

Anchor's Signalman Mark XII is billed as a Hayes-compatible 300/1200 bps unit—most terminal programs that support the Hayes SmartModem will also work with the MK XII. It's one of the lowest priced, full-featured 300/1200 modems on the market.

All Anchor Automation modems carry a two-year warranty.

**Apple 300 Modem—\$225.00**

**(Includes Macintosh-modem cable)**

**Apple 1200 Modem—\$495.00**

**(Includes Macintosh-modem cable)**

Apple Computer, Inc.

20525 Mariani Avenue

Cupertino, CA 95014

(408) 996-1010

## Selecting a Modem

Figure 4-1. The Apple Modem



The Apple 300 and 1200 modems, both of which include autoanswer and autodial, are fully compatible with the Macintosh.

What more can be said about this pair of modems? One is a 300 bps, the other a 300/1200 bps unit; both are the only ones sure to work with almost every commercial software package written for the Macintosh. Their casings are also color coordinated with the Macintosh system.

The circuitry of both modems is manufactured by U.S. Robotics. All Apple modems carry a 90-day warranty, somewhat short in view of U.S.R.'s two-year warranty on their own products.

**SmartModem 300—\$289.95**

**SmartModem 1200—\$699.00**

Hayes Microcomputer Products, Inc.  
5923 Peachtree Industrial Boulevard  
Norcross, GA 30092  
(404) 441-1617

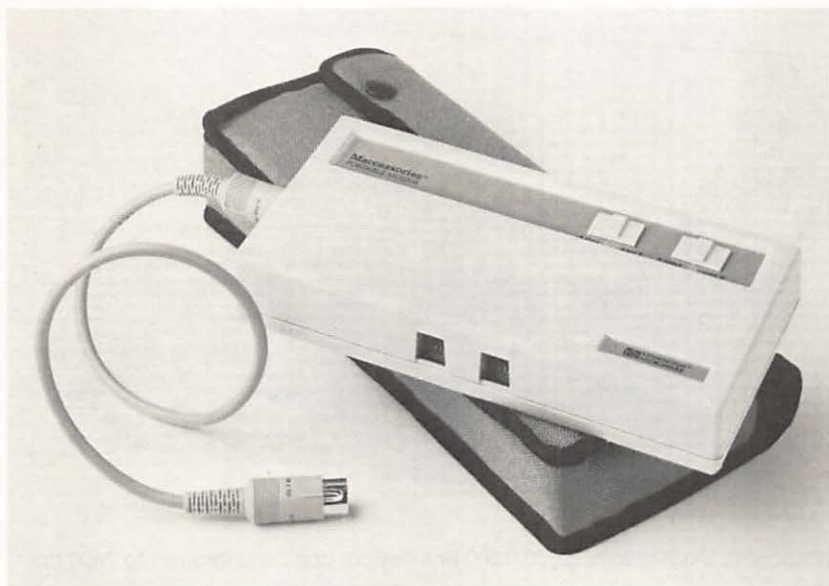
People may complain about the premium prices of Hayes's SmartModem series, but that doesn't alter the fact that the 300/1200 bps SmartModem 1200 is still the best-selling modem for the consumer market. Why? It's a Hayes—and that name carries a reputation for outstanding documentation, two-year warranties, and responsive customer service.

## Selecting a Modem

### **Maccessories Portable Modem—\$140.00 (Includes cable and carrying case)**

Kensington Microware Ltd.  
251 Park Avenue South  
New York, NY 10010  
(212) 475-5200

**Figure 4-2. Kensington's Portable Modem**



The Portable Modem comes with both carrying case and Mac-to-modem cable.

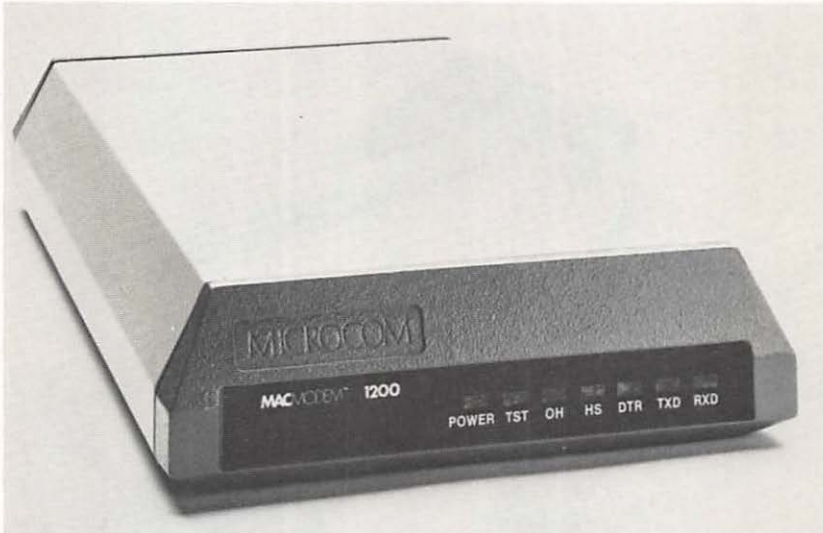
Kensington's Portable Modem is a nice idea. A battery-powered, no-frills 300 bps that's small and fits neatly into its own case for traveling. The price is somewhat excessive considering that the modem is nothing more than an Anchor Volksmodem with the Kensington name on it. You do get the connecting cable needed to hook it to your Macintosh, along with a nylon case which, by comparing Anchor's own list prices to this package, must be worth \$47.

## Selecting a Modem

### **MacModem—\$599.00 (Includes cable and software)**

Microcom, Inc.  
1400A Providence Highway  
Norwood, MA 02062  
(617) 762-9310

**Figure 4-3. The MacModem 1200**



Microcom's MacModem, a 300/1200 bps device, can be upgraded to 2400 bps.

Microcom's MacModem is an enigma. The 300/1200 bps modem is an extraordinary unit, the only one to date that can be upgraded in the future to 2400 bps for an additional fee (\$400). Their attention to detail extends even to the extremely high quality molded Macintosh-to-modem cable, complete with an icon matching the modem connector on the back of the computer. Special circuitry in the modem and code in the supplied software (see chapter 5) can be used to establish a reliable telecommunications link virtually immune to line noise errors.

Unfortunately, since Microcom uses its own unique command set for features such as autodialing, intelligent control of the modem is not supported by *any* Macintosh terminal software other than that supplied. Conversely, the Microcom software will not work with any other manufacturer's modem. No

## Selecting a Modem

documentation on the Microcom command set is included in the MacModem instructions.

The Microcom MacModem carries a one-year warranty.

**Cat—\$189.00**

**J-Cat—\$149.00**

**103 Smart-Cat Plus—\$249.00**

**103/212 Smart-Cat Plus—\$595.00**

Novation, Inc.

20409 Prairie Street

Chatsworth, CA 91311

(818) 996-5060

Novation has been in the modem business since the inception of the microcomputer revolution. Their 300 bps Cat acoustic coupler was the standard in the late 1970s and can still be found in operation where no modular outlets for direct connect modems are available. The rest of their modems are direct connect. The Novation J-Cat, while possessing no intelligence, is extremely small—just a little larger than a pack of cigarettes—and includes autoanswer as well. The Smart-Cat Plus series, with compatible command sets, is aimed at the industry-standard Hayes units.

All Novation modems are warranted for one year.

Novation has recently released, though not in time for a review to be included here, a Macintosh telecomputing package called "Cat For Your Mouse." It includes a 300/1200 bps Smart-Cat Plus Modem, Mac-to-modem cable, and terminal software for only \$495. The software, termed *Mite*, offers Xmodem and Mac-to-Mac file transfer, as well as unattended operation and programmable function keys which can, in effect, be used as macros.

**Qubie' 212E/1200A—\$329.00**

**(Includes standard RS-232 cable; not Macintosh-compatible)**

Qubie' Distributing

4809 Calle Alto

Camarillo, CA 93010

(800) 821-4479

It's no accident that the Qubie' 212E/1200A looks a lot like a Hayes SmartModem 1200. Qubie' claims that this 300/1200 bps unit acts just like its competitor, although it's been

## Selecting a Modem

reported to be somewhat more sensitive to line noise than a Hayes. Don't bother looking for this modem at your local computer store. Qubie<sup>®</sup> is primarily a mail-order distributor. They offer a 30-day money-back guarantee on all their products. Since their marketing emphasis is slanted toward IBM users, this modem comes with a cable and software for the IBM PC, of no use to Macintosh owners. Considering the price of the 212E/1200A, that's relatively minor.

The Qubie<sup>®</sup> 212E/1200 carries a one-year warranty.

### **ProModem 1200 Mac Pack—\$495.00 (Includes cable and software)**

Prometheus Products, Inc.  
45277 Fremont Boulevard  
Fremont, CA 94538  
(415) 490-2370

**Figure 4-4. ProModem 1200**



As part of the Mac Pack, Prometheus's ProModem comes with connecting cable and software.

The ProModem is a reliable and nicely styled 300/1200 bps unit. In order to entice Macintosh owners, Prometheus offers a Macintosh-to-ProModem cable and terminal software at no extra cost. While the software works only with a Prometheus-made modem, the ProModem 1200 itself works well with

## Selecting a Modem

almost all Macintosh terminal software which supports the Hayes command set. Two-year warranty.

Prometheus also offers a number of unique add-ons for the ProModem at additional cost, including a 12-character alphanumeric display and an Options Processor which allows automatic logging of call durations, buffered unattended transmission, and reception of data independent of computer attachment.

**Password 300—\$199.00**

**Password 1200—\$449.00**

U.S. Robotics, Inc.  
1123 West Washington  
Chicago, IL 60607  
(312) 733-0497

There's no question of compatibility between these U.S. Robotics modems and the Macintosh. U.S. Robotics manufactures the Apple 300 and 1200 modems. The command set is identical to Apple's and is also, for the most part, Hayes-compatible. The Password-series modems are very small and very popular. Two-year warranty.

Take a look at figure 4-5. It lists all the modems mentioned above in a quick-reference chart. With just a glance you can make comparisons between brands of modems, even models produced by a single manufacturer.

### Odds and Ends

Every direct connect modem for sale in the United States must pass FCC standards for interconnection with the telephone network. Most units display a sticker on the box or modem itself which states something like this:

Complies with Part 68, FCC Regulations;  
FCC Registration Number XXXXXX-XXXXX-XX-X  
Ringer Equivalence X.XB

Check with your local telephone company for any restrictions on modem attachment before acquiring one. For example, in most states it's illegal to connect a modem to a party line. It's the responsibility of the modem purchaser to notify the local telephone company once a modem is connected to a phone line. This is normally done by calling a service

Figure 4-5. Modem Comparison Quick Reference

	Price	Direct connect	Mac cable included	Software included	Maximum speed (bps)	Answer/originate	Full/half duplex	Autoanswer	Intelligent	Compatibility	Autodial	Pulse	Tone dial	Mixed	Auto redial	Dialing directory	Call status monitor	Speaker	Screen report	Busy detect	Status Lights
Volkmodem	\$ 79	*			300	*				NA		NA	NA	NA	NA		NA	NA	NA		
Signalman Mark XII	\$399	*			1200	*	*	*	*	Hayes	*	*	*	*	*	*	*	*	*	*	*
Apple 300	\$225	*	*		300	*		*	*	Apple	*	*	*	*	*	*	*	*	*	*	*
Apple 1200	\$495	*	*		1200	*		*	*	Apple	*	*	*	*	*	*	*	*	*	*	*
SmartModem 300	\$289	*			300	*	*	*	*	Hayes	*	*	*	*	*	*	*	*	*	*	*
SmartModem 1200	\$699	*			1200	*	*	*	*	Hayes	*	*	*	*	*	*	*	*	*	*	*
Macaccessories Portable Modem	\$140	*	*		300	*				NA		NA	NA	NA	NA		NA	NA	NA		
MacModem	\$599	*	*	*	1200+	*	*	*	*	Micro-com	*	*	*	*	*	*	*	*	*	*	*
Cat	\$189				300	*				NA		NA	NA	NA	NA		NA	NA	NA		
J-Cat	\$149	*			300	*	*	*		NA		NA	NA	NA	NA		NA	NA	NA		
103 Smart-Cat Plus	\$249	*			300	*	*	*	*	Hayes	*	*	*	*	*	*	*	*	*	*	*
103/212 Smart-Cat Plus	\$595	*			1200	*	*	*	*	Hayes	*	*	*	*	*	*	*	*	*	*	*
Qubie/ 212E/1200A	\$329	*			1200	*	*	*	*	Hayes	*	*	*	*	*	*	*	*	*	*	*
ProModem 1200 Mac Pack	\$495	*	*	*	1200	*	*	*	*	Hayes	*	*	*	*	*	*	*	*	*	*	*
Password 300	\$199	*			300	*		*	*	Apple/ Hayes	*	*	*	*	*	*	*	*	*	*	*
Password 1200	\$449	*			1200	*		*	*	Apple/ Hayes	*	*	*	*	*	*	*	*	*	*	*

representative in the telephone company business office which handles your local exchange. The FCC registration number and ringer equivalence of the modem will be noted on your line's record.

A controversy did develop in 1984 between Southwestern Bell and a computer hobbyist in Oklahoma. When the computer owner called to register his modem, the service representative he spoke to actually dusted off the books that contained the rules, or tariffs, which covered modems and examined what they said. The Oklahoma Public Service Commission had approved the tariffs back in the 1960s and had not updated them since. According to the tariff, modems were considered to be business equipment, and there were steep telephone company surcharges associated with them. The computer user was informed that he would have to pay the surcharges.

What followed was a widely publicized campaign within the microcomputer community to portray Southwestern Bell as a villain trying to squeeze extra money out of thousands of computer owners. Some particularly intense editorial messages left on bulletin boards went so far as to imply that Southwestern Bell was acting at the behest of a secret AT&T plan.

Southwestern Bell's position was that it was only upholding the tariff, which was in fact the law. Approved by each state's public service commission, tariffs are the rules that local phone companies must live by. It was an unfortunate case of an old law being inappropriate to modern times. Though negative feelings were generated on both sides, things rapidly cooled down after the tariff was amended to reflect the realities of home computing.

Today there are generally no charges for either registering a modem or hooking it up to a residential phone line. An accurate record of all connected devices can help the phone company if it ever becomes necessary to troubleshoot a problem.

A frequent complaint of new telecomputerists is of being mysteriously disconnected in the middle of a telecomputing session. Everything is going fine when all of a sudden a message appears on the screen (sent by either the Macintosh's terminal program or the modem) informing you that the current session has been interrupted. More often than not, *call*

*waiting*, a custom calling service offered by many local telephone companies, is the culprit.

Under normal circumstances, call waiting insures that people who frequently use the phone do not miss important calls. During a regular voice call, a momentary interruption of sound occurs on the line when another person is trying to get through. It sounds like a loud click. The party with call waiting can then put the present caller temporarily on hold and answer the incoming call.

Call waiting may be fine for people, but it severely disrupts modems. During a data call, both modems will interpret the interrupting click as a loss of connection to the other end of the link and will consequently shut off their send/receive functions and hang up the phone. In effect, each modem believes there is no one left to talk to.

There's not a lot you can do about the situation if you have call waiting. Although some modem manufacturers have attempted to design units that are call waiting resistant, their efforts have met with limited success. You can live with the situation, or have the phone company remove call waiting from your telephone service. Better yet, you can install a separate line just for your Macintosh.

Even if you don't have call waiting, a separate phone line for telecomputing is not a bad idea. It makes it easy to segregate the expense of computer-related calls from personal ones and insures that you won't miss important messages.

*Remember: You shouldn't have any problem with the interruptions just described if you do not have the call waiting service installed on your phone line.*

If you do add a separate line for your Macintosh, consider adding a device to your regular telephone line which will allow you to take incoming calls while leaving both hands free for mouse and keyboard.

**Speakerphones.** Once considered strictly the province of business executives, the cost of a good speakerphone has dropped to less than the cost of six Macintosh disks. It makes it even easier to carry on a conversation while working with your Macintosh. Large department stores often sell speakerphones for as low as \$39.95.

**Lightweight phone headsets.** If you don't wish to disturb other people in your computer room, or find the less than perfect sound quality of a speakerphone objectionable, consider a

## Selecting a Modem

lightweight phone headset, similar to those used by NASA mission controllers. Radio Shack's Model 43-169 headset at \$59.95 is readily available and works well.

### Hardware, Software

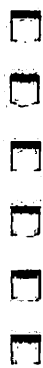
Now that you have a modem, you're still one step away from telecomputing. Unless the modem you've purchased included its own terminal program, you have to decide on what software you'll use. For without software, your Macintosh and modem will do you little good. The next chapter describes the features available on several of the terminal software packages now on the market for the Macintosh. Just as this chapter helped you decide on a modem, so chapter 5 will help you pick your software.

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# Chapter 5

## Macintosh Terminal Software



# Macintosh Terminal Software

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**P**icking a terminal program for your Macintosh can be as difficult and personal a decision as buying a new car. Aside from elements common to all communications programs, each has its own flavor or feel. They range widely in both features and cost. This chapter is intended to give you an idea of what both the simplest and the most complex of these programs can offer. We'll talk about a variety of things, ranging from price to file transfer capability. All may not be important in your final decision, but they're here for you to consider.

## Menus or Commands?

Full-featured telecomputing programs on the Macintosh are usually structured with either pull-down menus or command-driven procedures. Menus give you a simplified list to choose from. Command-driven programs require you to memorize short command names or key combinations. Both have their own strengths and weaknesses.

While menu-oriented programs are easier to learn, they can become rather tedious once you're familiar with them. Imagine eating at a restaurant once or twice a week for a few months. After a while, you know what's on the menu and what you like. A menu-driven program can become like a friendly, but stubborn waiter who insists that you look at the menu every time, even when you know exactly what you want.

If you become an avid telecomputerist and speed of operation becomes important, a terminal program that includes shorthand keyboard commands as well as pull-down menus is a good bet. Occasional modem users will probably be better off always using menus.

## Overall Cost

Some terminal programs, such as Apple's *MacTerminal*, can be used right out of the box. Others are files written in computer languages which you must have in order to run the program. Buying both the terminal program itself *and* the necessary computer language should be taken into account. For example, *MacTerminal* costs about \$100. You don't need a language to

run it. A program such as Dennis Brothers's *MacTep* is essentially free—it's in the public domain. Is *MacTep* thus cheaper than *MacTerminal*? Not necessarily. *MacTep* is written in Microsoft BASIC, which must be bought and present on the same disk as *MacTep* for the terminal program to run. Microsoft BASIC costs approximately \$150.

Cost is relative, of course. Some Macintosh users may already own Microsoft BASIC. Others may figure they can use the BASIC for things besides running a terminal program and will consider the language's cost incidental. To help you decide on a terminal program, the reviews included here indicate whether the program requires additional software.

### Dial Yourself, Dial by Machine

Keeping track of all the telephone numbers of the systems you regularly access can be a real inconvenience. Memorizing numbers is risky at best, impractical if they're used only occasionally. Jotting down the numbers on paper may be fine for some, but Murphy's Law dictates that the one time you need such a list, it will have vanished from the face of the earth. Some terminal programs have special support built-in to remember the phone numbers of your favorite information services and bulletin board systems.

The telephone number of a remote system is not the only thing you might want a terminal program to remember. Communications parameters such as baud rate, parity, word length, and the stop bit number sometimes vary from system to system. The ability to set up, then store, both the telephone number and the communications parameters eliminates the need to check all these settings every time you call. Each unique bundle of information can usually be named for easy recall and is often referred to as a *configuration file*.

Wouldn't it be great if the Macintosh automatically picked up the phone and dialed out to the system, too? That's not as hard as it may sound. With an "intelligent" modem (like the Apple modem), it can. There's only one catch. Not only must the modem be capable of autodialing, it must be specifically supported by the terminal program in use. Most of the terminal software available from modem manufacturers works only with that manufacturer's modems. Notes on modem compatibility are included in the descriptions of each Macintosh terminal program reviewed in this chapter.

The sophistication of terminal programs ranges from prompting you to manually enter a number that's then autodialed to automatically loading the number stored in a configuration file.

Since bulletin board systems accommodate only one user at a time, trying to get through to a popular BBS can be frustrating. It's not unusual to spend hours trying to connect with some systems during the evening. In these situations, a terminal program that provides facilities for automatically redialing busy numbers at specified intervals can be a god-send. While the Macintosh relentlessly dials, you can go on to other things. When the terminal program's alarm sounds, you know the connection has been made.

### Auto Log On

Both commercial information services and public bulletin board systems require that you enter certain pieces of information to gain access. In addition, if you're using a packet-switching network such as Telenet, Tymnet, or UNINET to access services like CompuServe or The Source, terminal and network access codes are needed. For example, if you're using Telenet, the prelude to a typical session on The Source might look something like this:

```
TELENET
313 18G
TERMINAL=D1
@C 50138
301 38 CONNECTED
Connected to THE SOURCE
> ID TCP98
Password? SAMPLE
TCP98 (user 15) logged in Saturday, 03 Nov 84 14:54:12.
Welcome, you are connected to THE SOURCE.
Last login Thursday, 01 Nov 84 20:46:04.
....
```

The log-on sequence for a bulletin board might go something like this:

```
HIT YOUR <RETURN> KEY
ASCII Mode
Do you require Line Feeds <Y/N>No
MACE WEST,a 300/1200 Baud BBS
Do you want to skip
the welcome message? <Y/N>Yes
Enter your Name >Arlan Levitan
From City,State >Huntington Woods, MI
You are Arlan Levitan
Calling from Huntington Woods, MI
CORRECT <Y/N>Yes
Logging caller No. 24519 to disk...
On Saturday 11/03/84 14:58:18 EST
....
```

The Source example is admittedly more complicated, since it requires a number of special codes you have to memorize. Both log ons, however, do require information which remains the same every time you access the system. Wouldn't it be nice if the log-on information could be stored and automatically sent after connection is made? Terminal programs that have provision for *auto log on* do exactly this. It's kind of eerie watching your system automatically execute a sequence the first few times. It almost seems like a computerized poltergeist is running your Macintosh. More important, of course, is that it makes regular access a breeze.

There *is* a danger associated with terminal programs with auto-log-on features. Since the procedures contain your user codes and passwords, anyone who manages to get a copy of your disk has a free ticket to whatever pay services you subscribe to. Some of the information services lag as much as two months behind in their billing cycle. In a matter of weeks, an unscrupulous thief may have circulated your code to hundreds of other people. There's nothing like getting billed for a thousand dollars for time you never used. If you decide to use the auto-log-on features of a terminal program, never leave the disk where someone else can get their hands on it. The disk is much like a credit card—it can buy services. Take as much care with the disk as you do with your credit cards.

## Making It Easy

Macro keys can be your best friend. After telecomputing for a while, you'll find that even after signing on there are certain strings of characters you'll use almost every time. To read the Macintosh-related notices on the Post feature of The Source, for instance, you'd type *post read keyword mac*. If you could set things up so that your terminal program associated selected strings of characters with each system, it would certainly save you time. When you hit a special combination of keys or selected something like *Send Macro* on a pull-down window, the stored string would be sent.

Why all this concern with time? In telecomputing, time really is money, either in long-distance phone bills or connect-time charges.

Script files carry the concept of stored commands even further. A terminal program with script capabilities lets you build long command sequences, which may then be strung together to automatically do even the most complicated task. Scripting carries the computergeist analogy to its logical conclusion.

Imagine this scenario. It's late at night, and although you're fast asleep, your Macintosh quietly waits in your den. At the appointed time the Macintosh tells the modem to dial a phone number. The remote BBS line is busy, but after a few tries the connection is made. The terminal program in the Macintosh's memory automatically logs on. It checks for any personal mail, dashes off a prewritten epistle to a friend who accesses the same BBS, and then reads the latest messages in the public message area. It saves a copy of the entire proceedings to disk for your later viewing. It signs off with flair, leaving a personal message for the system operator of the BBS.

Science fiction? Not at all. Just an example of what a well-designed script file can do. The trick is that *you* must build a script which can correctly anticipate everything that may happen during a session on a specific system. It takes time and some practice, but it's worth it.

## Download, Upload

One of the most useful facilities a terminal program can offer is the ability to transfer textual information or actual computer programs between systems.

The process of saving incoming data is called *downloading*,

or *capture*. The incoming data may be stored in memory or directly on disk. Many terminal programs also allow selected portions of text to be copied to the Clipboard so that the data may be pasted into other Macintosh applications or later transferred to other Macintosh programs.

Sending files to a remote system is called *uploading*. Sometimes the computer at the other end of the link can't handle the incoming information at full speed. It may require that the effective transmission rate be carefully controlled or paced. One common method of pacing is called "XON/XOFF". When the receiving computer senses that it will soon not be able to handle much more data, it sends an XOFF signal to the sending end, your computer. On receipt of the XOFF signal, your computer pauses until an XON signal is received, indicating that the other machine is ready to take more data.

File-transfer protocols were discussed in chapter 2. Many bulletin board systems support an error-checking protocol called Xmodem. If you're interested in downloading programs from BBSs, make sure your Macintosh terminal program supports Xmodem file transfers.

While it's relatively simple to send and receive text files, transmitting and receiving Macintosh programs pose some special problems. Macintosh programs include elements which contain special information about the program, as well as the instructions which make up the application itself. These elements are called *forks* by Macintosh software developers. Macintosh programs contain both resource and data forks. In order to transfer applications successfully from one Macintosh to another, a special Mac-to-Mac mode of file transfer is usually required. Among other things, this insures that the applications icon as well as the program code is transmitted.

### Other Considerations

**Documentation.** No matter how simple a program is, clear and concise instructions on how to use it are a must. Muddled, incomplete, or poorly organized documentation can make an excellent program impossible to use. Check the documentation of any terminal program you're thinking about buying before you spend the money. Make sure the instructions will be a help rather than a hindrance.

**Disk and file functions.** The ability to look at the directory of a disk without breaking the connection can also be

useful. It can help insure that you've correctly spelled the name of a file you're sending or prevent you from overwriting an existing file. Additional file functions, such as erasing or checking file size or contents while still online, are certainly handy. If you have these features available, you can delete unnecessary files when your disk is full. Do you own an external Macintosh disk drive? Not all programs will let you access a drive other than the one the terminal program was started from.

**Paper.** Some terminal programs allow you to keep a running paper record of everything that's been displayed on the screen. Owners of 1200 bps modems will encounter a problem in making extensive use of this feature. The Imagewriter is not able to keep up with data coming into your computer at 1200 bps. In order to give it a chance to catch up, the terminal program will signal the remote system to temporarily halt transmission while the printer is catching up. Since this can significantly increase connect time, it's better to capture the data to disk or memory and produce a printed copy after signing off.

**Previous screen review.** As the screen of the Macintosh fills up with data, the top lines scroll off the display. The ability to recall this information by scrolling backward can minimize missing important items as they zip by.

**Timers.** It's easy to lose track of time while telecomputing. Some terminal programs feature a timer that displays the time elapsed since connection was first made. Although not absolutely necessary, a session timer can help keep connect time and your monthly bill within reasonable limits.

## Macintosh Terminal Software Guide

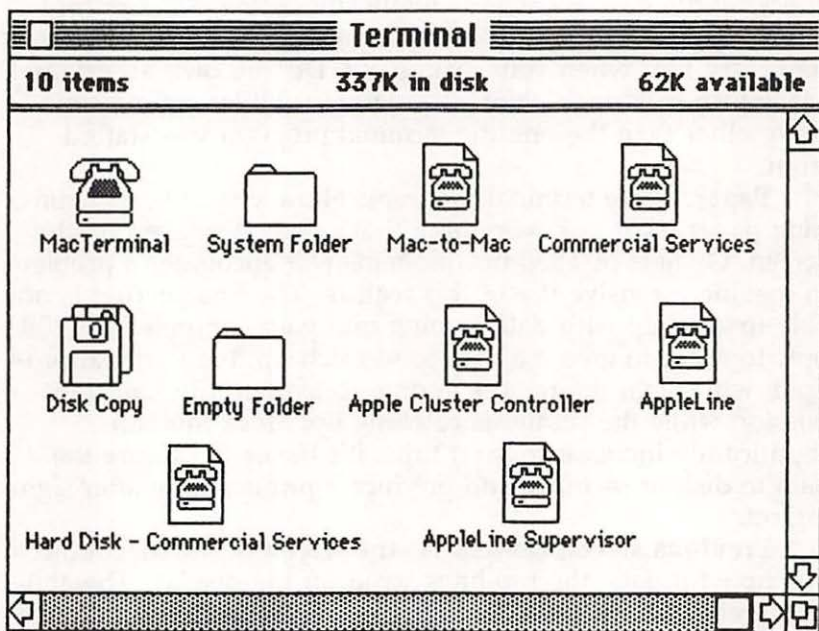
The following list does not include all terminal programs available, of course. More will appear as time goes by. At the moment, however, these are the most widely used and accessible.

Use the information here to compare the different programs. And if you come across something new, use the checklist to see how it matches up.

*An important thing to keep in mind while you're choosing a terminal program is that it be flexible enough to adjust to all of your telecomputing needs. Also make sure the program you're considering supports the transmission speed of your modem.*

## MacTerminal

Figure 5-1. MacTerm Icons



Apple Computer, Inc.  
20525 Mariani Avenue  
Cupertino, CA 95014  
(408) 996-1010

**List Price:** \$125.00

**System Requirements:** 128K or 512K Macintosh

**Modem:** Any 300 or 1200 bps modem with Mac-to-modem cable

**Stand-Alone Application:** Yes

**Optional:** Imagewriter printer

**Directory:** Yes

**Autodial:** Supported on modems with Apple-compatible command sets

**Redial on Busy:** No

**Auto Log On:** No

**Macros:** Simulated, from Notepad

**Unattended Operation:** No

**Capture to Memory:** No

**Capture to Disk:** Yes

**Copy to Clipboard:** Yes

**Uploading:** Yes—From Clipboard, Notepad, or file

**Handshaking:** Yes—XON/XOFF

**Paced Uploading:** Yes—Time delay may be set between characters and lines

**File Transfers w/Protocol:** Yes—Xmodem

**Mac-to-Mac Transfer Mode:** Yes

**External Drive Support:** Yes

**Timer:** No

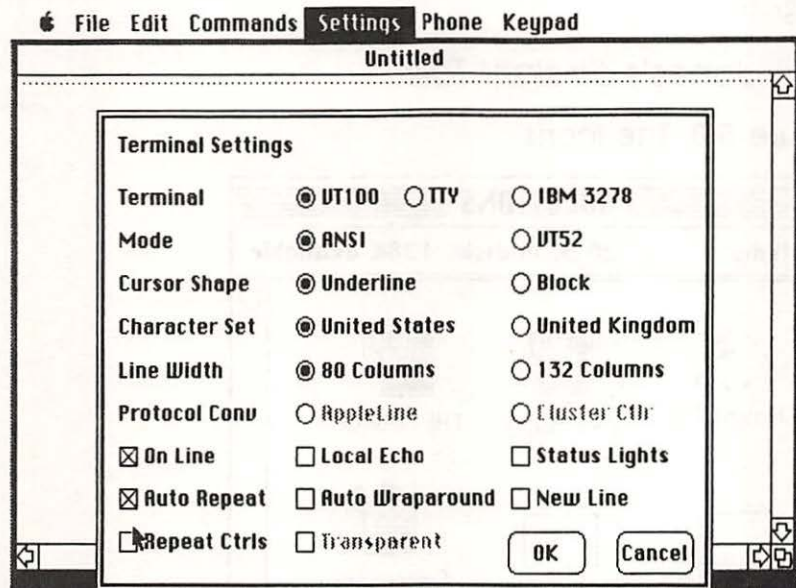
**Online Printer Support:** Yes

**Previous Screen Review:** Yes—Entire session

**Special Features:** Saved text files are compatible with *MacWrite*.

*Copy Table* function allows saved data to be specially formatted for later loading into spreadsheet programs. Includes free time and membership on CompuServe, Dow Jones News Service, Western Union Easylink, and reduced membership fee for The Source. Supports modem connection to either Modem or Imagewriter port on the Macintosh. DEC VT-100 and IBM 3278 terminal emulation (AppleLine or Apple Cluster Controller required for 3278 emulation).

Figure 5-2. Terminal Settings



**Critique:** Apple's *MacTerminal* operates smoothly and provides a reasonable number of features. Its strong suits are

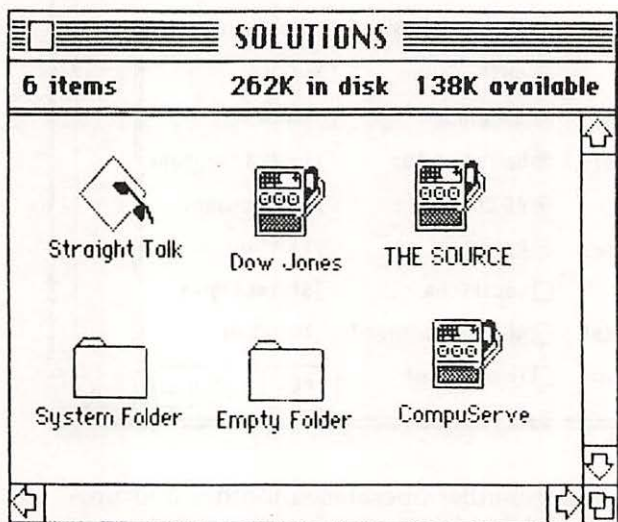
reliable Mac-to-Mac file transfers and extremely flexible communications parameters. Preset configuration files are provided for Mac-to-Mac and commercial information services. The wealth of information-service contact time and reduced offers included makes *MacTerminal* a good value.

However, the manual is not exactly traditional Macintosh. It is rather dense, even intimidating at times. The average home user would be well advised to ignore the sections dealing with DEC VT100 and IBM 3278 terminal emulations, although the inclusion of these emulations makes *MacTerminal* attractive for accessing business systems. Auto log on is not supported, and Apple's suggestion to simulate macro keys by pasting command sequences from the Notepad is in practice rather slow and irksome. Beware of making heavy use of Desktop accessories while using *MacTerminal* on a 128K Mac. Memory is so tight that the system can lock up if too many accessories are in use.

Taking its shortcomings into account, *MacTerminal* is the obvious choice for Macintosh owners who do not own Microsoft BASIC and want a good all-around communications program.

## Dow Jones's *Straight Talk*

Figure 5-3. The Icons



## Macintosh Terminal Software

Dow Jones & Company, Inc.

P.O. Box 300

Princeton, NJ 08540

(800) 257-5114

**List Price:** \$79.00

**System Requirements:** 128K or 512K Macintosh

**Modem:** Any 300 or 1200 bps modem with Mac-to-modem cable

**Stand-Alone Application:** Yes

**Optional:** Imagewriter printer

**Directory:** Yes

**Autodial:** Supported on modems with Apple-, Hayes SmartModem-, or Novation Smart-Cat-compatible command sets

**Redial on Busy:** No

**Auto Log On:** Full auto log on to Dow Jones, partial to other services

**Macros:** Simulated, from Notepad

**Unattended Operation:** No

**Capture to Memory:** Yes—limited to 16,000 characters or less with 128K Mac

**Capture to Disk:** Not directly—memory contents may be saved to disk after signing off

**Copy to Clipboard:** Not directly—memory contents may be saved to Clipboard after signing off

**Uploading:** Yes—From Clipboard, Notepad, or file

**Handshaking:** Yes—XON/XOFF

**Paced Uploading:** No

**File Transfers w/Protocol:** No

**Mac-to-Mac Transfer Mode:** No

**External Drive Support:** Yes

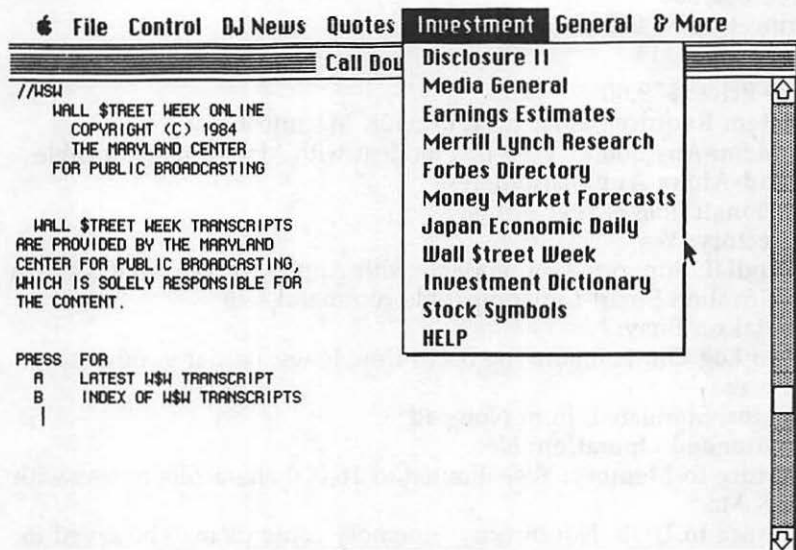
**Timer:** No

**Online Printer Support:** No

**Previous Screen Review:** Yes—within limits of memory

**Special Features:** Saved text files are compatible with *MacWrite*.

Unique pull-down menu interface for Dow Jones News Service. Free membership and hour of time on DJNS. Copies manufactured during 1984 include certificate for \$10 rebate on *Straight Talk* and \$50 rebate on Apple 300 or 1200 Modem.

Figure 5-4. *Straight Talk* Pull Down

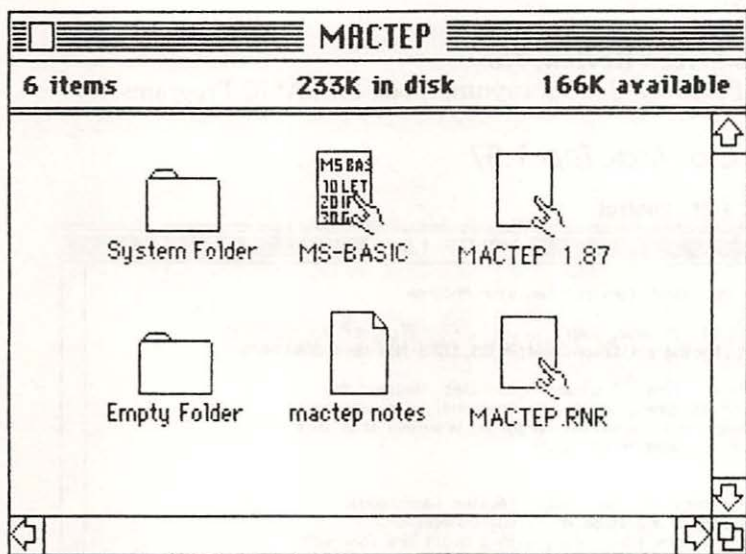
**Critique:** Keeping in character with its origins, *Straight Talk* not only comes packaged in a gray pinstripe box, but the Finder background has also been altered to conform with proper business dress. Under the cosmetics, *Straight Talk* excels at pulling its users through some pretty heavy going, namely Dow Jones News/Retrieval. *Straight Talk* is slick, but not versatile. It's not that the designers had the wrong idea; they just didn't carry a great idea far enough. Most of *Straight Talk's* pull-down menus allow you to move quickly between the various services offered on DJNS. But once a specific service is entered, you're still at the mercy of Dow Jones's cryptic command structure. A few sublevel menus for each service would make DJNS much more tolerable. They were probably out of the question, given the frequent changes in command syntax and the limited memory available on a 128K Mac. The best way to implement the pull-down menu would have been to allow users to "roll their own" menus, which could then be customized for any service users might care to access. It's a shame the navigational pull-down menu idea wasn't taken to its logical conclusion. Someone else surely will in the near future.

*Straight Talk* is particularly frustrating on the 128K Macintosh. Only about 16,000 characters (eight pages or so of text) may be captured before the program tells you that you're about to run out of memory. If you want to save everything that's been captured, you must log off, print or save the contents of memory to disk, and then log back on again. It may be the best way to get around on Dow Jones, but using it for anything else can be difficult and frustrating.

No Mac-To-Mac or file exchange with protocol facility is provided, making *Straight Talk* a poor choice for program file transfers. The character display at 1200 bps is irritatingly choppy. Despite several attempts at true elegance, *Straight Talk* is recommended only for DJNS aficionados.

## MacTep

Figure 5-5. *MacTep* and Microsoft BASIC



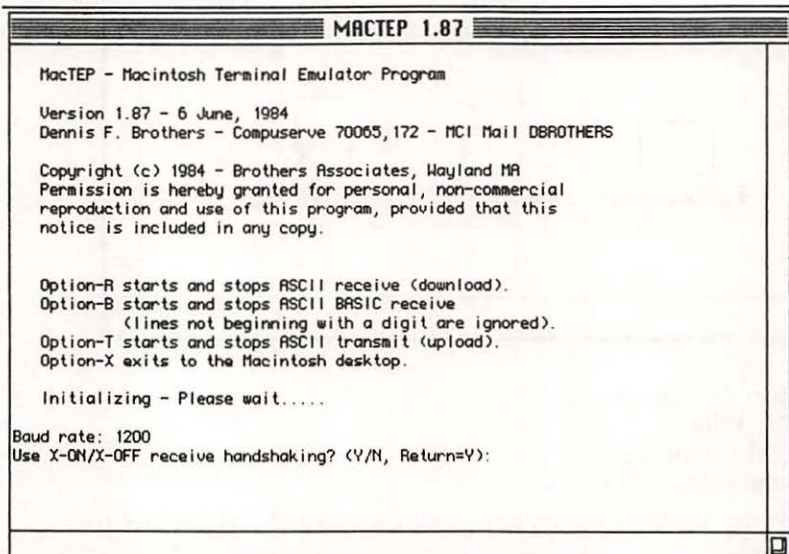
Brothers Associates  
MacTep Offer  
197 Old Connecticut  
Wayland, MA 01778

**List Price:** \$5.00 copying charge, plus formatted disk and return postage

**System Requirements:** 128K or 512K Macintosh  
**Modem:** Any 300 or 1200 bps modem with Mac-to-modem cable  
**Stand-Alone Application:** No—Requires Microsoft BASIC  
**Optional:** Imagewriter printer  
**Directory:** No  
**Autodial:** Manual  
**Redial on Busy:** No  
**Auto Log On:** No  
**Macros:** No  
**Unattended Operation:** No  
**Capture to Memory:** No  
**Capture to Disk:** Yes  
**Copy to Clipboard:** Yes  
**Uploading:** Yes  
**Handshaking:** Yes—XON/OFF  
**Paced Uploading:** No  
**File Transfers w/Protocol:** No  
**Mac-to-Mac Transfer Mode:** No  
**External Drive Support:** No  
**Timer:** No  
**Online Printer Support:** Yes  
**Previous Screen Review:** No  
**Special Features:** Special capture mode for BASIC Programs

Figure 5-6. *MacTep 1.87*

File Edit Control



**Critique:** There's not a whole lot to say about *MacTep* other than that almost everyone who connected a Macintosh to a modem between January and June of 1984 used it. Dennis Brothers, the program's author, pioneered Macintosh telecomputing. And he gave *MacTep* away while the commercial software houses were still trying to get something on the market.

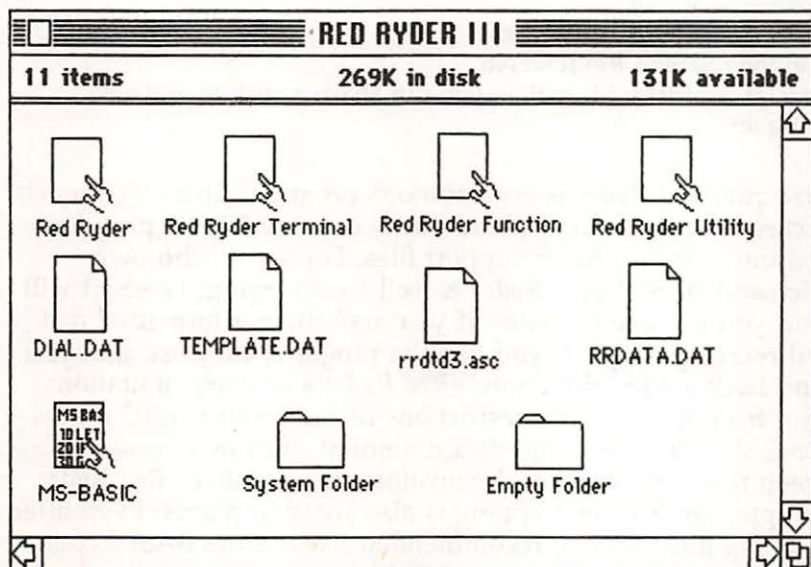
Although *MacTep* doesn't sport many bells and whistles, what it does, it does reliably. It's very difficult to crash.

The original *MacTep* spawned a legion of offspring as other programmers modified it to add new features. *AutoTep*, *RLMTep*, *TepToe*, and *TepId* are just some of the modifications. The original and most of the variants are available for downloading from CompuServe's MAUG (MicroNet Apple Users Group) Forum. You can often catch Brothers himself there during the week.

If you already have Microsoft BASIC, take the time to get a copy of *MacTep*.

## Red Ryder

Figure 5-7. *Red Ryder III*



## Macintosh Terminal Software

The FreeSoft Company  
P.O. Box 27608  
St. Louis, MO 63146

**List Price:** \$35.00

**System Requirements:** 128K or 512K Macintosh

**Modem:** Any 300 or 1200 bps modem with Mac-to-modem cable

**Stand-Alone Application:** No—requires Microsoft BASIC

**Optional:** Imagewriter printer

**Directory:** Yes

**Autodial:** Yes

**Redial on Busy:** Yes

**Auto Log On:** Yes

**Macros:** Yes

**Unattended Operation:** No

**Capture to Memory:** No

**Capture to Disk:** Yes

**Copy to Clipboard:** No

**Uploading:** Yes

**Handshaking:** Yes—XON-XOFF or user specified

**Paced Uploading:** Yes—wait for prompt and time delayed

**File Transfers w/Protocol:** Yes—Xmodem

**Mac-to-Mac Transfer Mode:** No

**External Drive Support:** No

**Timer:** Yes

**Answerback:** Yes

**Online Printer Support:** Yes

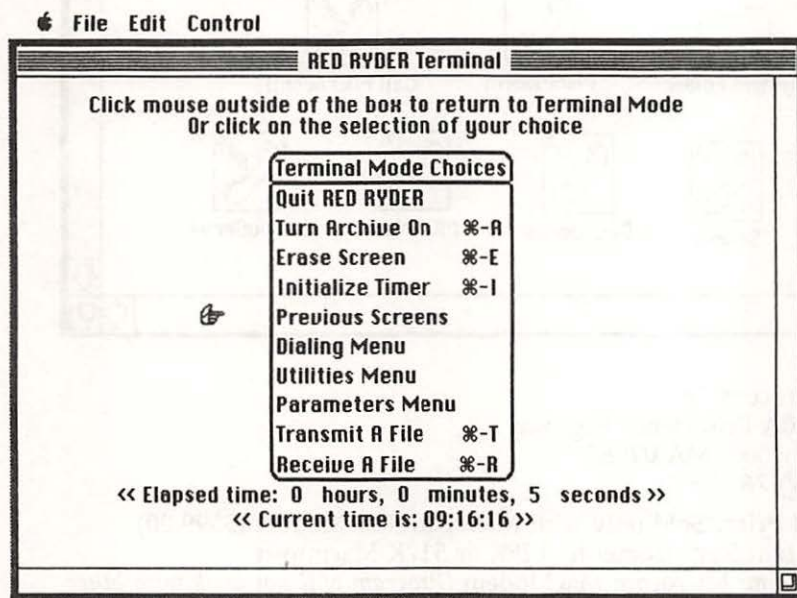
**Previous Screen Review:** No

**Special Features:** More than you can shake a stick at, but (see Critique)...

**Critique:** *Red Ryder* is an ambitious program. There's so much packed into it that it's spread out over three BASIC programs and three or four other support files. For those who own Microsoft BASIC, *Red Ryder* is well worth trying. FreeSoft will send you the latest version if you mail them a formatted disk and return postage. If you like the program, they ask that you send back a \$35 "donation." *Red Ryder's* primary limitations stem from the memory restrictions of Microsoft BASIC on a 128K Mac. It takes a significant amount of time to move between the programs which constitute the whole of *Red Ryder*. The program's error trapping is also weak in places. Even after applying a number of recommended fixes to the BASIC code of Version 3.0, there were repeatable sequences of actions, such as telling the program to go after a nonexistent file, that

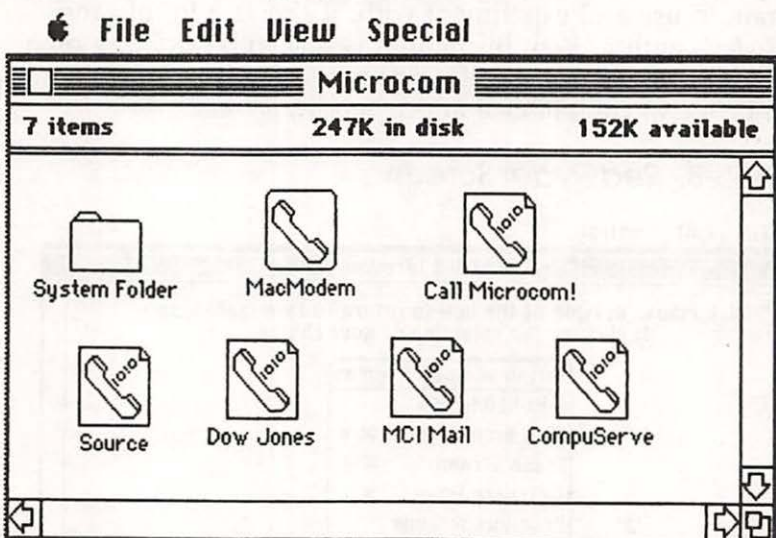
could lock the system up. The documentation provided on disk must be printed out by the user, and is written in a breezy style. With all its faults, *Red Ryder* is still an interesting program to use and experiment with; it shows a lot of promise. *Ryder's* author, Walt Buchanon, is said to be working on a stand-alone version that will *not* require Microsoft BASIC. It could be a real contender if and when it appears.

Figure 5-8. *Red Ryder* Screen



## MacModem

Figure 5-9. Calling Up *MacModem*



Microcom, Inc.  
1400A Providence Highway  
Norwood, MA 02062  
(617) 762-9310

**List Price:** Sold only with Microcom MacModem (\$599.00)

**System Requirements:** 128K or 512K Macintosh

**Modem:** Microcom MacModem (*Program will not work with other modems*)

**Optional:** Imagewriter printer

**Stand-Alone Application:** Yes

**Directory:** Yes

**Autodial:** Yes

**Redial on Busy:** Yes

**Auto Log On:** Yes

**Macros:** Yes

**Unattended Operation:** Yes

**Capture to Memory:** No

**Capture to Disk:** Yes

**Copy to Clipboard:** Yes

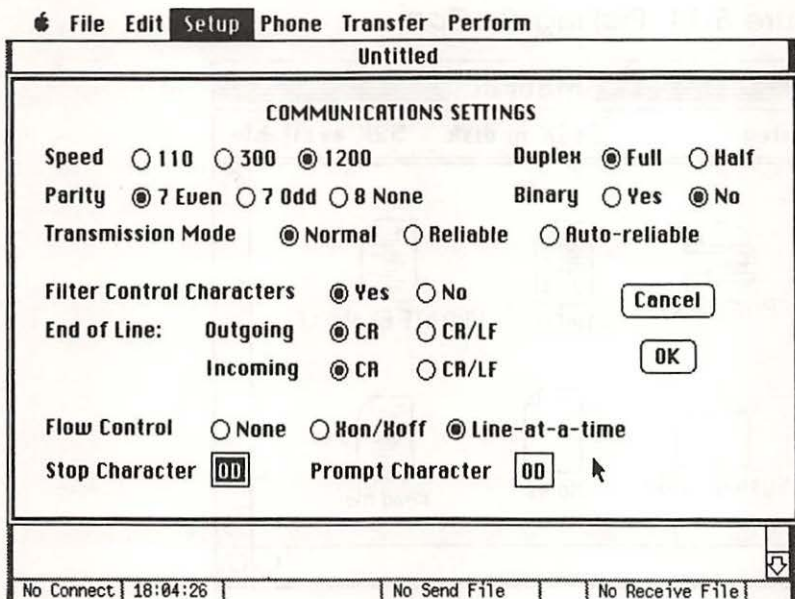
**Uploading:** Yes

**Handshaking:** Yes

**Paced Uploading:** Yes—can wait for prompt characters

**File Transfers w/Protocol:** Yes—MNP protocol  
**Mac-to-Mac Transfer Mode:** Only to systems running this program  
**External Drive Support:** Yes  
**Timer:** Yes  
**Online Printer Support:** Yes  
**Previous Screen Review:** Yes  
**Special Features:** *Reliable Link* option guarantees error and noise-free transmission when used with networks supporting proprietary protocol.

Figure 5-10. Settings

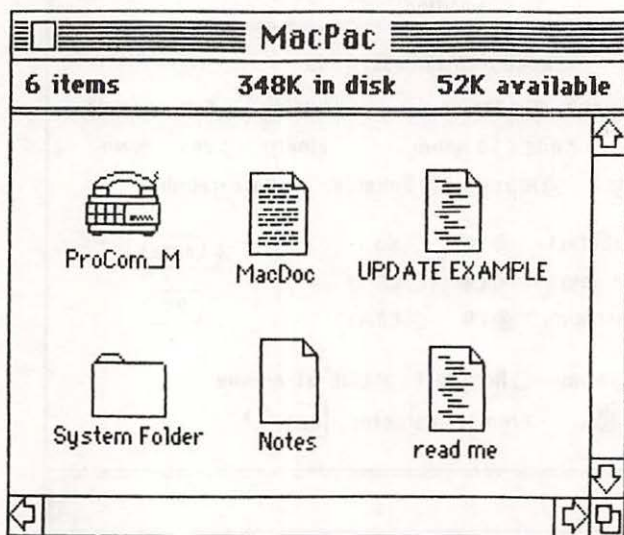


**Critique:** Let's be right up front about this one. *MacModem* is a potentially great program that suffers from two of Microcom's not-very-hidden agendas: to sell Microcom MacModems and to make their proprietary file-transfer protocol a new standard. That's not to say *MacModem* is not worthy of note. Just the opposite. Microcom has obviously spent a lot of time on the program. It's extraordinarily sophisticated. At the time of this writing, it has no peers in regard to macro key definitions and script file capabilities.

However, the disadvantage is equally impressive. *MacModem* works only with the Microcom MacModem, which is supported by no other Macintosh telecomputing software currently available. Some people believe the Microcom Networking Protocol (MNP) is infinitely superior to crude methods like Xmodem file transfer. There's little evidence the rest of the telecomputing world will drop Xmodem protocol for MNP.

### *ProCom-M*

Figure 5-11. Picking *ProCom*



Prometheus Products, Inc.  
45277 Fremont Boulevard  
Fremont, CA 94538  
(415) 490-2370

**List Price:** Sold only with ProModem 1200 Mac Pack (\$495.00) (See Critique)

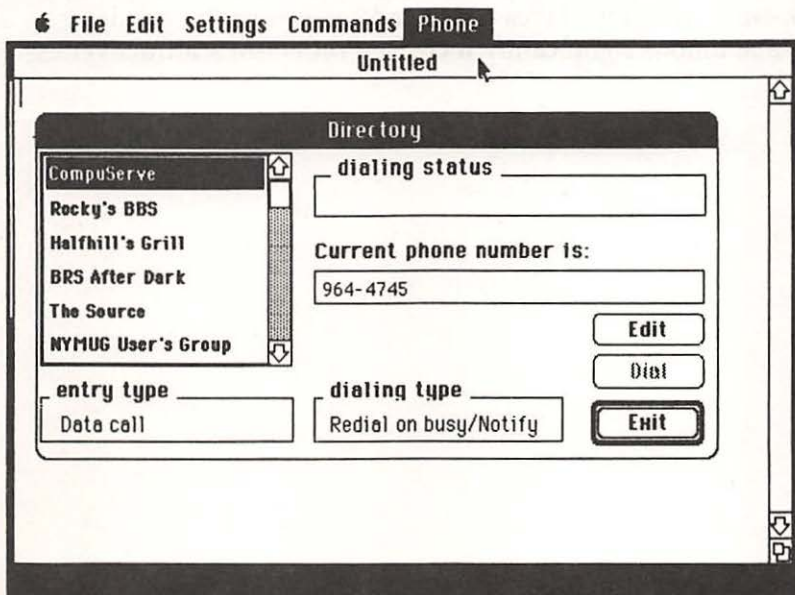
**System Requirements:** 128K or 512K Macintosh

**Modem:** Prometheus ProModem 1200 (*Program will not work with other modems...See Critique*)

**Stand-Alone Application:** Yes

**Optional:** Imagewriter printer

Directory: Yes  
 Autodial: Yes  
 Redial on Busy: Yes  
 Auto Log On: No  
 Macros: Yes  
 Unattended Operation: No (See Critique)  
 Capture to Memory: Yes  
 Capture to Disk: Yes  
 Copy to Clipboard: Yes  
 Uploading: Yes  
 Handshaking: Yes—XON/XOFF  
 Paced Uploading: No  
 File Transfers w/Protocol: Yes—Xmodem  
 Mac-to-Mac Transfer Mode: Yes  
 External Drive Support: Yes  
 Timer: No  
 Online Printer Support: Yes  
 Previous Screen Review: Yes  
 Special Features: *Get Update* feature allows new versions of *ProCom* software to be downloaded by user from BBS run by Prometheus.

Figure 5-12. Calling with *ProCom*

**Critique:** While *ProCom-M* works only with the ProModem, the Prometheus modem faithfully emulates the Hayes command set, which means that most other Macintosh telecomputing software will work with it. Purchasers of the Prometheus modem will find *ProCom-M* to be reasonably suited to the majority of telecomputing tasks. *ProCom-M* is much like a stripped-down version of *MacTerminal*. There's not as high a degree of polish, but everything works. Xmodem file transfers and Mac-to-Mac mode are both supported. Prometheus maintains a bulletin board that may be accessed by *ProCom-M* users. Once connected to the BBS, a special command within the *ProCom-M* software may be selected which will transfer the latest version of *ProCom-M* to your Macintosh. Certainly the best way to distribute updates.

In fact, a soon-to-be-released (at the time of this writing) version of *ProCom-M* will correct several of the disadvantages of the program. Scheduled for a late-1984 release, it will be available to owners of any previous version, through Prometheus's BBS. It will also be available separately from the ProModem for \$99.

This new version of *ProCom-M* will include an unattended transfer mode, phone log, and most important, the capability to operate with any Hayes command set compatible modem. These additions significantly increase *ProCom-M*'s attractiveness.

# Chapter 6

## Information Services at a Glance

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# Information Services at a Glance

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**A**fter you've equipped your Macintosh with a modem and terminal software, the next step is to find another computer with which to communicate. Actually, the problem is more of selecting one that suits your needs. Merely finding one is not too difficult—there are dozens of commercial databases vying for your patronage. New services seem to be springing up each day. These databases offer a wide variety of services, at widely varying prices. Since the information services are the main reason for the interest in computer communications, the next five chapters provide a detailed look at each of the major information services. If you have no idea how they operate and what they have to offer, however, this chapter should act as a general introduction. It will try to give you a feel for what services are available and the general range of their prices. It will also provide some criteria for evaluating them and some tips on how to use them efficiently. You do want to get the most for your online dollar, don't you?

## What They Have to Offer Information

The basic commodity of online databases is information. Usually in the form of pages of text, it's sometimes a mix of text and graphics. Receiving information online has a number of advantages. First, it's convenient. You can gather a variety of information without ever leaving home. And this information can be printed out or stored in compact form as disk files. Online information is also likely to be more timely. Unlike print, online text can be updated or changed within a matter of minutes.

The format of electronic publications is also likely to be more flexible than their printed equivalents. Telephone directories contain names, addresses, and phone numbers, but the listings are arranged alphabetically by name. Even though it's theoretically possible to start with a phone number and search the directory for its matching name and address, it's not something you're likely to try. Online databases, however, often

have a search capability. With this, you can retrieve information by any one of a number of criteria, without having to look through all the entries.

Some online publications are even interactive. The nature of dial-in databases is such that information can flow in either direction, and many systems solicit feedback from their members. They then use these comments and suggestions to tailor their services more closely to the users' needs.

When you go online, a whole new world of information opens up to you. You're likely to see the following types of services:

**News, sports, and weather.** Because of the timeliness factor, these areas are a natural for online publishers. Many services carry stories from the UPI and/or AP wires. The service may offer a menu of the latest stories or allow you to search for a particular story or type of story. You'll also commonly find online editions of daily newspapers, such as the *Washington Post*.

**Business and financial information.** Stock price quotations are the most prevalent feature, but many services also include financial data about major corporations, economic analyses and forecasts, business news, journal articles, and employment services.

**Online magazines.** These magazines range from electronic editions of print publications (like *Popular Science* or *Family Computing*) to online exclusives. Publishers range from large corporations to the self-published. You can expect a full range of subjects—computers, video equipment, family living, gardening, cooking, holistic health, and even human sexuality. Online software and hardware reviews can help you make purchasing decisions. And soap opera fans will often be able to find online plot summaries of their favorite programs. Included in this category are electronic newsletters from microcomputer hardware and software manufacturers, like Tandy, Microsoft, and Lotus.

**Movie reviews.** Many of the online services offer movie reviews, not only of current features, but also of thousands of old films that may now be appearing on television or on videotape. Some even offer daily television previews.

**Travel information.** Airline scheduling and price information, including the definitive (and somewhat expensive) online version of the *Official Airline Guide*, are often available.

Restaurant and hotel guides are common and may be more current than printed versions.

**Government publications.** Some databases carry the text of IRS and/or Social Security Administration publications.

**Health information.** Health-related information ranges from emergency first-aid advice to the latest medical news. You may also find information about the effect of prescription drugs, and their interaction with foods and each other.

### Research

Research databases give you the opportunity to search through abstracts of thousands of magazine and journal articles, drawn from technical and professional literature in such areas as medicine, engineering, chemistry, education, social sciences, and religion. Once located, you can more easily find the article at a library, or even order a copy from the database or the publisher. Some of these research databases also catalog publications of more general interest, like daily newspapers and popular magazines.

Many of the general information services feature an online edition of an entire encyclopedia (like *Academic American* from Grolier). Articles may be retrieved by title and, in some cases, by subject reference. Updating insures timeliness, as well as eliminates the need for supplements.

For those who need research, but don't want to do it themselves, there are online services such as Information On Demand that will do the research for you. For a fee, of course.

### Services

Online personal services is an area that has been growing dramatically. It's also an area where the potential is often more impressive than current performance. Many of these services are little more than novelties, offering no real improvements over their traditional noncomputer counterparts. They seem to just *show* that the service can be provided via computer, rather than taking advantage of the computer's strengths to provide more powerful or more convenient services. Why make travel reservations yourself by computer, for example, if you can telephone a travel agent who does the work for you, and who doesn't bill you for online connect charges?

Unless you live in an area where comparable services are

not available offline, there seems to be little point in using these services. Remember, though, that personal services via computer are still in their infancy. Once they move past this stage, these services may significantly extend the range of options to computer owners.

**Shopping.** The most common version of online shopping is the service offered by Comp-U-Card, called Comp-U-Store. On paper, Comp-U-Store sounds great. It offers more than 60,000 brand-name products which you can buy online at discounts of up to 40 percent. After paying a \$25 yearly membership fee, you log on, either directly or through one of the services such as CompuServe, and enter the store. You are presented with a choice of categories, for example, Appliances, Audio Equipment, Video Equipment, Cameras, China, Furniture, and Musical Instruments. After selecting a category, you're asked for a particular item, which must be entered as a four-letter code (REFR for refrigerator). If you don't know the code for the item you want, you can have a list displayed. Once you select the item, you can either enter a model number (if you happen to know it), or you can answer some basic questions, such as whether the refrigerator is a side by side, whether you want water and ice dispensers through the door, and how much you want to pay. You are then shown a menu with several model numbers and prices, from which you can select a short description of the item desired. From there, you can either order or keep looking.

Lately, Comp-U-Store has greatly expanded its selection. In addition to the regular store, they've added Comp-U-Mall, where you can order items from stores such as I. Magnin, Neiman-Marcus, and Saks Fifth Avenue. There's even a drugstore, where health and beauty aids, vitamins, and perfume can be ordered in bulk at a discount.

In practice, however, shopping by computer is not a very useful alternative. Not yet, anyway. The Comp-U-Store database is not particularly convenient to use. Without the specific order number for the item, it's necessary to go through several menu levels to get a description of the item and a price. While there may be large discounts offered from time to time on selected items, you have no way of inspecting the item before buying (unless you go to a store nearby and look at it yourself). And if you live near a large metropolitan area, you may find that the prices are not really much less than

those available from places like discount appliance stores. Moreover, delivery time for Comp-U-Store orders may be as high as four to six weeks.

If you have to go to a store to see the item (eliminating the convenience factor of shopping at home), and the prices are not much better than those available at discount stores and mail-order houses, why pay \$25 a year plus online connect charges to shop? The real usefulness of these services has to be in providing access to products not locally available. This means that computer shopping will particularly interest people in rural areas, or those looking for specialty items not usually discounted (musical instruments, for instance). Until they become easier to use, or cheaper, shopping services probably won't be a major attraction for most computer users.

**Banking.** Computer banking is another service area just starting. Information utilities like CompuServe and Delphi offer accounts through a number of banks, and the Bank of America has recently announced its own version. These accounts let you perform almost any kind of banking transaction except, as they point out, actually making a cash withdrawal. Most, for example, offer checkless electronic funds transfers for paying bills to thousands of institutions. They allow you to pay utility and credit-card bills automatically. Most people, however, will still need an account with a local institution to make cash withdrawals, and for special transactions. Most people's banking needs won't really justify two banks, one local and one online. Therefore, electronic banking will probably not have much appeal until more local banks participate.

**Stock transactions.** Brokerage accounts are available which allow you to actually transact business online. The most ambitious of these is the program announced by The Source in connection with Spear Securities. This service would allow you to receive confirmation within a couple of minutes of ordering, and would provide other benefits, such as automatic portfolio tracking (even putting together and tracking "paper portfolios," to test out a strategy without actually investing any money). It would allow you to get up-to-the-minute quote information, without the usual delay, before placing an order.

This type of sophisticated investment service seems to offer the computer customer much more than the typical brokerage customer; it points the way toward future computer services, which utilize the strengths of computer communications to provide more service, more conveniently.

## Communications

One of the strengths of telecomputing services is the ability to communicate with other users. Oftentimes, the people who use the system prove to be a much more valuable source of information than the text stored on the mainframe computers. User-to-user communication includes electronic mail, message boards, and computer conferencing.

**Electronic mail.** Electronic mail allows you to send a message to another user. You can either compose the message online, or write it offline, save it to a file, and then transfer that file. The latter method is usually cheaper, particularly for longer messages. If you do choose to enter your text online, it may be better to at least log off temporarily and jot down a few notes (if not the whole text) so that you don't spend a lot of time thinking of what to say while you're being charged connect time.

Some systems place limitations on the length of an electronic message or the length of time that it's stored on the system before it's automatically deleted. Check to see if such limitations apply to the information service you're using.

**Message boards.** Message boards work somewhat like the bulletin board in your local supermarket. You can leave messages for all to read. These boards are usually organized by subject (for example, a particular computer, like the Macintosh). Some systems include search options for locating messages by a word or phrase (such as "For Sale" or "cheap"). Message boards are an excellent place to buy or sell equipment, or ask questions and advice. Included in this category are public file access areas, where users can retrieve program files containing software written by others.

**Conferencing.** Conferencing is a term meant to include all direct user-to-user communications. During a conference, everything that is typed at one user's keyboard appears on the other user's screen. Two people may carry on a private conversation, or dozens may participate in a free-for-all. On some systems you can enter a designated conference database and talk to whoever is there. Other systems allow you to check which users are currently online and signal them that you would like to talk. Sometimes, conferences are pre-arranged around a set topic, where guest speakers may appear and answer questions.

## Programming and Program Execution

Although some of the systems allow you to write and run your own programs on the mainframe computers, such facilities are generally throwbacks to a time when personal computers did not have enough memory or power to perform most tasks. Some systems offer online spreadsheets or database programs which you can run with your own data. But with so many commercial programs in these areas available for the Macintosh, it's doubtful that many people will bother with this type of service.

The same often holds true for the game programs these systems offer. Most are versions of the first text-only games that were designed to run on a computer. It's highly doubtful that *Hunt the Wumpus* can stack up against the more modern adventure and arcade games available for personal computers today. But telecomputing services do have something original to offer—multiplayer games. It's an experience which many gamers find unique and even addicting.

## Subscription Charges, Rates, and Hours of Operation

### Membership Fees

All the consumer information services charge a one-time membership fee ranging from \$40 to \$75. This fee includes the user's manual and in some cases a certain amount of connect time. Subscription kits may be purchased directly from the information services, though CompuServe, The Source, and Dow Jones News/Retrieval also offer kits through computer stores and mass-market bookstores. Prices may vary considerably. In the case of Dow Jones News/Retrieval, for instance, a direct subscription costs \$75, but the normal retail price of the subscription kit found in stores is only \$50. Other introductory packages are sometimes discounted.

In most cases, however, even the normal subscription fee can be avoided. The major information services offer free subscriptions to purchasers of many different modems and terminal software packages. For example, buyers of Apple's *MacTerminal* program get free subscriptions to CompuServe's Executive Service and Dow Jones News/Retrieval, as well as an offer to subscribe to The Source for \$30 (reduced from the normal \$50). These free offers are obviously your best bet, so

look into them before deciding what hardware or software to buy.

The next best thing to a free offer is the Universal Sign-Up Kit from Radio Shack, which offers subscriptions to CompuServe and Dow Jones News/Retrieval, and one free hour of time on each. The Kit costs only \$19.95.

You should also consider the amount of connect time which comes with an offer when evaluating which subscription route to take. The CompuServe Starter Kit, for example, comes with five free hours (at nonprime time, 300 bps). Since it's often discounted to a price well below the \$30 that five hours costs, you may find it a better value.

### Minimums

Another factor to take into consideration when deciding on an information service is the minimum monthly charge. The Source and CompuServe's Executive Service each charge a \$10 per month minimum, and BRS/After Dark has a \$12 monthly minimum. Since this represents only a couple hours of connect time each month, the regular user will not really feel its effect. But because this fee amounts to much more than the subscription cost over the course of a year, the casual user should beware. Likewise, services like CompuServe's Consumer Information Service, Dow Jones News/Retrieval, and Knowledge Index may be more attractive to the occasional user because they charge only for the time actually used, not a monthly minimum.

### Connect Time Rates

Charges for each of the dial-in databases are based on the amount of time you spend connected to the service. These charges run from \$6 to \$50 an hour or more, depending on the service and other factors. Speed of operation is one factor. Most services normally transfer information to your computer at the rate of 300 bits per second. If you have a modem capable of 1200 bps transfer, you can receive information four times as quickly—unfortunately, most services charge a higher rate for this. Typically, this rate ranges from one and a half to two and a half times as much as that charged for 300 bps operation. This might still seem to be a bargain, since you should theoretically spend only a quarter as much time online. That's not always the case, however. For one thing, your time online is by no means spent only on receiving information. A good

part of the time, the system is waiting for your instructions. You're also bound to spend some time reading what's displayed before asking for more information. When you compose electronic mail online, or engage in a computer conference, you spend virtually all of your time typing characters in at the keyboard, at speeds much lower than 300 bps.

Depending on how long it takes you to locate the information you want, how familiar you are with the service, and how much time you spend reading or thinking of what to do next, high speed operation may reduce your online time much less than you might have first thought.

Another factor used to determine online charges is the time when you access the system. Business hours of 8:00 a.m. to 6:00 p.m., Monday through Friday, are usually considered *prime time*, and access then is usually two or three times more expensive. There are two things to watch for. The first is whether prime time is determined by your local time or by the time zone in which the service is located. Since most services use your local time, this isn't generally a problem. The other consideration is that just like long-distance telephone service, calls which begin during a higher rate period are billed at that rate, even if they extend into a lower rate period. Therefore, if your daytime session extends into the evening, disconnect at 6:01 p.m. and reconnect in order to take advantage of the lower rate.

You may also discover that not all databases are created equal. Some are considered premium services, and as such command rates higher than the standard charges. This surcharge can come in several forms: a higher connect fee, a fee per item requested (such as a per company charge for stock quotations), or a flat fee each time you enter the database. The service will usually give you a warning, letting you know of the extra charge, before allowing you to enter.

Yet another hidden cost to look out for is an access charge for the telecommunications network you dial in order to hook up to the service (see the section "Logging On" below). All the major services include telecommunications charges in their connect-time rates. CompuServe, however, includes free hookup only through its own network. If you log on through Telenet or Tymnet, you'll be billed an additional amount for the connection. Some of the less well-known databases may charge additional access fees, so investigate thoroughly before signing up.

### Hours of Operation

Although some information services started as part-time operations available only at night and on weekends, most are now available virtually around the clock. The exceptions are the research databases, BRS/After Dark and Knowledge Index, which are offered only during the evenings and on weekends. Their daytime counterparts are really considered separate services.

### Logging On

Logging on is the process of connecting your Macintosh to the remote database service. Each database will provide detailed instructions for hooking up with it. In each case, the first step is to dial the local access number (if you have an autodial modem, it can do the dialing for you). This access number is a local telephone number of a communications network which conveys signals from your computer over specially conditioned lines to the remote database. Some information services, like CompuServe, have their own access numbers available in hundreds of cities. Others rely on commercial networks such as Telenet, Tymnet, and UNINET.

In either case, make sure that the number you use is the one closest to you. Some numbers may be local, in that you don't have to dial a 1 as prefix, but still far enough away as to incur zone or message unit charges. When you request access numbers, remember that many of the communications networks are big enough to have numbers not only in major cities, but in many of the suburban areas surrounding those cities as well. (One way to find all available numbers on either Telenet or Tymnet was illustrated in chapter 3.)

When the network answers the phone, you'll hear a high-pitched tone. You should then turn on your modem and hang up the phone ("smart" modems do this for you as well). With your Macintosh running its terminal software, you then type in the proper code to identify which service you wish to connect to. You'll be prompted to enter an ID number, and/or a password. To preserve security, generally the password's characters won't appear on your screen as you type them in. Once the system accepts your password, you're in.

## Security

The importance of keeping your password secret is something which can't be emphasized too much. *You* are responsible for any charges incurred by anyone who logs on with your password. If you're careless with your password, and it falls into the wrong hands, you can expect it to be used heavily, maybe even passed on to dozens of users. Since you're billed only once a month, by the time you discover the problem, someone may have run up hundreds of hours. It's vital to exercise some common sense in choosing and using your password. If the database allows you to choose your own password, don't select a word or phrase that could be easily discovered by someone who knows you. Don't use your name, your spouse's name, your child's name, your vanity license plate, even your pet's name. Try to pick a password that's too obscure to guess, but one you can remember without writing down. If you *must* write down your password, don't tape it to your computer along with your ID number. Put it in a safe place. Some software packages allow you to store your password on the disk as part of an automatic log-on sequence. This is almost as bad as taping the piece of paper to your computer. Avoid it if at all possible.

Many of the information services allow you to change your password online. Try to do it at least once a month. The more frequently you change your password, the less damage can be done if somebody does get a hold of it. Never respond to an online request to enter your password, particularly on a system where users can communicate directly with one another. A typical scam involves a user pretending there's a system failure. He or she may type in something like *System Error 174. Please Log On Again. Password:*, which then appears on your screen. The request may look very realistic. Ignore it. If there's really a problem, be on the safe side. Disconnect, call back, and log on again.

## Navigating the Systems and Retrieving Information

### Navigation by Menu

There are basically two ways of moving from database to database within a particular system, or for selecting a particular page of text. The first method involves menus. Every

Macintosh owner is familiar with making a selection from a number of options presented on a menu. The process is essentially the same for using database menus, except that they don't pull down (they're displayed once, and if you want them redisplayed you must type a command like R for Repeat). Instead of moving the mouse pointer to a selection and clicking, you type the number which precedes the item. On the large information utilities, the top menu presents general categories of services, like Business, Communications, News, Entertainment, and so on. When you select one of these categories, another menu is displayed. That menu might list databases in the category or it might list subcategories of databases, with the actual entrance another menu level or two down. Once you get to the database, more menus may be displayed, offering a selection of pages of text to view.

### Navigation by Command

The alternative is navigational commands. A system which uses these commands displays a prompt (like *Enter command* or *->*) and waits for you to enter the name of the database, such as GO NEWS or BEGIN STOCKS. Once in the database, search commands may be used to locate a particular page of text. For example, a news database might require a command like *Retrieve Category;Business Keyword;apple computer* to retrieve any current business news story that contained the phrase *apple computer*.

Each method has its advantages and disadvantages. Menus are easier for the beginner to follow. They present a list of options and require only that you type in a number. In a large information system, browsing the menus offers an easy way to see what's available. On the other hand, once you become familiar with a particular system, menus can become annoying, even a hindrance. Who wants to wait as several menus appear, each of which requires a response, before accessing a favorite database? A system of commands might be harder to learn, but they'll allow the experienced user to get around with a minimum of frustration.

The best systems offer a combination of both methods. Menus are available for those who want them, but the system also responds to direct commands. Most menu-driven systems have at least a few direct commands. Typing M will usually get you to the last menu; R will repeat the current page; and T

will take you to the top menu. These commands aren't standard throughout all systems, but these three are popular enough to try if you're stuck. *HELP* or just *?* is also worth trying. Most of the time they will show you more information that may help you find what you're looking for.

Another navigational aid is using the Control keys. These keystroke combinations make the remote system interrupt what it's doing. Control-S usually pauses output to your screen, Control-R usually restarts it. Control-P or Control-C sometimes stops output altogether and returns you to the command prompt. Since the Macintosh keyboard doesn't include a Control key, your terminal software usually designates another key to take its place (such as the Option or Command key).

### Evaluating a System

There are several features which distinguish a *good* database system from one that's merely passable. When you're evaluating a database, keep these things in mind.

The user interface, the "face" which the system presents to you, is extremely important. The first screen you see should give enough information for you to be able to decide what to do next.

If the information service is a consumer-oriented database, it should have a menu structure that's clear and easy to follow. It should also have an underlying command structure so that advanced users can access the system directly. Ideally, in order to save typing time, the system should accept the most abbreviated form of the commands possible (the first, or the first three letters of the command word). Stringing commands together should also be available so that you can enter a number of commands on the same line rather than being forced to press Return after each. And when you type in an invalid command, the system should respond with meaningful error messages and offer a suggestion of what to do next. Help files should be available at every step if you enter *Help* or *?*. Command terminology should try to conform to the standards in the database field—H or *?* for Help, M for last Menu again, T for Top menu, F for Forward a page, B for Back a page, R for Repeat the same page, and OFF or BYE to disconnect from the database.

The extent to which the system allows you to control the flow of information is also important. The service should try

to let you match its display to the type of screen you're using. It should support a number of standard terminal types, let you set the width and height of each page, and specify continuous scrolling. There should be provisions for pausing the display, starting it up again, aborting the current task, and returning to the menu or command prompt. Another important feature is the ability to log off quickly from any point in the database.

Does the system provide storage space for your personal text files? Is it flexible in what it allows you to do with those files? Some services let you customize certain features through text files. CompuServe, for instance, allows you to create a personal menu of databases which is displayed when you first log on. The Source provides for the creation of command files, which execute several commands when the filename is typed. Other examples include letting you create your own prompts or error messages, using text files to store lists of electronic mail recipients, or listing stocks to check prices.

Ideally, the system should allow you to do as many housekeeping chores as possible while you're online. This includes changing your mailing address with the company and changing your credit-card billing information. Some systems provide an online summary of billing information as well. The importance of being able to change your password online has already been mentioned.

One final thing to look for is the system's responsiveness. A good database should respond quickly to your commands. A poorly designed system will often pause after you type a command, and execute searches very slowly. All of these interruptions cost you connect-time charges.

### Getting the Most Out of the Services

The way to get the most for your money is to eliminate wasted online time. When you dial one of these services, what you want is the information displayed on your screen. But you don't pay for these services on the basis of the number of characters they send to you. Instead, you pay for the amount of time that your computer is connected to their computer, regardless of what proportion of that time is spent in information transmission. Beginning users who log onto a system without a good idea of what they're after may spend only a small fraction of their time actually receiving information. Most of their time is spent reading and rereading menus,

thinking about what they want to do next, trying to figure out the correct command, and reading error messages when they have guessed wrong. When they finally do get the information they want, they sit and read it online, with the "meter" ticking off connect charges. This kind of operation can be expensive.

The efficient way to use these services is to do your thinking offline. Consider your goal. At first, it may just be to wander around the system, seeing what it offers. If that's the case, read the manual first to see what information it has about the system's features. Familiarize yourself with the navigational commands so that you'll know how to move from place to place. Once you log on, keep moving. Take notes on features that interest you for future reference. *If you get to a point where you don't know what to do next, log off.* This is something beginners and experienced users alike should keep in mind. Inertia seems to work against logging off. Once on, you probably want to stay on and figure things out. So you repeat errors, read the help files, experiment. Such tactics can become costly. You're not getting any information, but you're paying the same rate as if you were. Logging back on is not that hard. In fact, if you're unfamiliar with the process, the practice will do you good. Everybody gets stuck from time to time. The smart user will log off before sitting down to figure out how best to proceed.

Once you're comfortable with a particular database, you can work to refine your skills. Before you log on, think about what you want to do. Make notes, and maybe even jot down command sequences that you'll need during the session. Sometimes, either the information-service system software or your own terminal software will let you define keyboard macros. These allow you to send a whole string of text characters with a single keystroke or combination of keystrokes. If you have this capability, you should use it to reduce repetitious typing. Over a period of time, this capability can save you an enormous amount of time, not only the time that it takes to type in the text, but also the time it takes to retype inaccurate commands. Users of research services should plan their sessions with particular care. Anticipate the system's response to your inquiry, and try to prepare to follow up in any situation.

Another important timesaver is to avoid reading material online. If your terminal software is capable of transferring information to disk as it's received, use that feature whenever

possible. That way, you can print out the information (or send it back to your screen) after you've logged off and read it at your leisure, without paying for the privilege. If your terminal software does not have a capture feature, consider getting another terminal program.

The converse of this is to avoid typing in text while you're online. If you wish to send electronic mail, or anything more than a couple of lines long, learn how to send a disk file from your terminal program. That way, you can prepare the text offline with your favorite word processor and send the finished product in practically no time at all.

Since many services charge more for 1200 bps operation than for the slower 300 bps, let the type of operation determine what speed you use. If you're going to be gathering pages at a time, it's probably better to use the higher speed. The time savings will most likely more than offset the increased rate. On the other hand, it would be foolish to log on at 1200 bps when you intended to participate in a conference where you'll spend much of your time typing at a very slow speed. Generally speaking, use the lower speed when you're looking around and the higher speed when you know what you want.

Not all wasted time is your fault, though. During peak hours, when the system is heavily loaded, the service itself may be slow in responding. If you notice that it takes several seconds for a system response or that it stops printing in the middle of a line and pauses, it's the wrong time to be on. Try operating instead as late at night or as early in the morning as possible.

### **What Service Should You Subscribe To?**

The next five chapters discuss in detail the most popular of the consumer services, including CompuServe (both CIS and EIS), The Source, Dow Jones News/Retrieval, and the research databases BRS/After Dark and Knowledge Index. But there are dozens of other commercial database systems available. While most are not yet offering services the average consumer would want, or at affordable prices, many are moving in that direction. Here are a few additional services you may want to consider.

## Delphi

General Videotex Corporation  
3 Blackstone Street  
Cambridge, MA 01083  
(617) 491-3393

Delphi is a fledgling information utility, but already offers services that rival, and in some cases surpass, those of the established giants. It's a full-featured database, yet very easy to operate. For example, you can select a *Guided Tour* option from the main menu that acquaints you with the system. The electronic mail and conference sections are well implemented. Delphi has some unique features, such as the ability to send electronic mail to users of The Source and CompuServe.

Inevitably, however, a service offered by a small company is bound to have some rough edges when compared to older and better-known databases like BRS/After Dark or Knowledge Index. But Delphi's biggest drawback is its relatively small user base. Currently, with only about 4500 subscribers, it's quite possible to be the only one on the system. Since an important part of information services is their ability to facilitate communications between users, we can't wholeheartedly recommend Delphi. Yet it's a friendly, responsive system, with about the lowest possible connect-time charges. Definitely keep an eye on Delphi in the future.

## NewsNet

945 Haverford Road  
Bryn Mawr, PA 19010  
(800) 345-1301  
(215) 527-8030 (in Pennsylvania)

NewsNet is basically a research service which features the full text of dozens of private-industry newsletters, plus the UPI wire. Its innovative features include an electronic "clipping service" which automatically deposits items dealing with designated subjects into your electronic mailbox. Although it is mostly business-oriented, it's been branching out. Nevertheless, it is still a bit expensive. Rates run \$24 an hour for 300 bps operation during prime time, and \$18 for evenings. There's a 100 percent surcharge for 1200 bps and premiums for reading most of the newsletters. A \$15 monthly minimum is also included. Oddly enough, given the electronic nature of

its format, NewsNet requires a written 30-day notice of cancellation.

### **MCI Mail and Easylink**

MCI Mail (800) 424-6677

Easylink (800) 982-2737

Electronic mail may be here, but these services are really not yet designed for the average consumer. The electronic mailboxes allow delivery only to subscribers of the same service. And the hardcopy services (such as Mailgram messages) which deliver paper copies to nonsubscribers are not much more convenient or less expensive than the alternatives. (If you subscribe to Dow Jones News/Retrieval, you can access MCI Mail from that database.) All necessary information dealing with sign-up, cost, features, and availability can be obtained by calling the above telephone numbers.

### **One at a Time**

The next five chapters each outline one of the major commercial information services. Ranging from the most popular, CompuServe, to the more academic, like BRS/After Dark, these databases have much to offer any Macintosh owner. It's nice to know what you're getting before you buy. That's why these next chapters go into considerable detail. Each chapter is organized in much the same way. You'll see addresses and phone numbers of the service; descriptions of its subscription charges, rates, hours of operation, and other costs; details of how to navigate through the system; explanations of what's available; and sometimes even a list of most of the databases currently offered on the system.

By reading through a chapter, say, the next one, which talks about CompuServe's Consumer Information Service (CIS), you can get answers to a lot of your questions—before you subscribe. There's a wealth of information and information systems out there. But you probably can't afford to subscribe to them all. Which is best for your needs? Just turn the page to find out.

# Chapter 7

## CompuServe's Consumer Information Service



# CompuServe's Consumer Information Service

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**CompuServe Information Service**  
5000 Arlington Centre Boulevard  
P.O. Box 20212  
Columbus, Ohio 43220

**Subscription Inquiries**

(800) 848-8199 in continental U.S. (except Ohio)  
(614) 457-0802 in Ohio and outside continental U.S.

**Customer Support Numbers**

(800) 848-8990 in continental U.S. (except Ohio)  
(614) 457-8650 in Ohio and outside continental U.S.

Customer support available weekdays 8:00 a.m. to midnight  
(EST) and weekends 2:00 p.m. to midnight.

CompuServe has created a truly consumer-oriented format for its online videotex service, and consumers have responded by making it the nation's leading computer information service. More than 140,000 people subscribe to CompuServe. The Consumer Information Service (CIS) contains literally hundreds of databases, enough for almost any taste or interest. There's something here for every member of the family. Because of its low prices, variety of service, easy access, and easy-to-use multiple menus and online aids, joining CIS is an ideal way for the average user to get acquainted with telecomputing.

This wasn't always the case. CIS started as an offshoot of a computer service bureau which offered businesses access to computer services via remote terminals. It was a cheaper alternative to installing systems of their own. Since this service was most used during business hours, CompuServe had an excess computer capacity during the evening. In 1979, the company decided to make use of this by selling computer time to hobbyists. They called this new service MicroNET. For the paltry fee of \$5 an hour, the hacker who had cobbled together

a small homemade computer system could connect it to CompuServe's mainframe computers, and could write and run large programs in computer languages like BASIC, FORTRAN, Pascal, and APL. The hobbyist could even share ideas and programs with others through a rudimentary form of electronic mail.

As microcomputers became more popular, so did MicroNET, and CompuServe added a display program, which served to retrieve pages of stored videotex, featuring news, stock quotations, weather information, a bulletin board, and so on. While the computer became more of a consumer product, rather than the specialized domain of hobbyists, the information portion of CIS began to dominate, and then to extinguish programming. At the moment, the last vestiges of hobbyist nomenclature are being eliminated. The name of the text-editing program *FILGE* (typical jargon for *FILE Generator*) is being changed to the more understandable *EDIT*, and the *SIGs* (computerese for *Special Interest Groups*) are becoming *Discussion Forums*. Though the command *PRO* will, for now, still take you to the programming section, there's little programming you can do there. More often it's referred to as the *Personal File Area*, used mainly to create and edit the personal text files which you wish to store on the system.

This shift in emphasis is part of a constant effort on the part of CompuServe to broaden its appeal. The tremendous boom in low-cost personal computers has put an enormous number of these machines into the hands of people who really have no idea of what they can do with a computer, at least not right away. "What do I do with it?" is the most common question of new computer owners. CompuServe is clearly trying to provide these people with as many answers as possible. Consequently, the service has been expanding and changing as rapidly as the microcomputer industry itself. A free-market Darwinism seems to reign, and only those features that serve to keep subscribers glued to their monitors are likely to survive. The result is an attractive (some might even say addictive) mix of information services.

These services come in many forms, provided by many different sources. There are still straight videotex services, such as news, weather information, online magazines, and advisory services, which offer information on subjects ranging from home gardening to human sexuality. Personal services such as

home banking, travel arrangements, and shopping are available online through CIS. A wide range of electronic communications media provide everything from electronic mail and bulletin boards to multiuser round-table conversations. Some of these services are provided by CompuServe itself, while others are supplied by outside providers, who may offer the exact same services through other information utilities. Surprisingly, a large proportion of the most interesting material is supplied by CompuServe users themselves. Those features which facilitate communication between users are consistently among the most popular.

## Subscription Charges, Rates, and Hours of Operation

Along with its wide variety of services, the other reason for CompuServe's tremendous popularity is its low rate structure. The most common method of subscribing to CompuServe is by purchasing what's known as a Starter Kit. The kit includes a ring-binder containing the CIS *User's Guide*, and a Snapak. The Snapak is a snap-apart paper envelope containing a user ID number, password, and service agreement. The *User's Guide* contains log-on instructions and a list of local access numbers you'll use to connect to CIS. When you find the access number closest to you, the user ID and password enable you to log onto the service immediately and give you five hours of standard (nonprime time, 300 bps) service. To continue service past the initial free period (and to receive electronic mail), you'll have to complete the service agreement and mail it back, and complete an online sign-up procedure (if you enter credit-card billing information during this procedure, you may not have to mail back the agreement). You'll then receive a second, permanent password (which you can, and should, change online at regular intervals). If you don't wish to have your online charges billed to a credit-card account, you can have your CompuServe charges paid directly from your checking account by selecting the Checkfree payment method. (By the way, your online sign-up will not be counted as part of your free time. CompuServe doesn't charge for time spent ordering CompuServe products or services, changing terminal settings, or offering comments or questions about the service.)

## Subscriptions

But what does it cost for the *User's Guide* and five free hours of connect time? That depends on where you get your Starter Kit. Presently, the Kit runs \$39.95, and can be found at that price at any of hundreds of book chain outlets. Computer retailers typically sell it for \$34.95. Discount chain stores sell the Kit for \$29.95. And computer mail-order discount houses sell the Kit for as low as \$22.95. That's less than what it costs for the five hours of connect time.

Radio Shack outlets carry their own version of the Starter Kit. Called the Universal Sign-Up Kit (part number 26-2224), it includes a CompuServe manual and ID, a Dow Jones News/Retrieval Service manual and ID, and one free hour of connect time on each service. All this for only \$19.95!

From time to time, CompuServe enters into an agreement with software and hardware manufacturers, whereby buyers of a particular modem or terminal software package receive a CompuServe ID and one free hour of connect time as part of the purchase. When it comes to subscribing to CompuServe, the initial fee amounts to nothing, or next to nothing.

Once you use up your free time, you'll be billed at the standard rates. Unlike some services, there's no monthly minimum, and connect time is billed in one-minute increments, so you'll only be charged for time you actually use. The only possible exception is if you're accidentally disconnected without properly logging off. If this happens, the system bills you for about 15 minutes (until it decides that since you aren't entering any keystrokes, you're no longer there). All CompuServe members are provided with 128K (131,072 characters) of storage space for personal text files. Though there's a charge for additional file space, most people find this more than adequate. For your convenience, CompuServe allows you to check your billing information online. (To access this feature, type *go bil* at the *!* prompt.)

## Rates and Hours

As of late 1984, CIS evening rates were \$6.00 an hour when connected at 300 bps, and \$12.50 an hour for 1200 bps service. These rates apply only to standard hours (nonprime time), from 6:00 p.m. to 5:00 a.m. weekdays (the system is usually also available from 5:00 a.m. to 8:00 a.m., except when shut down for maintenance, testing, and installation of

new features), and all day Saturday, Sunday, and selected holidays.

In order to log on during the prime hours of 8:00 a.m. to 6:00 p.m., Monday through Friday, you'll have to have completed your online sign-up and received your second password. Once you're authorized for prime-time connection, you'll be charged \$12.50 an hour at 300 bps, and \$15.00 an hour at 1200 bps. Obviously, if your modem has 1200 bps capability, you'll want to use it during daytime connection to CIS. Your local time determines whether you connect at prime time or nonprime time. Note that any call which starts during prime time is billed at the higher rate, even if it runs into nonprime hours. If you're using CIS during prime time, then, be sure to log off at 6:00 p.m. and reconnect to take advantage of the lower rate.

To summarize, the connect charges for CompuServe are:

**Evening (6:00 p.m. to 5:00 a.m. weekdays; all day Saturday, Sunday, and selected holidays)**

300 bps	1200 bps
\$6.00/hour	\$12.50/hour

**Daytime (8:00 a.m. to 6:00 p.m. weekdays)**

300 bps	1200 bps
\$12.50/hour	\$15.00/hour

Considering that CompuServe started out charging \$5.00 an hour in 1979 (and \$17.50 an hour for 1200 bps service), these rates are quite reasonable. What else has risen so little in price in the last five years?

## Access Charges?

Another charge to consider is that for telephone access. CompuServe has its own dial-in network system, which allows you to connect up by calling one of several hundred numbers across the country. If you live near a major metropolitan area, you'll usually have an access *node* nearby, which can be dialed as a local call. Remember, though, that there are all kinds of "local" calls. Even if you don't have to dial a 1 to call a CompuServe access number, you may be charged per minute for a *zone call*, or for *message units*. Check with your local phone company if you're not sure you're billed in this way.

These additional charges must be added in when you figure what it will cost to go online. The alternative to using the CompuServe network is to connect through the Telenet, Tymnet, or Datapac services (see chapter 3 for more information on these packet-switching networks). There's a hookup surcharge for these networks (currently \$2.00 an hour at night and \$10.00 an hour during the day for Telenet and Tymnet in the continental U.S., higher from Alaska or Hawaii). Nonetheless, if one of these network access numbers is a local call, it may be less expensive to pay the surcharge than to make a toll call to one of CompuServe's numbers.

### Premium Surcharges

While on the subject of surcharges, you should be aware that not all of the services offered by CompuServe are included in the basic rate. Just as cable television companies offer services in tiers, certain CIS services are considered premium, or extra-value services, and surcharges are assessed for them. Surcharged services generally cost more because they require more computing power, or because they are provided by outside companies that wish to charge extra (although CompuServe has been known to add surcharges to some of its own databases just because they've become extremely popular). The financial information and analysis area contains many such premium services. Current stock quotes can be displayed by entering the symbol of the desired company, but this carries a surcharge of ten cents per stock (two cents in the evenings). Financial reports and investors newsletters are also available on CIS, but since they're developed by outside analysts, a surcharge is added. There are many other examples of surcharged services, ranging from multiplayer space war games and soap opera plot updates to the online versions of the *Academic American Encyclopedia* and the *Official Airline Guide*. In most cases, however, even with the surcharge, these services cost less than comparable services offered by other dial-in databases.

### Manuals and Documentation

Included in the Starter Kit is the *CIS User's Guide*. About 100 pages of instructional material is held in the ring binder. The manual describes logging on, settings for your communications

program, moving about within the system from service to service, getting online help, and so on. It also provides detailed information about some of the more popular services, such as Electronic Mail (EMAIL), the text editor (EDIT), User Forums (SIGs), CB Simulator (CB), and the National Bulletin Board (BULLET). Even so, there are still hundreds of services the *User's Guide* does not cover. This is understandable. First of all, services change so quickly that any manual becomes obsolete. Second, the sheer number of services makes it impossible to describe them all. It would take an enormous book to do them all justice—and such a book would be outdated as soon as it was printed.

### ***Online Today***

To help meet the need for timely information about system features, CompuServe sends a monthly magazine called *Online Today* to all of its subscribers. While the features and reviews are sometimes only mildly interesting at best, the section entitled "CompuServe Update" contains several pages of helpful hints and short articles describing the various CIS databases. Additionally, the magazine contains a pocket-sized pull-out section called "CompuServe Highlights," which gives an alphabetical subject index to the various services offered and also contains tips and short descriptions of some of the databases.

### ***SIG/Forum Instruction Manual***

To supplement the *User's Guide*, CompuServe also publishes specialized manuals for various databases. One, the *SIG/Forum Instruction Manual*, priced at \$3.95, should be required reading for every subscriber. It, along with the other supplemental manuals, can be ordered online, by typing `g cis-54` at the exclamation point (!) prompt, and choosing the *User Guides and Manuals* option on the menu.

### ***Online Index***

Another good source of information about current and new features is the online Index. It's a good idea to print this out periodically. After setting the terminal program to echo output to the printer, type `go ind` at the prompt, and choose the *List ALL Indexed Topics* option. To suppress the normal prompts, which appear every time a screenful of lines has printed, enter `S` at the *Key S or <ENTER> to Continue* prompt.

## Customer Service

Of course, the customer service number listed at the beginning of this chapter is another source of information. Customer service lines are open every day until midnight (EST). Questions about the system can also be answered online, via Feedback. Just type *go feedback* at the ! prompt, and choose the appropriate item from the menu.

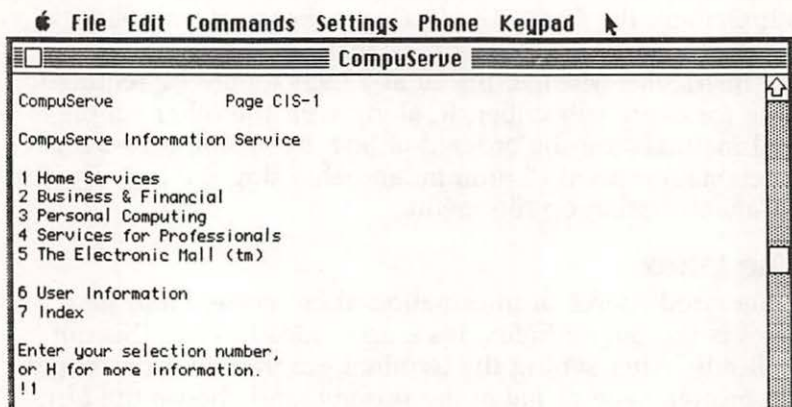
## Navigating Within the System

The simplest way to get around CIS is to follow its pyramid-shaped menu structure. The first screen displayed after log on presents the top menu, which (at least at the time of this writing) lists seven major categories of services. You enter the number of the category you want, and a new menu of subcategories appears. When the proper subcategory is chosen, it's likely that a menu of sub-subcategories will display. In the end, the menu choice leads to the actual database that's desired. Once within this database, more menus may be presented to allow the selection of individual pages of text.

## Your First Voyage

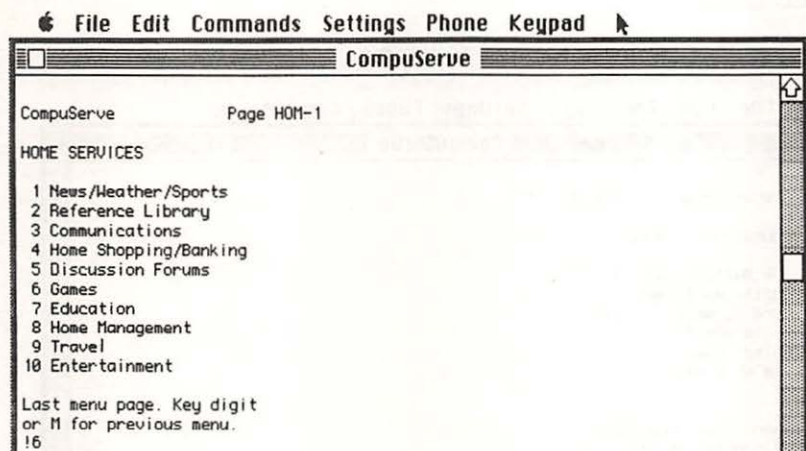
For instance, let's suppose you want to play the system's trivia game, *The Multiple Choice*. When you first log on, you'd see the menu in figure 7-1:

Figure 7-1. Log-On Menu



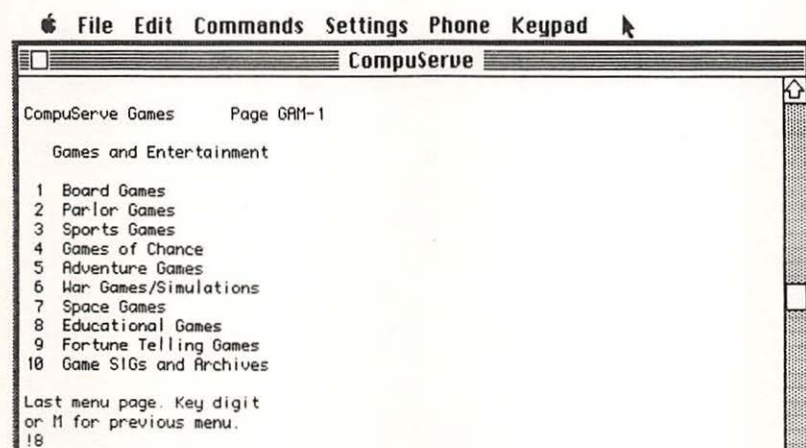
The exclamation point (!) prompt means the system wants you to enter something, so type a *1* for the *Home Services* option. You'll then see another menu:

Figure 7-2. Home Services



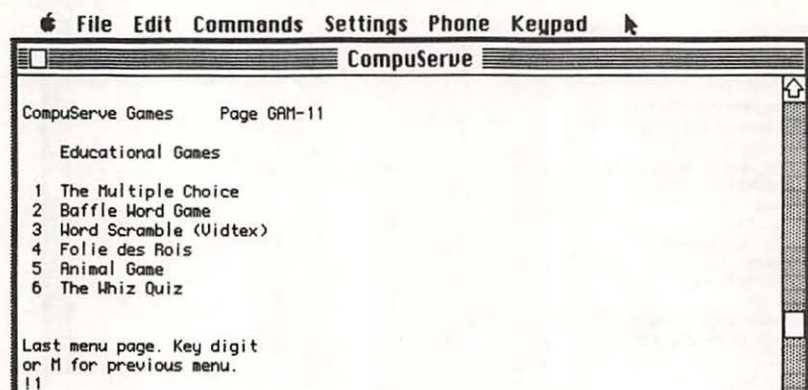
Now you have ten more subcategories to explore. Since you're looking for a game, you'd enter *6* at the *!* prompt.

Figure 7-3. Games

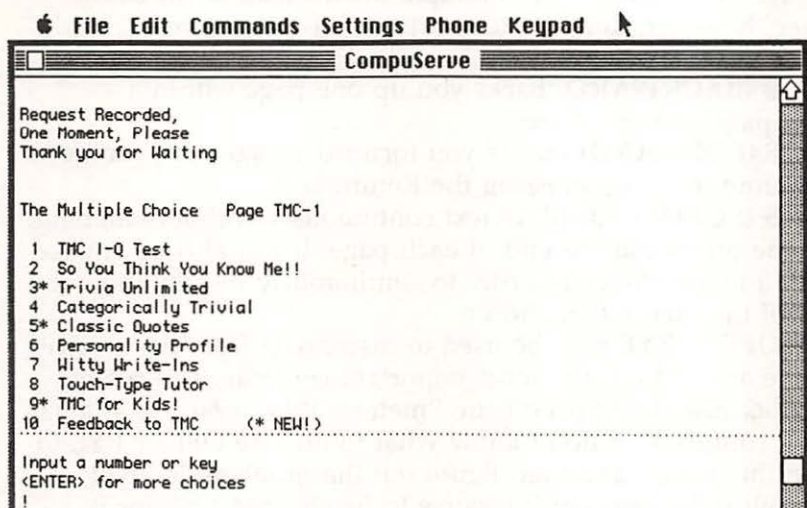


If this were your first time with CompuServe, you might have to pick several categories to find the trivia game you're looking for. It could conceivably be under Board Games or Parlor Games or Educational Games. Actually, it's the last, and so you'd enter 8. CompuServe considers the trivia game educational.

Figure 7-4. Educational Games



You finally see *The Multiple Choice* game listed here. Enter 1, and after a short delay, in which the system switches you to the proper computer, you see:

Figure 7-5. *The Multiple Choice*

As you can see, when the menu for *The Multiple Choice* finally comes up, you're confronted with even more, giving you a choice of a dozen or so different trivia quizzes.

While menus may be a convenient way to move around the CIS system, the size of the structure may require you to go through many different menus to reach the service you want.

### Navigating Without a Compass

There are some navigational commands that you should remember while working your way through the menu structure. After every menu display, the **!** prompt asks for the number of the desired option. It's appropriate to respond either with a number or with a system command. These commands, though shown here in uppercase, are recognized by the system equally well if entered in lowercase. Here are some of the most useful navigational aids.

**T (Top Menu Level)** always redisplay the main menu, something to keep in mind when you're lost within the sub-sub-sub menus. In fact, the T command will even rescue you if you should be accidentally switched to the personal file area (where the prompt changes to OK).

**M (MENU)** redisplay the previous menu (the one that brought you here). Since multiple menus lead to the same place, however, don't be too surprised if this command leads you somewhere unexpected.

**B (BACKWARD)** backs you up one page within a multipage section of text.

**F (FORWARD)** moves you forward a page. You can get the same result by pressing the Return key.

**S (SCROLL)** displays text continuously without stopping for the prompt at the end of each page. It can also be entered with a menu choice in order to continuously display the output of the menu item chosen.

**OFF** or **BYE** may be used to disconnect from the service. These are perhaps the most important commands to remember, because they turn off the "meter." Whenever you're puzzled, confused, or don't know what to do, use **OFF** or **BYE** to stop this meter, and then figure out the problem. It's bad enough to be lost, but it's worse to be charged time for it.

**H (HELP)** gives you a list of all the system commands (often, entering a question mark at a prompt will also bring help).

## Control Key Commands

Although most times you have to wait for a prompt (like the ! or some other message asking you to do something) in order to enter a command, there are some special commands which can be used at any time by pressing the Control key along with a character key. Even though your Macintosh does not have a Control key, you can still use these commands. Depending on your terminal software, the Option key or another special key takes the place of the Control key. Refer to your terminal software's manual for details.

Control-A or Control-S is used to temporarily pause output to your screen so that you can read it before it scrolls by; Control-Q restarts the output. Control-O, Control-P, and Control-C are each used within various sections of CIS to interrupt and cancel output entirely, and to go to the next prompt or menu page. They can be very handy to use when you've selected the wrong item and don't want to wait for all the text to display before returning to the prompt.

## The G Command

Menus may be reassuring to the beginner, but if you're an experienced user you can become frustrated with the whole process of moving through several levels to reach a database. If you fit in this group, the *g* command is an extremely useful navigational tool. Almost every page of text that can be displayed by the CIS system has a unique number. Typing *g* (or *go*) and the page number moves you instantly to that page. For instance, the Apple Users Forum (MicroNet Apple Users Group, or MAUG) starts on page PCS-51. Typing *g pcs 51* (remember that the system reads upper- and lowercase as the same—the hyphen within the page number isn't necessary) at the first prompt, saves you the trouble of going through three other menus just to get to the Forum.

In addition to page numbers, some more or less permanent features of the system have names, as well as page numbers. To get to CompuServe's Feedback section you can either type *g pcs 8* or just *g feedback*, which though longer, may be easier to remember. A shortcut to keep in mind about the *g* command is that it's sometimes possible to type in only part of the page number. If you want to get to page 1 of any section (HOM-1, for instance), you only have to type the letters, and not the number 1. Entering *g hom* brings you to page 1 of the *Home Services* section. And once you're on page HOM-1, you only have to type *g 10* to go to page 10 (HOM-10) of that section.

## Personal Menu

A lesser-known feature of the system is that after you find the page numbers for the services you use most frequently, you can create a *Personal Menu* that will display those choices each time you log on.

To do this, first go to DEFAULT (*g default*), and choose the menu option *Setting Your Service Actions*. At the next menu, chose the selection entitled *Create/Edit Personal Menu*. A prompt will request that you enter up to ten page numbers, along with a one-line description of the service available at each. After you've entered this information, your personal menu will be displayed every time you log on. The only problem is that it's somewhat difficult to get back to this menu once you've gone to another page. At this time, the only way

to do it is to get to the programming area by typing *pro* at the *!* prompt, wait for an *OK* prompt, and then type *r menu* (for *run the Personal Menu program*).

Although the number of services available on CIS gives you plenty to choose from, it also makes it somewhat difficult to find a particular database. To help the confused and finger-sore, a summary of the menu structure, complete with page numbers, is included at the end of the chapter. With the information found there, the alphabetical Index available online, the subject index in the *Highlights* publication, and the poster-sized map of the menu structure included in the Starter Kit, it should be easy to find the location of any given service.

Information about new services and system enhancements may be obtained by typing *g new* at the *!* prompt.

## What's on the System

There are far too many databases available to cover them all, so we'll point out only some of the more popular services, particularly those of special interest to Macintosh users.

### Discussion Forums (SIGs)

The User Discussion Forums, or SIGs (Special Interest Groups), as they were formerly known, are outstanding features of CompuServe. These Forums are like electronic clubs, where people with common interests get together to exchange information, ideas, comments, complaints, and computer programs. There are Forums where doctors, lawyers, and educators discuss their respective professions. There are Forums centered on such hobbies as travel, cooking, literature, music, ham radio, skiing, games, and camping. There are even Forums for discussing politics and religion. And of course, since almost everyone accessing CIS Forums has a computer, there are separate Forums devoted to almost every conceivable brand of personal computer. Every user, from novice to experienced hobbyist, can be found contributing to these Forums. These groups are an invaluable source of computer and telecommunications information, as well as a great amount of free software.

There are few sources of information on new Macintosh hardware or software as timely or complete as the Apple SIG on CompuServe. This was especially true immediately after the release of the machine, when little other information was

available. The Forum allowed each user to pass on information, and in turn share that gathered by others.

Each Forum is like a large version of a computer bulletin board service (BBS). Like any other BBS, a CompuServe Forum is run by a sysop (system operator), who, along with several assistants, tries to make the Forum as useful as possible. The main part of a Forum is a bulletin board database, divided into several sections by topic, where users can leave messages. The oldest messages are overwritten when a new message is added so that a message ordinarily has a life span of a week or less. Each topic section also has its own Access database, where important messages may be stored more permanently as text files, and where users leave free copies of software programs they've written and wish to share. Finally, each Forum has a Conference area, where all users currently online can meet to exchange messages in a terminal-to-terminal way, an electronic conversation much like the popular CB Simulator area of CIS.

**Using a Forum.** To use a Forum, it's first helpful, and in some cases necessary, to become a member. This involves choosing the *New Member Sign-up* option on the first Forum menu. Usually the sign-up just consists of entering your full name so that the software can automatically enter your name when you send a message, and can keep track of your visits. MAUG (the Apple Users Forum) requires that new members receive clearance from the sysop before using the Forum. This means only that you must leave a message requesting membership, and give the sysop about 24 hours to determine whether you've entered your real name, rather than a nickname or CB-like handle. This is just to discourage pseudonymous misbehavior on the Forum. The sysops are responsible for enforcing the rules, and they have the power to delete inappropriate messages and to deny offenders access. Full instructions on how to sign up for membership are available from the Forum's welcome menu. Instructions for using the Forum are also available on the same menu. If you haven't already bought the Forum's User's Guide, you should select that option from this menu and direct output to the printer to obtain a command summary.

**Once a member.** After you become a member, you'll see a brief bulletin from the sysop each time you enter the Forum. A number of options on the *Function* menu appear next. These

include reading messages, leaving messages, going to the online Conference section (CO), or changing your Forum (or SIG) options. Even new users would be well advised to go directly to the *Change Options* selection. This allows you to suppress prompts, menus, and messages. There are a great deal of messages on each board, and it would be impossible to read many of them with an entire menu and prompt being displayed between each.

Among the various options, you can select *command mode* (in which you're prompted for a letter command instead of seeing a menu each time a function request is made), *NS* (no stopping for a prompt between messages), and *BR* (brief prompts which do not list all the possible commands). Don't worry about not having menus to choose from when operating in this mode. By familiarizing yourself with the command mode, you'll save a great deal of time, money, and frustration. And if you ever forget your options, you can type *h*, *help*, or *?*, and receive a list of choices. For assistance with a specific function, type *?* and the letter command (for instance, *? R* gives information about the Read command).

After setting the options, the T command will take you to the *Function* prompt, where you can select one of the Forum functions.

## The Message Boards

As a new member, the first function you should master is using the message boards. Forming the main part of the Forum, these boards are divided into a number of discussion topics called *sections*. For example, Section 3 of MAUG is devoted to *Macintosh Hacking* (programming), Section 4 to *Macintosh Products*, and Section 5 to *Inside Macintosh* (technical support and guidance from the Apple Development Team). To see a complete list of section names, use the command SN at the *Function* menu or prompt. It's possible to read messages on all topics or to restrict your reading to only one section by using the SS command. For example, *SS 4* allows access only to messages in Section 4. To gain access to messages in all sections, use the command *SS ALL*.

**Read messages.** The R command is used to read messages. Each message stored on the system is assigned a number. There are a number of variants of the Read command that allow you to read in a particular order, based on the message numbering system.

**RF (Read Forward)** lets you read messages in ascending message-number order.

**RR (Read Reverse)** allows you to read in descending order.

**RI (Read Individual)** lets you read an individual message.

After choosing an option, a prompt shows you the range of message numbers available and asks you to supply a starting number. Instead of entering a number, you can press the Return key to start at the first message. If you want to read the first message entered since your last Forum session, type *N* for New. This is handy when you want to catch up on the messages you've missed.

Two of the Read options are less well known, but very useful.

**RS (Read Searching)** is used to read a message found by searching the message heading. Each message heading has three parts: the name of the person *TO* whom the message is sent, the name of the person *FROM* whom it is sent, and the *SUBJECT* of the message. The *RS* command works by entering the search field (the part of the heading you want searched) and the search string (the name or subject text that you want to try and match). For instance, if you enter *RS* and select the search field *FROM* and the search string *JOSEPH BANNIN*, every message on the board sent by Joseph Bannin will display. Using the subject heading as the search field can be tricky. Oftentimes, the message heading does not really describe its contents. As a matter of fact, some of them can be pretty cryptic. Just because you've done a search for all messages with the subject heading *TERMINAL PROGRAM*, don't think that you'll retrieve all messages which discuss such software. There's an *S* command which operates like *R*, although it just displays the subject headings.

**RT (Read Threads).** The other special Read subcommand, *RT*, refers to the fact that it's possible to reply to a message on a given subject (with the *RE* command), thus leaving a message with the same subject heading. When this occurs, a "thread" is formed which links the two messages. Other Forum members can enter this thread of conversation by leaving a message on the same subject. The *RT* command gives you a way of reading messages and successive replies sequentially.

If you choose to read threads starting with message number 100, for example, you can read message number 110, which replies to it, without reading messages 101–109. After you've read all the messages that reply to 100, message 101 then appears, followed by all of *its* replies. Reading threads is such a useful and powerful feature of the Forum bulletin boards that it's surprising there's almost no mention of it in the CompuServe manuals or online aids.

**Leave messages.** The other main function of a message board is, of course, to allow you to leave messages. With the L command, you can leave a message. You're first prompted for a subject heading and an addressee (you can leave a person's name, address the message to the Forum's sysop, or just indicate *all* if the message is of general interest). The number 1 appears as a prompt for the first line of the message. Enter the message a line at a time, making sure to type in no more than 80 characters before hitting the Return key. When you're finished, enter a blank line by pressing Return, and you'll be asked for sending options. Most of the time you'll use S, for Send, but you can use others as well, allowing you to review the message, edit it, or cancel it altogether.

Although it's important to master the technical aspects of using the Forum message boards, it is equally if not more important to familiarize yourself with the points of Forum etiquette. Some rules, such as avoiding obscene language and inappropriate subject matter, should be obvious. Offenders will soon find themselves "locked out" of the Forum. Other rules of etiquette may not be as apparent, but their violation can cause needless aggravation. These rules generally deal with using the Forum structure as it was intended, in order to get the most benefit from its commands. One example is the proper use of message board sections. As you use the boards, you'll no doubt come across messages that have nothing to do with the section topic. You'll quickly see how obnoxious these messages are when you try to limit the messages you read to a particular section (by using the SS command). Leave your message in the appropriate section by putting the section number after the S at the *Leave Options* prompt (S 4, for example, leaves the message in Section 4). Likewise, try to make the subject heading descriptive enough that a member using the search option would pick it up. Use the RE (REply) command to leave a message only if it's about the same subject as

the previous message. That way, people who use RT won't end up cursing you for putting unrelated matter into the conversation. Finally, delete all messages addressed to you that are of a purely personal nature after you've read them. (Such messages might be better sent by EMAIL in the first place.) Life is too short, and connect time too expensive, to subject your fellow Forum members to reading messages like "Thanks for the tip, Harry; I'll try that tomorrow, Jane." After you read a message addressed to you, you'll be prompted to REply, Delete it, or give an Unrelated Answer on a different topic. Unless the message might be of some general interest, type *D* for Delete.

## The Access Area

In addition to the message board, each Forum has an Access area. Unlike the boards, where messages are replaced every few days by new ones, the Access area contains more permanent files. Some contain text of lasting interest, others contain programs. Currently, the MAUG Access area has hundreds of programs for the Macintosh, as well as *MacPaint* pictures, text files with hints and tips, and so on. So far, most of the programs are written in Microsoft BASIC and MacForth (the only real languages available to date). New languages will no doubt be supported once they're released.

To get to the Access area, type *XA* (eXit to Access). You'll then be prompted to enter a section number. The Access area, like the message board, is divided into sections, with the topics corresponding to those of the Forum's message board. Since Section 4 of the MAUG message board is devoted to Macintosh products, Section 4 of the MAUG Access database contains a variety of public domain programs. To find the purpose of a particular section, and what its corresponding *XA* database contains, use the *X* command, followed by the section number. Entering *X 4*, for instance, prints out a message from the sysop explaining what Mac hacking is all about, and what kinds of files are available in *XA 4*.

Unlike messages, which are retrieved by their number, *XA* files have filenames, such as *PROGRAM.BAS*. If you know the name of the file you want to read, you can use the *R* command (*R PROGRAM.BAS*, for example). If you want to see what text or program files are available, use the *S/DES* (Scan and give a Description) or *BRO* (Browse) commands. These

display the filenames, a list of keywords (one-word subject descriptions of the file's contents), and a brief description of the contents. The difference between S/DES and BRO is that when you browse, you're prompted to take some action—Read, DOWNload it (DOW), or go to the Top—after each filename. Since there are so many files, you may want to narrow your scanning or browsing to a particular subject. The qualifier *KEY* lets you select files by the keyword description. If you wanted to scan all files for programs or information on the language Forth, you could use the command *S/DES/KEY;FORTH*. Another way of narrowing your search is by the age of the file; *S/DES/AGE;7* gives you a description of all files added within the last seven days.

After you've located a program file, you may want to transfer it to disk so that you can run it. To do this, you'll need a terminal program which allows you to transfer incoming data to disk. Simply give the *R FILENAME* command, using the desired filename, and activate the transfer-to-disk feature. After you've transferred the program, you'll have a text file on the disk. You'll probably have to use some kind of conversion program in order to make it into a workable program. Most Macintosh program files in the MAUG Access area have some indication in their file descriptions as to the proper procedure for turning it into an executable program.

Another option that may be used for downloading programs is the DOW command. This is available only for users who have special terminal programs which support one of CompuServe's error-checking transfer protocols, either their B protocol or Xmodem protocol. Such terminal software may allow programs to be directly downloaded to disk in an executable format. However, as of this writing, no CompuServe-compatible downloading software is available.

## The Conference Area

The final Forum feature to explore is the Conference (CO) area. In CO, you can "talk" directly to other Forum users. The CO area is divided into a number of *channels* (sometimes referred to as *rooms*). Once you go to the Conference area, every line of text entered, when ended by pressing the Return key, will be displayed to every other user who is tuned into the same channel. Your name and channel number appear in parentheses. Thus, users from all parts of the country can ex-

change views instantly in a conversational free-for-all. Here's a bit of a sample CO, showing you what it looks like on the screen. The parenthetical preface to each remark shows the channel number of the speaker, and his or her *handle*.

(31,Mr. Bones) I just made up a neat icon....  
(31,GOOFY) WHAT'S AN ICON? GA  
(31,Newcomer) Hi all!  
(31,Mr. Bones) of two 68000 chips making love. ga  
(31,INTERLOCUTOR) How does an MPU make love?  
(31,GOOFY) WHAT'S AN MPU?  
(31,Mr. Bones) At about 8 MHz!!!  
(31,<<< JAMES C. JONES >>) hehehehe.

Maybe not the most scintillating conversation, but you get the idea. Since the CO area treats everything you type in as text to send to other users, Conference commands must be preceded by a slash (/) in order to be treated as system commands. Otherwise, the intended commands would just appear as text on everyone's screen. To tune to one of the 36 available channels, you would enter */TUN*, followed by the channel number (*/TUN 31* to tune in channel 31). There are commands that let you monitor additional channels, check to see which are occupied, hold private or scrambled conversations, change your handle (the nickname that appears with your text), and even turn off the display of text coming from a particular participant. The list of commands is too long to allow detailed coverage of each. A full list can be obtained by typing the command */HELP*.

You should know, however, that */EXI* gets you back to the main Forum area, and that */OFF* disconnects you from the system entirely.

Who do you talk to in the CO area? Whoever happens to be in that area of the system at the time. It's even possible to send a message to someone connected to the Forum, but not in the Conference area at the moment. Use the *SEN* command. In order to do so, however, you must find out that user's *Job number* (a number that the system uses to locate each Forum user) with the *UST* (User S**T**atus) command. This produces a list which shows the Job number, User ID number,

Node (a code which shows the geographic area from which the user is calling), and the Program, or area of the Forum that the user is connected to—SIG, Access, or CO. Since the name is not included in this list, you must know the ID number of the user you want to find or locate it using the U command. This prints a list of users, from the most recent backward (to break out of this long list, use the Control-P interrupt command). Once you have the Job number, you can send a message with SEN, followed by the Job number and the text of your message (*SEN 20 FRED, MEET ME IN CO*, for instance).

You don't have to leave things entirely to chance, however. For one thing, it's possible to leave messages to other members to meet at a particular time. Also, from time to time, the Forum sysop may arrange for a speaker to host a Conference. MAUG has had members of the MacIntosh design team, the author of *MacPaint*, and even Steve Wozniak speaking to the Forum members and answering their questions.

As with other Forum areas, there are some basic rules of etiquette which make the experience more enjoyable. The first is to announce your entry into the CO area by typing a message like "Hi, everybody." All who enter the CO area are encouraged to participate, and those who don't make their presence known are referred to as Lurkers. You should also be aware of the conventions imposed by the nature of holding a conversation a line of text at a time. You can enter only up to 80 characters at once, so be sure to hit the Return key before the end of the line. If you come to the end of a line, but are not finished with the thought, enter three periods (...) to indicate you're not done, before hitting Return. Since the other participants see nothing while you're typing a long line of text, breaking up a thought into shorter clauses often helps to keep the conversation rolling. When you do finish and wish a reply, type GA, for Go Ahead.

CO's conversations arranged and publicized by the sysop are by necessity somewhat more formal. Often, the sysop will post rules for the CO in one of the Access text files. Such guidelines should be read and followed by all participants. For example, if a well-known guest speaker is participating, there may be a moderator conducting the CO. This moderator might take questions on a different channel than the one the speaker is tuned into, and then relay them to the speaker on yet a third channel, in the appropriate time and order. The mod-

erator might ask that those who wish to participate indicate so by typing ?, and wait to be recognized. As you can see, it's important to know the ground rules before trying to participate in such a CO. Without guides, things can degenerate into chaos.

If you ever have a question about any aspect of Forum operations, don't hesitate to ask the sysop. Sysops are there to help the Forum run smoothly and serve the needs of its users. Since the payments which the main sysop of each Forum receives from CompuServe are proportionate to the amount of time the members spend in that Forum, it's to his or her benefit to foster as friendly an atmosphere as possible. Moreover, the sysop and assistants are there because they have a genuine interest in telecommunications and in running the best possible Forum. One of the most exciting things about Forums is the immediacy of the communication, and the possibility for interaction between those providing the service and those using it. Not only will the sysops welcome your questions and comments, but by giving them your feedback, you have an opportunity to influence the form of services offered.

### CB Simulator

This unique and popular feature of CompuServe allows groups of users to "talk" to one another through their terminals. The mechanics of CB are much like those of the Conference area of the Forums (see above description). While conversations in the Conference area tend to focus on the Forum subject, CB topics tend to be more general, like "I love you" and "Are you a girl?" The lure of CB is hard to explain. Part of it may be that you never know who you're talking to. Another reason may be the humorous confusion that results from following 25 conversations at once. Whatever the attraction, CB has become so popular that it has expanded to two bands and has its own users Forum (*g hom 9*) and even a CB Society Newsletter which profiles some of the CB participants (*g cup*). Many firm friendships, and even some marriages, have resulted from CB.

Unlike most CompuServe services, CB is most enjoyable during the peak activity periods in the evenings and on weekends. CB is also one area where your 1200 bps modem will do little more than add to the expense. Unless there are many users typing at once, 300 bps will suffice.

## Games

Another innovative feature of CompuServe is its interactive games. While most computer games are limited to one player, CIS has a multitude of multiplayer games. In these games, it's possible for up to 100 players to take part and play simultaneously. The Megawars series has proved particularly popular. CompuServe recently added *Baffle*, a word game suspiciously similar to the trademarked Boggle, that allows players to compete against each other in trying to make the most words from a group of letters. And in the *Multiplayer Casino Blackjack* game, several players can play against the house and converse with one another. You may even find the host system trying to pass off its own simulated kibitzers as fellow human users.

Of course, CIS also has a wide range of more conventional solitaire games. Some, like *Backgammon* and *Fastermind* (Mastermind), are based on board games; there are sports games like golf and football, games of chance like roulette, craps, and blackjack, and a whole host of adventure games available. Trivia fans should definitely check out the CIS version, *The Multiple Choice (g tmc)*, which features a wide assortment of quizzes, and even a complete I.Q. test. There are also user Forums devoted to CompuServe games, especially multiplayer games.

## EMAIL

The best thing that can be said about CompuServe's Electronic Mail system (EMAIL) is that you can use it for just the cost of the connect time. One way of making it more enjoyable is to avoid CompuServe's own online text editors. For the most part these are clumsy and rather inflexible. When you wish to send EMAIL, do this instead. Log off, create an ASCII text file with the word processor of your choice, save it to disk, and then upload the file to CompuServe. It may be somewhat less convenient and more time-consuming, but you'll be paying only for the actual transmission time—not your writing time. Remember, though, that EMAIL does not accept files longer than 50 lines of 80 characters each. Nor is it instantaneous. Although CompuServe says that there is usually a delay of about 20 minutes, delivery may take up to several hours. Nonetheless, despite its limitations, it can be a very useful way of getting in touch with regular CompuServe users.

## National Bulletin Board

This bulletin board provides a place to post notices about services or items that are wanted, or for sale, and items of general information. It lets you retrieve these notices by type (SALE, WANTED, or NOTICE), by keyword (Macintosh), and SORTED by date of posting. Thus, to read the Macintosh items for sale, you would enter *VIEW SORTED SALE MAC*.

While the structure of BULLET is somewhat similar to POST on The Source, it's far less useful. Searches are painfully slow, and the system sufficiently clumsy that it contains relatively few messages of interest, given CompuServe's huge user base.

## Etcetera, Etcetera, Etcetera

This chapter has only briefly touched on a few of the more prominent CompuServe databases. Hundreds more remain. There are news wire services and even whole newspapers. There are databases offering advice on sexuality, parenting and family life; wine; gourmet cooking; art; gardening; even Aunt Nettie's advice on personal problems, along the lines of Dear Abbie. There's an enormous home shopping area called the Electronic Mall. A number of banks offer online home banking services. Complete financial information and investment services are available. Travel services include airline schedules, travel guides, and even travel agencies to make reservations. Government publications put out by the IRS and Social Security Administration are available online. The list goes on and on.

In order to give you some idea of the services available, the following outline summarizes CompuServe's menu structure (at the time of this writing). The page numbers that appear in parentheses after each entry may be used with the *g* command to move directly to that page (*g hom* displays the *Home Services* menu, for instance). The dollar sign (\$) after some entries indicates that a surcharge will be assessed for use of the service.

## CompuServe Consumer Information Service Menu Structure

### HOME SERVICES (HOM)

#### News/Weather/Sports (HOM-10)

- The Washington Post (\$) (TWP)
- St. Louis Post-Dispatch (SPD)
- AP Videotex Wire (APV)
- NOAA Weather Wire (WEA)
- Official PGA Tour Guide (PGA)
- Hollywood Hotline (\$) (HHL)
- Skiers' Information Service (SKI)
- Olympic Scoreboard (USA)

#### Reference Library (HOM-20)

- Academic American Encyclopedia (\$) (AAE)

- Information On Demand (IOD)
- U.S. Government Publications (GPO)
- Bibliographics Services (FTH-125)
- New Tech Times (NTT)
- Gardening (VIC)
- Personal and Professional Development (AES)

#### Popular Science Magazine (HOM-126)

- The National Satirist (KCS)
- Sexuality (HSX)
- Parenting and Family Life (PFL)
- Wine (VIN)
- World of Art (ART)

#### Communications (HOM-30)

- Electronic Mail (EMA)
- CB Simulator (CB-10)
- National Bulletin Board (HOM-30)
- User Directory (HOM-4)
- Ask Aunt Nettie (NET)
- CB Society (CUP)

#### Home Shopping/Banking (HOM-40)

- Comp-U-Store (CUS)
- Electronic Banking (HOM-45)
- The Athlete's Outfitter (HAN)
- Music Information Service (MUS)
- Fifth Avenue Shopper (FTH)
- Primetime Radio Classics (PRC)
- AutoNet/AutoBase (ATO)
- Savings-Scan (SAV)

#### Discussion Forums (HOM-50)

- CBers (HOM-9)
- HamNet (HOM-11)
- Netwits (WIT-100)
- Orch 90 (HOM-13)
- Sports (HOM-110)
- Cooking (HOM-109)
- Travel (HOM-157)
- Space (HOM-127)
- Issues (HOM-132)

#### Literary (HOM-136)

- Educators (HOM-137)
- Educational Research (HOM-28)
- Games (HOM-143)
- Family Matters (HOM-144)
- Good Earth (HOM-145)
- Work-at-Home (HOM-146)
- Music (HOM-150)
- Animal & Pet Care (Veterinarians) (SFP-37)

#### Entertainment (HOM-29)

- Religion (HOM-33)
- Ski Forum (HOM-36)
- Outdoor Forum (HOM-38)
- Democrat SIG (HOM-39)
- Republican SIG (HOM-41)
- Food Buyline (HOM-151)
- Instructions (HOM-51)
- Descriptions (HOM-104)

#### Games and Entertainment (GAM)

##### Board Games (GAM-4)

- Backgammon
- Gommoku
- Fastermind
- Reversi

##### Parlor Games (GAM-5)

- Hangman
- Concentration
- Maze Maker
- Magic Cube Solver
- Baffle Word Game

##### Sports Games (GAM-6)

- Golf
- Football
- Tennis

##### Games of Chance (GAM-7)

- Multiplayer Casino Blackjack
- Roulette
- Craps
- Bridge
- Singleplayer Blackjack

##### Adventure Games (GAM-8)

- Original Adventure
- New Adventure
- House of Banshi
- Scott Adams Adventures
- Dungeons of Kesmai (\$)
- Castle Telengard
- Flying Buffalo
- Dor Saggeth
- BlackDragon
- Hunt the Wumpus

## CompuServe's Consumer Information Service

Fantasy  
 Find the Mugwump  
 War Games/Simulations (GAM-9)  
 Multi-Player SeaWar  
 Command Decision  
 Civil War Simulation  
 Hammurabi  
 Fur Trader  
 Space Games (GAM-10)  
 Megawars I—Galactic Conflict  
 Megawars II—Fourth Dimension  
 Megawars III—The New Empire  
 Multiplayer Space War  
 Dor Sageth  
 Lunar Lander  
 Space Trek  
 Educational Games (GAM-11)  
 The Multiple Choice  
 Baffle Word Game  
 Word Scramble  
 Folie des Rois  
 Animal Games  
 Fortune Telling Games (GAM-12)  
 Biorhythm Charting  
 Astrological Charting  
 Game SIGs and Archives (GAM-13)  
 GameSIG  
 Multiplayer Games SIG  
 GameSIG Archives  
 Education (HOM-70)  
 Services for Academics (EDU-1)  
 ADCIS Forum  
 EPIE Forum  
 NSBA Forum  
 NSPRA Forum  
 Educational Research Forum  
 College Press Service  
 Clarke School for the Deaf  
 Handicapped Users' Database  
 ERIC Database  
 IRIS Database  
 EPIE Database  
 Services for Practitioners (EDU-4)  
 Academic American Encyclopedia  
 (\$)   
 TELE Forum  
 Telecue Forum  
 Science Education Forum  
 NSPRA Forum  
 Educators Forum  
 EPIE Forum  
 Edutech Project Pilot  
 The College Board  
 College Press Service  
 Services for Students and Parents  
 (EDU-6)

Home Management (HOM-80)  
 Checkbook Balancing (HOM-14)  
 Calculating Your Next Raise  
 (HOM-15)  
 Calculating Your Net Worth  
 (HOM-16)  
 Loan Amortization (HOM-17)  
 The Electronic Gourmet (\$) (HMS)  
 Travel (HOM-90)  
 Official Airline Guide (OAG)  
 FIRSTWORLD Travel Agency (TVL)  
 WWX Holiday Homes-Yachts-RVs  
 (WWX)  
 State Department Advisories (DOS)  
 Pan Am Travel Guide (PAN)  
 Travel Fax (ESC)  
 West Coast Travel (WCT)  
 TravelVision (TRV)  
 Forums (HOM-157)  
 Discover Orlando (ORL)  
 Entertainment (HOM-31)  
 Hollywood Hotline (\$) (HHL)  
 Video Information (VIF)  
 SHO-TIME Movie Catalog (MOV)  
 Primetime Radio Classics (PRC)  
 Words of Wit & Wisdom (WWW)  
 SHOWBIZQUIZ (\$) (SBQ)  
 MOVIE REVIEWETTES (NMM)  
 Hamilton Caines Mystery Magazine  
 (HTC)

### BUSINESS AND FINANCIAL SERVICES (FIN)

News & Financial Analysis (FIN-10)  
 Business Information Wire (BIW)  
 The Business Wire (TBW)  
 New-A-Tron Commodities (NAT)  
 Stevens Business Reports (SBR)  
 The Computer Wire (TDC)  
 Business and Law Review (BLR)  
 MMS Financial Analysis (MMS)  
 Evans Economics, Inc. (EEI)  
 Investments and Quotations (FIN-20)  
 Quotations (FIN-56)  
 Corporate Analysis & Financials  
 (FIN-55)  
 Investment Analysis Tools (FIN-54)  
 Investment Services (FIN-53)  
 Instructions (IQH)  
 Expert User Mode (FIN-6)  
 Communications (FIN-30)  
 Electronic Mail (EMA)  
 User Directory (HOM-4)  
 Brokerage & Banking (FIN-40)  
 Unified Management Corporation  
 (UMC)

## CompuServe's Consumer Information Service

Tickerscreen (TKR)  
Huntington National Bank (HNB)  
Shawmut Bank of Boston (SHW)  
United American Bank, Memphis  
(HOM-152)  
Reference Library (FIN-32)  
Incorporating Guide (INC)  
Diamond Service (RDC)  
Internal Revenue Service Publications  
(IRS)  
Social Security Administration Publications (SSA)  
Discussion Forums (FIN-50)  
Ask Mr. Fed (Economic Analysis  
Forum (\$) (MMS-20)  
HiTech Forum (Columbus Chamber of  
Commerce) (CCC-150)  
Travel Services (HOM-90)  
*See Home Services Menu, above*  
Personal Finance (FIN-80)  
Internal Revenue Service Publications  
(IRS)  
Calculating Personal Finances (FIN-44)  
Social Security Administration Publications (SSA)  
Donoghue Moneyletter (DON)

### PERSONAL COMPUTING SERVICES (PCS)

News (PCS-10)  
RCA Newsletter (RCA)  
Tandy Newsletter (TRS)  
Commodore Newsletter (CBM)  
The Altertext Report (ALT)  
Digital Research, Inc. (DRI)  
OnModem Magazine (ONM)  
Reference (PCS-20)  
Software Reviews (INF)  
Text Editors/Word Processors  
(PCS-21)  
Utilities (PCS-88)  
Mathematics and Statistics (PCS-96)  
Special Features (Line Printer Service)  
(PCS-98)  
Vidtex Information (VID)  
Communications (PCS-30)  
Electronic Mail (EMA)  
CB Simulator (CB-10)  
National Bulletin Board (PCS-105)  
User Directory (HOM-4)  
Access (Public File Area) (PCS-46)  
Shop At Home (PCS-40)  
Softex (Electronic software exchange)  
(\$) (PCS-144)  
Howard Sams Books (SAM)  
Comp-U-Store (CUS)  
Micro Shoppe (MCS)

Communications Forums (PCS-50)  
CP/M Forum (PCS-47)  
HUG (Heath) (PCS-48)  
MAUG (Apple) (PCS-51)  
PDP-11 (PCS-53)  
MUSUS (p-system) (PCS-55)  
EpsOnLine (PCS-19)  
TRS-80 COCO (PCS-126)  
Panasonic (PCS-114)  
OSI (PCS-125)  
LSI Users (PCS-49)  
PowerSoft's (PCS-56)  
Programmer's (PCS-158)  
CEM (CEM-450)  
Authors (PCS-117)  
Commodore 64 (CBM-963)  
Commodore Creative Corner  
(CBM-962)  
Commodore Programming (CBM-310)  
Atari (PCS-132)  
IBM PC Pro (PCS-131)  
IBM Novice (PCS-129)  
MicroSoft Users Group (PCS-145)  
Telecommunications SIG (PCS-52)  
TRS-80 Model 100 SIG (PCS-154)  
Computer Art SIG (PCS-157)  
VAX SIG (PCS-16)  
OS9 Forum (PCS-18)  
TRS-80 Professional Forum (PCS-21)  
Whole Earth Software (WEC)  
Texas Instruments Forum (PCS-27)  
Kaypro Forum (PCS-25)  
Digital Research Forum (PCS-13)  
RCA Micros (PCS-57)  
Hewlett Packard (PCS-28)  
The World of Lotus (LTS)  
Creative Computing (PCS-22)  
Family Computing Magazine (FAM)  
Personal File Area (CIS-174)

### SERVICES FOR PROFESSIONALS (SFP)

Aviation (SFP-20)  
American Safety Institute Newsletter  
(ASI)  
NWS Aviation Weather (\$) (AWX)  
EMI Flight Planning and Weather  
Briefings (EMI)  
AVSIG (SFP-6)  
AOPA Forum (AOPA)  
Official Airline Guide (\$) (OAG)  
Peak Delay Guide (\$) (PDG)  
Aircraft Insurance (AVL)  
FAA Rule Changes/NTSB Case (AVR)  
VIDTEX Weather Radar Maps (APV)  
Jet Fuel Hotline (\$) (JFH)  
Communications/Data Processing (SFP-41)

## CompuServe's Consumer Information Service

The Direct Connection (TDC)  
PR and Marketing Forum (SFP-48)  
Communications Industry Forum (SFP-35)  
Engineering/Technical (SFP-30)  
Communications Industry Forum (SFP-35)  
Environmental Forum (SFP-38)  
Firenet (SFP-36)  
Miner's Underground Forum (SFP-44)  
News-a-Tron Commodity Quotes (NAT)  
Information Retrieval Service (IFT)  
National Water Well Association—Waterline (WWA)  
Mining & Energy Services (SFP-8)  
Legal (SFP-43)  
Legal Forum (SFP-40)  
Business Incorporating Guide (INC)  
Business & Law Review (BLR)  
Medical (SFP-50)  
AAMSI Medical Forum (SFP-5)  
Computers in Medicine & Dentistry (SFP-7)  
FOI Newslines—FDA Information (FOI)  
AAMSI Communications Network (AAM)  
Veterinarians Forum (SFP-37)  
Op-Net Forum (SFP-4)  
HealthCom (HCM)  
Jewelers—Diamond System (RDC)  
Real Estate—World Wide Investment (WIS)  
Military Veterans Services (VET)  
Military Veterans Forum (SFP-10)  
News Highlights (VET-4)  
Veterans Locator Service (VET-184)  
Ask a Vet (VET-27)

### THE ELECTRONIC MALL (EM)

New & Noteworthy (NNW)  
Ordering Instructions (EM-12)  
Directory of Merchants (EM-6)  
Browse the Mall (EM-49)  
Talk to the Mall Manager (EM-71)  
Enter the Mall (EM-5)

### USER INFORMATION (CIS-4)

What's New (NEW)  
Command Summary and Usage Tips (CIS-58)  
Explanation of Menus and "GO" (CIS-59)  
Navigational Menu Commands (CIS-162)

Control Characters (CIS-88)  
Communications Standards (11)  
Feedback to CompuServe (CIS-8)  
Problem Accessing CompuServe  
Trouble Using Services  
VIDTEX Software Questions  
Billing Questions  
Change Address/Phone Number  
Request Additional Services  
General Comments/Questions  
Order Products, Guides, and Manuals (CIS-54)  
User Guides and Manuals  
Products (VIDTEX Software, etc.)  
Change Terminal Settings—DEFAULT (CIS-9)  
Setting Your Terminal Type  
Setting Your Service Actions  
Setting Delays for Printers  
View or Change Current Terminal Parameters  
Change Your Password (CIS-175)  
Billing: Charges, Rate Options, Making Changes (BIL)  
Current Rates  
Reviewing Your Charges  
Billing Options Explained  
Changing Your Billing Option  
Changing Your Billing Address  
Logon Instruction & Numbers (LOG)  
CompuServe  
Tymnet  
Telenet  
DataPac (Telenet & Tymnet)  
DataPac (CompuServe Gateway)  
Logging Off  
Busy Signal/Network Problems  
Telephone Access Numbers  
Node Abbreviations  
Online Today Electronic Edition (OLT)  
Electronic Edition  
Monitor  
Letters to the Editor  
Online Today Advertisers—EBB  
Product Reviews—EBB  
Industry Watch—EBB  
Shoppers Guide

### INFORMATION SERVICE INDEX (IND)

Search for Topics of Interest  
List All Indexed Topics  
Quick Index List  
Explanation of Index

## System Critique

CompuServe's Consumer Information Service offers almost every kind of online service imaginable. Many of its services, like CB Simulator, the Forums (SIGs), and multiplayer interactive games, originated on CompuServe and can be found there exclusively. Other sections mirror services that can be found elsewhere, but at a lower price. Moreover, the system is constantly evolving, with new services being added at a frantic pace. Not only is the selection impressive, but there are many extras not found on some of the other services, like online billing explanations, customer feedback via electronic mail, the capability to change passwords online, and the ability to create a custom menu and to individually set many of the service options.

Along with the benefits of having such a large system, however, come several drawbacks. The system is so large that it frequently overwhelms and intimidates the beginner. Even seasoned users may find it difficult to navigate. Because of its massive size and constant change, it's impossible for the user to obtain current documentation that covers even a small fraction of the features. And there are so many users that the system is sluggish and unresponsive during peak hours. Indeed, even during the daytime hours there are periods when output to the screen will cease for several seconds while the host computers struggle to keep up with the load. The more popular a service is, the more users wish to access it simultaneously. As a result, the response time is the slowest in the services you want to use the most. Changing databases almost always evokes the message *Request recorded, one moment please*, and an annoying delay. Sometimes the load is so great that when you log in, almost a full minute may elapse from the time you enter your user ID until the time you're prompted for your password. At such times, you might be better off not logging on at all.

Another problem is that because of the constant change, the rough edges never seem to be worked out. It's not uncommon for hardware or software failures to occur, and when they do, the user is likely to be presented with the most mystifying and cryptic error messages imaginable. If this happens to you, you'll be left wondering what went wrong and what to do next. With the rush to add new services and capabilities,

some of the older features, such as EMAIL, which were quite advanced when introduced, have failed to keep up with the times and now seem clumsy and out of date.

Despite these minor problems, new users continue to pour into the system. The reason is simple. For what's offered, you simply can't beat the price.



# Chapter 8

## CompuServe's Executive Information Service

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# CompuServe's Executive Information Service

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**CompuServe Information Service**  
5000 Arlington Centre Boulevard  
P.O. Box 20212  
Columbus, Ohio 43220

**Subscription Inquiries**

(800) 848-8199 in continental U.S. (except Ohio)  
(614) 457-0802 in Ohio and outside continental U.S.

**Customer Support Numbers**

(800) 848-8990 in continental U.S. (except Ohio)  
(614) 457-8650 in Ohio and outside continental U.S.

Customer support available weekdays 8:00 a.m. to midnight  
(EST) and weekends 2:00 p.m. to midnight.

CompuServe's Consumer Information Service (CIS) was developed in response to the needs of the people who formed the vanguard of the personal computer revolution. Those people, computer hobbyists for the most part, have a huge system at their disposal. But it didn't meet the needs of everyone.

The next phase in the evolution of computer use was touched off by the IBM Personal Computer, which moved the desktop computer into the office. The PC boom inspired CompuServe to develop an additional service for users who had never debugged a program or even played a computer game. The Executive Information Service is CompuServe, but with a touch of class. It contains many of the same databases as the Consumer Service, but they're clustered differently to appeal to business and professional users. Some new services have also been added to beef up the business and investment coverage. The Executive Service really represents a premium service tier. Every Executive Service subscriber also has complete access to the Consumer Service, at the same rates as any other member.

## Subscription Charges, Rates, and Hours of Operation

### Subscriptions

CompuServe produces an Executive Information Service Subscription Kit, which is available in many computer and book stores. It sells for \$69.95. You should be aware that there's a more expensive version of the kit which includes CompuServe's Professional Connection terminal software for the IBM PC. If you buy the Subscription Kit, make sure that you get the cheaper version, minus the PC software. Current subscribers of the Consumer Service may upgrade their subscription to the Executive Information Service for just \$39.95. This can be handled online by typing the command `g order` at the command prompt.

In many cases, it will be cheaper to get a Consumer Service account and then upgrade. The CIS Starter Kit is often discounted to \$29.95 or below (the point at which buying the kit and the upgrade equals the price of the EIS kit alone), and it comes with the Consumer Service manual and five hours of free time on CIS as well. There are even a number of free subscription offers for the Consumer Service available to purchasers of selected hardware and software products (See chapter 7 for more details on the Consumer Service.) Since most Executive Service users will also want to explore the Consumer Service, it's definitely worthwhile to at least consider the upgrade route. On the other hand, there are also some free offers for Executive Service subscriptions. Apple's *MacTerminal* comes with subscriptions to CompuServe's EIS and Dow Jones, as well as a reduced-rate subscription to The Source. Investigate such offers carefully before you buy.

If you buy the Subscription Kit, you have to call CompuServe customer service and give them the credit-card number to which your account will be billed. They'll then supply you with an ID number and password, along with a local telephone access number. If you plan to operate at 1200 bps, be sure that the number they give you will handle that speed. No online sign-up procedure is necessary, as with the Consumer Service. There will be a delay of up to 48 hours before you can use the electronic mail service, however.

## Rates and Hours

The Subscription Kit and some of the free offers come with an hour (or some specified dollar amount) of connect time. After you use this up, you'll be billed at regular rates, which are exactly the same as for the Consumer Service. Currently, operation at 300 bps is charged at the rate of \$12.50 an hour during business hours (8:00 a.m. to 6:00 p.m., Monday through Friday) and \$6.00 an hour for evenings and weekends. For 1200 bps operation, the charges are \$15.00 an hour during the day, and \$12.50 an hour in the evening and on weekends. It's obviously more cost-effective if you run at 1200 bps to access EIS during the day. The posted hours of operation are 8:00 a.m. to 5:00 a.m., but much of the time the system is up nearly 24 hours a day.

## Minimums, Surcharges, and Premiums

Unlike the Consumer Service, an Executive Service account has a \$10.00 a month minimum charge. If you use the service at all, you'll likely spend at least twice that much per month. Each member receives free online storage space for up to 128K of text. CompuServe allows you to review your billing information online. You can select this feature from the *User Information* menu, or by typing *g bil* at the command prompt. Telephone access is free through CompuServe's network of local phone numbers. Access through the Tymnet or Telenet packet networks carries a surcharge of \$2.00 an hour during evenings and weekends, \$10.00 an hour during the day.

In addition to the basic connect charges, many of the EIS databases have yet another surcharge. It may come in the form of an additional charge per hour, per company checked, or per database session. Each of the sections containing surcharged services has a menu option entitled *Transaction Charges*, which displays all the surcharges for its databases. The longest list of surcharges is in the Investments & Quotations section. Charges for databases in that area may be reviewed by typing *g iq 1200* when the *!* prompt displays.

## Manuals and Documentation

One of the highlights of the Executive Service is its *User's Manual*. Almost twice as large as the manual for the Consumer Service, it's far superior. It contains an excellent system

overview which explains the menu structure and navigational commands. Because the number of databases in the Executive Service is much smaller than on CIS, the manual is able to cover each in detail and includes some very useful hints for getting the most out of each service. In addition to the database descriptions, the manual contains chapters on logging onto the system, terminal setting, using the online text editor, and a summary of navigational and control character commands.

Even though the manual covers all the databases available at the time of its writing, the Executive Service, like CIS, is constantly adding databases. To help users keep up with these additions, the monthly *Update* magazine is sent to all subscribers. Though it deals primarily with CIS, it does cover important developments in the Executive Service.

Another way to find out about new services is to read the weekly announcements in the *What's New* database. The current topics of these announcements are periodically displayed when you first log on. You can reach this database by typing *g new* at any *!* prompt.

## Navigating Within the System

There are two ways to move from database to database on EIS. The first is to follow the menu structure. When you log on, you're shown a main menu that offers you categories of services, such as Communications, Investments & Quotations, News, and so on. Entering the number of a category displays another menu showing you the databases within that category. Once you've selected a database, there may be more menus detailing the kinds of information you may select.

## Command Navigation

After a menu is displayed, a message requests input. Generally, this prompt ends with an exclamation point (!). When you see the *!*, you may enter either the menu number of the item you've selected or a command. Navigational commands for working your way around the menus are identical to those used in the Consumer Service. They include M for display previous Menu, T for Top page of the main menu, and H for Helpful explanations of your options. To Scroll information continuously, without stopping for a prompt at the end of each page, use the S command. You can use this command in

connection with selecting a menu item (S 4 to scroll menu option 4). The OFF or BYE commands disconnect you from the service.

## Control Commands

There are also special commands, called Control commands, which are used to interrupt the display. The most common, Control-S, pauses the display; Control-Q restarts it. Control-O, Control-P, and Control-C can often be used to break off from what you're doing and get back to command level (Control-C works most of the time). Since the Macintosh does not have a designated Control key, the Option or another special key is used instead. This is a function of your terminal software program, so check its manual to see what key is used.

## G

It's possible to bypass the menu structure entirely by using the *g*, or go command. *G* allows you to move directly to the specified page (*g cus* takes you right to Comp-U-Store, for example). Almost every page of text on the service has a unique number; once you know the beginning page number of a database, you can move there with the *g* command. You can find page numbers for EIS services in the *User's Manual*. The outline of EIS's menu structure at the end of this chapter also includes some of the page numbers. While online, you can locate page number information by using the subject index (*g ind*).

Although the EIS is a separate service with its own menu structure, its members also have access to all the features of the Consumer Service. To transfer to CIS, select the *Consumer Information Service* option on the main menu, or type *g cis* at a command prompt. To return to EIS, choose *Executive Information Service* from the CIS main menu, or type *g eis* at the ! prompt.

## What's on the System

Even though the Executive Service is supposed to complement CIS by adding an additional layer of databases, there's actually considerable overlap between the two. In fact, there are few services offered exclusively on the Executive Information Service. This summary concentrates on those services offered on EIS which differ from those available to CIS users.

## Communications

Executive Service users have a new electronic mail service at their disposal. Called InfoPlex, there doesn't seem to be a limit to the length of its messages. Another advantage over EMAIL is that InfoPlex delivers messages instantly, without the delays experienced on CIS. However, delivery with InfoPlex is restricted to Executive Service users. Each message also costs 50 cents to send (as opposed to EMAIL, which is free). Each Executive member has both an InfoPlex and EMAIL mailbox, and has to check both for messages. It would be much easier if the two services were consolidated, at least to the point where all messages went to one mailbox.

Electronic Conferencing is the Executive answer to CB Simulator on the Consumer Service. The idea is the same; you can "talk" with one or more other users by typing messages on your screen and reading their replies. The nomenclature has been changed to lend an air of dignity to the proceedings. Instead of CB *channels*, the Conference area is divided into *rooms*. CB handles like Shady Lady, The Flash, and Weasel have been replaced with *Talk Names* like Home Office, Branch Manager, and VP-Sales. The other features of the system are exactly the same as those found on CB Simulator. In Electronic Conferencing, however, you can talk only with other Executive Service users.

Another valuable communications service offered by EIS is its Investors' Forums. If you've read the section in chapter 7 on CIS Forums you know how valuable these services can be for getting people together to exchange information and ideas.

## Investments and Quotes

Most of the databases on EIS are also found on the Consumer Service. Some effort has been made, however, to insure that these services are easier to use. The menu grouping has been rearranged to make it more convenient to get from one service to another. Because of the large amount of computer resources allocated to the Executive Service, the response time may be better when accessing these databases. And the documentation provided to Executive users, both in the form of the *User's Manual* and online help files, makes it far easier to take advantage of the financial services that CompuServe has to offer. It's also possible to get a list of all the transaction charges for these services on the Executive Service so that you know

exactly what they'll cost, something not available on CIS.

The common financial services, such as stock quotes, historical pricing, dividend history, value line reports, and the financial commentary of Money Market Services and Evans Economics, are the same as found on CIS. There are some exclusive services here, however, such as the Disclosure II database and Institutional Brokers Estimate Survey. Note that the Disclosure II reports available here are much more expensive than on the Dow Jones News/Retrieval network.

One of the most important features for financial database users is the ability to extract data from the system for use by investment or spreadsheet software programs that run on their own computers. CompuServe has recently designed a program interface to make it easier for an investment program running on your Macintosh to call up CompuServe, log on, retrieve current and historical price quotations for stocks and other securities, log off, and use the information. Eventually, this system will also be extended to databases which provide other types of financial information. This should increase the availability of powerful financial software which can be used with CompuServe.

### **Decision Support**

Two databases here, Demographics and Statistics, are EIS exclusives. The demographics reports, which cost \$45 per report, give a detailed breakdown of such factors in a geographic area as housing, education, employment, income profile, as well as the area's potential for specific new businesses. The statistical analysis program allows you to do basic statistical reporting on your data, such as the mean, variance, and standard deviations, as well as curve fitting and regressions.

### **News Plus**

The news, travel, shopping, weather, and professional and technical database services offered by EIS all seem to duplicate those offered by CIS.

The following summary of the menu structure of the Executive Information Service (at the time of this writing) should help you as you explore EIS. Page numbers of the various databases appear in parentheses after their name. The surcharged services are indicated by the (\$) characters. These surcharges

vary greatly, so to view these rates, enter the *Transaction Charges* section of each area. To see the surcharges for the *Investments & Quotations* section, for instance, enter *g iq 1200*. It might be a good idea to print these surcharge lists out if your terminal software has that capability.

## CompuServe Executive Information Service Menu Structure

### COMMUNICATIONS (COM)

InfoPlex (Electronic Mail) (\$) (IPX)  
Electronic Conferencing (CON)  
National Bulletin Board (NBB)  
Professional Forums (PF-1)  
Aviation (PF-10)  
Legal (PF-20)  
Medical (PF-30)  
IBM (PF-40)  
CP/M (PF-50)  
INTEREX Hewlett-Packard (PF-60)  
The World of Lotus (LOTUS)  
"Ask Mr. Fed" (\$) (MMS-20)  
Investor's Forum (PF-70)  
Geneva Series (GEN)  
IBM Novice Forum (PF-7)  
Directory of Users (DIR)  
Feedback to CompuServe (COM-5)  
Transaction Charges (COM-17)

### INVESTMENTS & QUOTATIONS (IQ)

Ticker Retrieval Reports (\$) (TICKER)  
Expert User (\$) (IQ-200)  
Current-Day Pricing (\$) (QUOTES)  
Historical Pricing (\$) (IQ-400)  
Dividends, Splits, Bond Interest  
Pricing History (One Issue)  
Multiple Issue Pricing (One Day)  
Pricing Statistics  
Detailed Issue Examination  
Bonds Listing  
Ticker & CUSIP Lookup (IQ-1350)  
Download Data  
Annual & Quarterly Reports (\$) (IQ-500)  
Information on Value Line (VLINFO)  
Value Line Annual Reports & Ratios  
Value Line Quarterly Reports  
Download Data (Value Line Data Retrieval)  
Standard & Poor's Green Sheets  
DISCLOSURE II (IQ-560)  
Estimates & Projections (\$) (IQ-600)  
Value Line 3- to 5-Year Earnings Projections

Institutional Broker's Estimate Survey (I/B/E/S)  
I/B/E/S Earnings Forecast (Expanded)  
I/B/E/S Earnings Forecast (Brief)  
Investment Analysis (\$) (IQ-700)  
Market Highlights  
Options Profile  
Securities Screening  
Return Analysis  
Portfolio Valuation  
Charting with VIDTEX  
Telidon & NAPLPS Charting  
Pricing Statistics  
Shareholder Freebies (Free) (FRE)  
Economic/Financial Outlooks (\$) (IQ-800)  
Evans Economics Electronic News Service (EEL)  
MMS Financial Reports (MMS)  
News-A-Tron Market Reports (NAT)  
Agri-Commodities, Inc. (ACI)  
Financial Forums (IQ-900)  
Investors' Forum (PF-70)  
Ask Mr. Fed (\$) (MMS-20)  
Banking & Brokerage Services (BAN)  
Huntington National Bank (HNB)  
Shawmut Bank of Boston (BAN-30)  
Central Trade Bank (BAN-40)  
Unified Management (UMC)  
Tickerscreen (\$) (TKR)  
User Information (IQ-1300)  
Investments & Quotes Electronic Documentation  
Reviewing Your IQ Session Charges  
Ticker & CUSIP Lookup (\$) (IQ-1350)  
Transaction Charges (IQ-1200)  
Investments & Quotes Transaction Charge List  
Reviewing Your Current I&Q Session Charges

### DECISION SUPPORT (DS)

Demographics (\$) (SIT)

## CompuServe's Executive Information Service

Statistics (\$) (STAT)  
Information on Demand (\$) (IOD)  
IRS Tax Information (IRS)  
Donoghue Moneyletter (\$) (DON)  
Transaction Charges (DS-15)

### NEWS (NWS)

AP Viewdata (APV)  
CP Business Information Wire (BIW)  
The National Business Wire (TBW)  
The Washington Post (\$) (TWP)  
MMS Financial Reports (\$) (MMS)  
Steven's Small Business Rpts (SBR)  
InfoWorld Software Reviews (INF)  
Evans Economics Electronic News Service (\$) (EEI)  
News-A-Tron Market Reports (NAT)  
Business & Law Review (BLR)  
Transaction Charges (NWS-10)

### TRAVEL (TRA)

Official Airline Guide (\$) (OAG)  
FIRSTWORLD Travel Club (TVL)  
Transaction Charges (TRA-13)

### SHOPPING (SHO)

Comp-U-Store (\$) (CUS)  
The Software Exchange—SOFTEX (\$) (SHO-40)

### WEATHER (WEA)

State Forecasts  
Extended Forecasts  
Forecast Explanation  
Probability of Precipitation  
Marine Forecasts  
Sports Forecasts  
Weather Warnings  
Aviation Weather Menu

### PROFESSIONAL & TECHNICAL (TIS)

Intro to Professional and Technical Services (TIS-5)  
Aviation (PF-10)  
ASI Newsletter (ASI-30)  
Special Interest Group (PF-10)

NWS Aviation Weather (AWX)  
EMI Flight Plan (EMI)  
Peak Delay Guide (PDG)  
Aircraft Insurance (AVL)  
Official Airline Guide (\$) (OAG)  
Data Processing (DPR)  
Industry Survey  
Calendar of Events  
Call for Papers  
Communications Industry Forum (C.I. Forum)  
General Engineering (ENG-1)  
Industry Survey  
Mining and Energy (MAE-1)  
Industry Survey  
Calendar of Events  
Call for Papers  
Coal Mining & Processing's CoalScoop  
Mine-Equip—Used Equipment Database  
Society of Mining Engineer's Bookstore  
Mining Software Available on CompuServe

### CONSUMER INFORMATION SERVICE USER INFORMATION (GUI)

What's New (NEW)  
Index (IND)  
Telephone Numbers—PHONE (GUI-30)  
Terminal Settings (DEFAULT)  
Command Summary/Usage Tips (GUI-50)  
Menus and "GO"  
Navigation Commands  
Control Characters  
Editing Commands  
Commonly Asked Questions (GUI-60)  
Ordering Documentation/Products  
Customer Service (GUI-80)  
Feedback (FEED)  
Service Rates—RATES (GUI-100)  
Reviewing Your Charges  
Changing Your Password (PASSWORD)  
Changing Your Credit Card Information

## System Critique

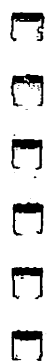
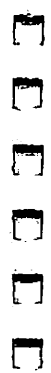
Although the Executive Information Service doesn't offer all that much more than CompuServe's Consumer Service, it doesn't cost much more, either. The difference is more one of form than substance. CompuServe has always had a more

"common" image than The Source, and many have looked on the creation of this additional service as a way to attract the businessperson. If nothing else, it contradicts CompuServe's image as being an inexpensive, even cheap, service, since a majority of databases on the Executive Service seem to carry surcharges, some of them quite steep. Still, if you have a particular need for financial information, you'll appreciate the improved layout and superior documentation offered by this service.

# Chapter 9

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## The Source



# The Source

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**The Source Telecomputing Corporation**

1616 Anderson Road  
McLean, Virginia 22102

**New Subscriber Information**

(800) 336-3366 in continental U.S. (except Virginia)

(703) 821-6666 in Virginia and outside continental U.S.

**Customer Support Numbers:**

(800) 336-3330 in continental U.S. (except Virginia)

(703) 821-8888 in Virginia and outside continental U.S.

Customer support available from 8:00 a.m. to 1:00 a.m. (EST).

Until recently, The Source billed itself as "America's Information Utility," but its other self-proclaimed title, "America's Premier Videotex Service," might be a bit closer to the mark. CompuServe, with its bargain-basement sign-up fee, vast array of databases, and large and detailed menu structure geared toward helping the beginner, has clearly attracted a larger base of users (The Source had only about 60,000 users as of September 1984). But The Source appears to operate on the premise that quality is more important than quantity. It may not feature all the databases offered by CompuServe (there's no section, for example, devoted to trading mining equipment...), but it still offers almost every conceivable type of online service. Moreover, these services are offered in a format that often makes them more accessible and more useful than their CompuServe counterparts. For the sophisticated user whose needs run more to one-way information services than the interactive clublike Forums and SIGs featured on CompuServe, The Source is clearly the service of choice.

Unlike CompuServe, which evolved from a timesharing service for hobbyists, The Source, even from its inception in 1979, was designed as an information utility. When The Reader's Digest Association purchased the company in 1980, it put both its substantial financial resources and information packaging expertise to work improving the system. The result is a smooth-running system that strikes a good balance of ease of use for the beginner, and power and flexibility for the more advanced user. Moreover, it was designed with future growth

in mind. So even though the range of services offered has expanded greatly, growth has been orderly and has never strained the system's capacity to provide excellent service.

### Subscription Charges, Rates, and Hours of Operation

For a long time, The Source had the reputation of being too expensive for the average user. This perception, mistaken though it was, could probably be attributed to the fact that the sign-up fee was \$100. To someone who bought an inexpensive home computer for \$200 and a modem for under \$100, this fee was indeed high. While such a user would not hesitate to sign up with CompuServe (at a minimal initial fee) and then collect bills of \$30 or \$40 a month, the three-digit down payment for The Source was a bit too much.

### Subscriptions

Fortunately, in August 1984 The Source cut its starter package price to \$49.95. The membership kit is available at many computer stores, at book chain stores, and directly from The Source. While this package does not come with free connect time like CompuServe's, it does include The Source's excellent 250-page manual, along with a service agreement which must be completed and returned. Instructions detail the procedures for obtaining a password and user ID, and the closest access telephone number. New members are automatically allocated 4K (two blocks of 2K each) of space for storing personal files on the system, for which they're charged \$1.00 per month.

If you haven't bought a modem or terminal software yet, be aware that The Source offers reduced sign-up rates with many hardware and software packages. Currently, over 20 manufacturers have an arrangement with The Source whereby their customers can receive a Source membership, complete with manual, for only \$29.95. (Up to the end of 1984 many of these products included *free* Source subscription offers.) These products include the Apple modems, Hayes SmartModem, U.S. Robotics Password modem, Anchor Volksmodem and Signalman modems, and many more. The entire current list may be obtained by calling the new subscribers telephone number. Such an offer reduces the price of a Source membership to less than a third of the former rate.

## Rates and Hours

Although the membership fee might have been high, connect-time charges for The Source have always been competitive with CompuServe's. In fact, The Source used to have a special "who's up at this hour?" rate for access from midnight to 7:00 a.m. It was telecomputing's best bargain. But The Source's rates have since settled into a two-tier structure. As of late 1984, charges for 300 bps usage are \$20.75 an hour during business hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, and \$7.75 an hour during the evenings, weekends, and holidays. Access at 1200 bps carries a \$5.00 per hour surcharge during the day and \$3.00 per hour evenings and weekends. The Source's 1200 bps evening rates (\$7.75 + \$3.00 = \$10.75) are especially attractive, cheaper even than CompuServe's lowest 1200 bps rate. As with CompuServe, local time determines which rate is applicable.

Unlike CompuServe's Consumer Information Service (but similar to the Executive Service), The Source enforces a minimum monthly charge. At \$9.00, that's just under an hour and a half at the lowest rate. If your connect-time charges are less than \$9.00, you'll still be billed that amount. As noted above, there's also a monthly fee for file storage (\$1.00 per month). Thus, if you use less than the minimum file storage space, the lowest monthly bill you'll ever receive from The Source is \$10.00.

All of these rates are for users in the continental United States. Evening rates will be slightly higher in Canada and Hawaii, while current rates in Alaska are \$25.00 an hour at 300 bps, regardless of the time of access.

To summarize, the connect charges for The Source are:

### **Evening (6:00 p.m. to 7:00 a.m. weekdays, all day Saturday, Sunday, and selected holidays)**

300 bps	1200 bps
\$7.75/hour	\$10.75/hour

### **Daytime (7:00 a.m. to 6:00 p.m. weekdays)**

300 bps	1200 bps
\$20.75/hour	\$25.75/hour

*Evening rates slightly higher in Canada and Hawaii. Rates in Alaska are \$25.00/hour at 300 bps, regardless of time of access.*

## Storage and Access

Additional storage of up to 20K (20,480 characters) is available at the rate of 50 cents per 2K block. As the amount of storage space increases, the cost for each 2K block goes down. The rate per block when you have more than 10,000 blocks (20,000K) is only 5 cents, for example.

Users connect to The Source through one of the commercial network systems, Telenet or UNINET. There's no additional charge for access through these networks. The Source also has its own network, though it's currently available in only a few cities, such as New York, Chicago, and Washington, D.C. Usually, the first access number a user receives is from The Source representative who assigns the ID number. Source members in large metropolitan areas should be careful to select the closest access number to avoid local toll calls. Access numbers are available for suburban areas as well as city centers, and selecting a suburban number might mean the difference between a free call or incurring zone charges.

## Surcharges

As with CompuServe, The Source offers some services not included in the basic rate. These are currently known as *value-added services*. Currently, the only such services are Media General's Stock Analysis (STOCKVUE), the Official Airline Guide (OAG), and the database and spreadsheet programs that can be used online (INFOX and MODEL1, respectively). The hourly rates for these services at 300 bps are \$34.75 evenings and weekends, and \$39.75 during the day. As with the standard services, there is a 1200 bps surcharge—\$3.00 an hour evenings and weekends, and \$5.00 an hour days. The Source always notifies you when you select a value-added service, just as it tells you of the extra charge when you sign on at 1200 bps.

Individual users must have their account charges billed to a major credit card. Unlike CompuServe, however, The Source also sends you a monthly memorandum showing a breakdown of usage by daytime and evening periods, and by 300 or 1200 bps access speeds. Questions about billing can be directed to the billing department by calling them at (703) 556-6214, or sending electronic mail to account number TCA063. For the latest rates, type *HELP RATES* at the command level prompt.

### Manuals and Documentation

The Source membership kit includes the 250-page *The Source Manual*. It's one of the most clearly written and thorough reference guides of its kind. The first section contains an introductory chapter, a chapter on signing on, and a chapter on how to select the information you want to retrieve. The next section contains chapters on each of the major groups of services available on The Source: Communications, Business & Investment, News & Sports, Consumer Services, Games & Entertainment, Travel Services, and Member Publishing. These chapters have detailed step-by-step instructions for using the various services, including screen displays of sample sessions, with footnotes explaining each step. The final section of the manual describes advanced features, summarizes commands, and includes a glossary and index. While the manual may not cover every service and command option, it comes as close as possible, given the fast-changing nature of all online services. Some of the more specialized services of The Source require more detailed documentation than can be provided in the *The Source Manual*. Members who wish to use the system to write BASIC programs, or who wish to use the INFOX database program or the online text editor program, may purchase separate manuals for these services from The Source (for more information, type *HELP SYSDOC* at command level). Given the abundance of spreadsheet, database, and text editing programs available, however, it's unlikely that a Macintosh owner would have a true need for these services.

### Sourceworld

Along with the manual, The Source includes a "Command Guide" which indexes the services available online and summarizes the direct commands used to access those services. The Source also publishes a monthly newsletter, *Sourceworld*, which is included with the monthly invoice or acknowledgment. The newsletter contains stories about new services, as well as hints and tips, and suggestions for new ways to use the service.

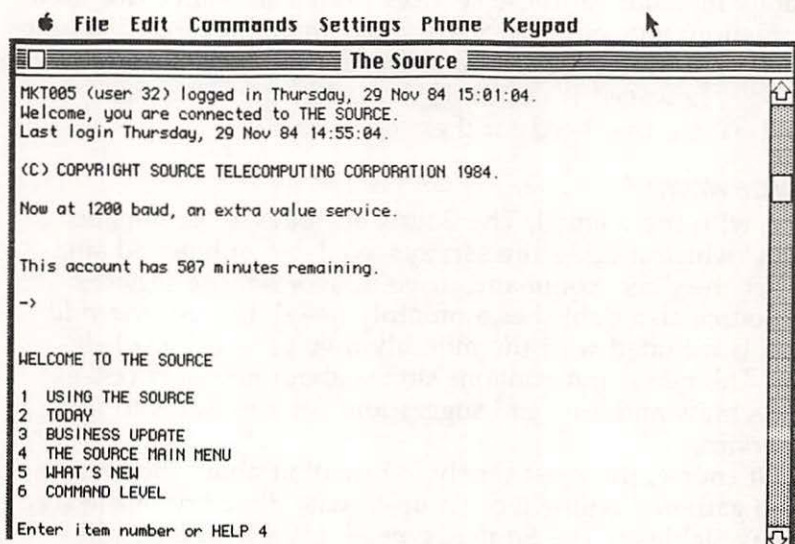
Of course, the most timely information about the service can be gathered online. For an up-to-date directory of the services available on The Source, type *HELP SERVICES* at the command prompt. If you're making a printout of this directory, enter *HELP SERVICES NOCRT*. This tells the system that

you're sending the output to a printer or disk file, and not to a display screen, so that it won't pause every time a screenful of lines appears, or prompt you to enter a carriage return to see the next screen. To obtain news about additions or changes to the system, select the *WHAT'S NEW* option on the first menu you see after signing on, or enter *NEW* at the command prompt. The customer service telephone number listed at the beginning of this chapter is also a good source for information about the service, day or night. The customer service department also responds to inquiries sent by electronic mail to account number TCA088.

### Navigating Within the System

Originally, The Source was designed as a command-driven system, where the user typed in a command to select the type of information desired. A menu structure has been added, however, so that you can see a broad list of options, select one, receive a narrower list, and so on, until you get to the service you're after. For example, when you log on, you'll see a display something like that shown in figure 9-1.

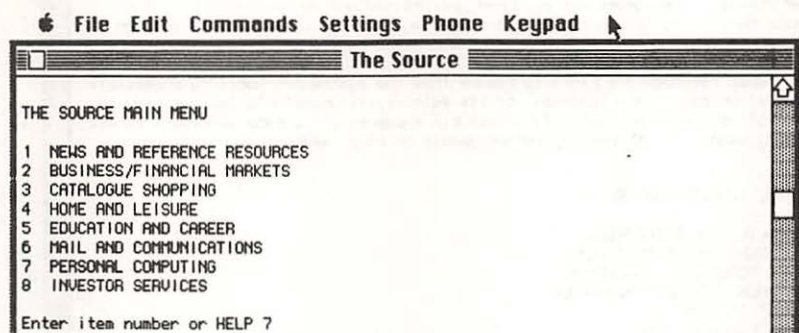
Figure 9-1. Welcome



© Copyright Source Telecomputing Corporation 1985. The Source is a service mark of Source Telecomputing Corporation, a subsidiary of The Reader's Digest Association, Inc. The Source Services are offered in participation with Control Data Corporation.

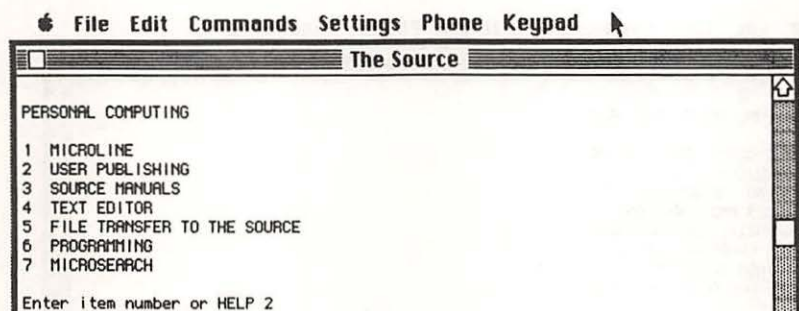
This welcome menu presents six choices. You can select item number 1 to obtain information about using The Source, 2 for the daily almanac database, 3 for current business news, 4 for another menu with more choices, 5 for information about system changes and additions, or 6 for the command level. If you wish to navigate through the menu system, enter 4, and you'll see a display that looks like figure 9-2.

Figure 9-2. Main Menu



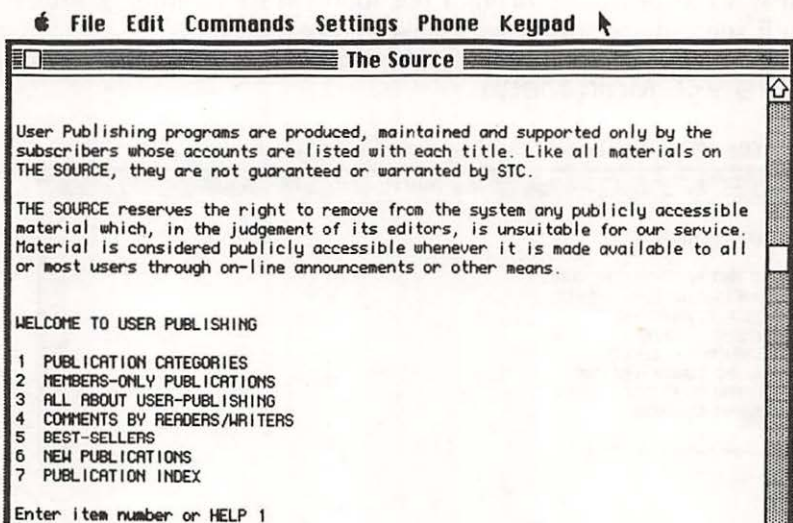
The main menu offers choices from broad categories of the services available on The Source (for an outline of the menu structure, refer to the end of this chapter). If you want to try the Personal Computing category, type in 7 and you'll see:

Figure 9-3. Personal Computing Menu



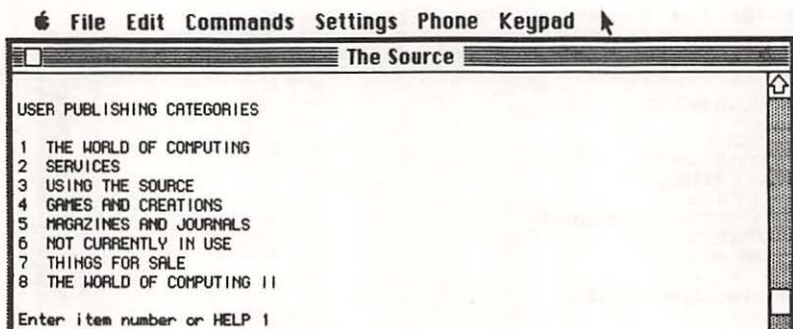
At this level, the choices presented are no longer broad categories, but actual services. Let's take a look at the User Publishing menu by entering 2:

Figure 9-4. User Publishing



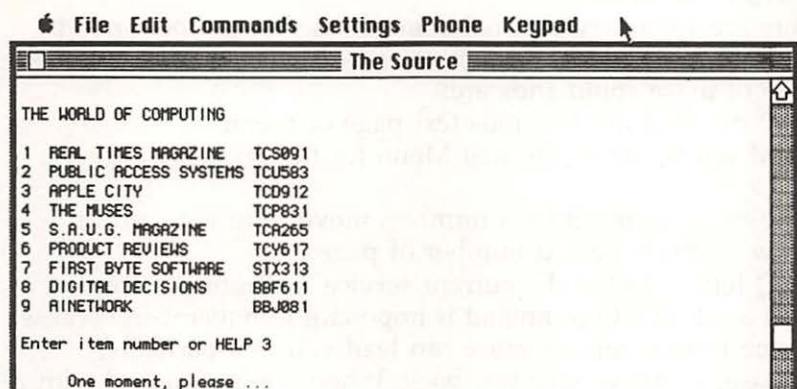
As you can see, this service uses the same menu structure. It starts by giving general categories. Let's see those categories by selecting number 1:

Figure 9-5. Publishing Categories



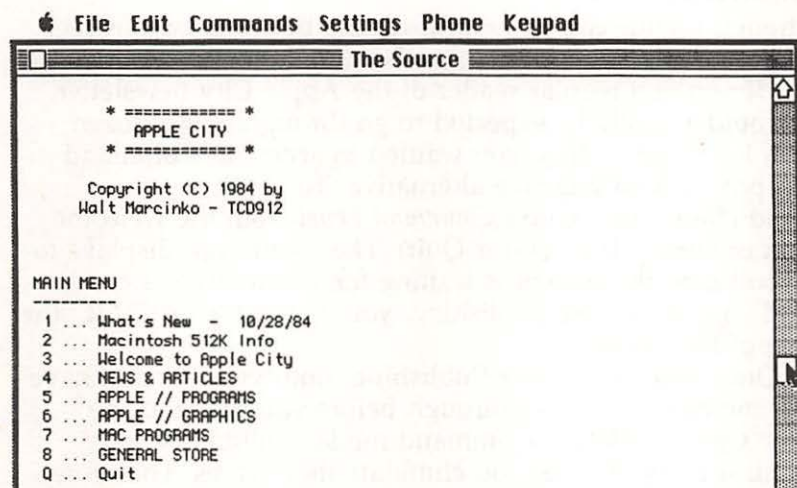
You can get a list of publications about computers by typing 1:

Figure 9-6. The World of Computing



Number 3 looks like it's about Apple computers, so let's try that:

Figure 9-7. Apple City



This newsletter for Apple owners even includes a story on the introduction of the 512K version of the Mac that you can read by entering 2.

### Navigational Aids

There are some navigational commands that can be typed in at the prompt *Enter item number or HELP* instead of a number. Some of these commands are:

**P** displays the Previous text page or menu.

**M** sends you to the first Menu for the service you're using.

**F** or **B**, followed by a number, moves you Forward or Backward the specified number of pages.

**Q** lets you Quit the current service and return to command level. The **Q** command is important to remember, because, although the menu structure can lead you to a particular database, it cannot take you back. When you're finished with a database, you should type **Q**. After a short time, an arrow prompt appears (->). If you get a previous menu instead of the prompt, keep entering **Q** until you do see this arrow. When you see the ->, type **MENU** if you wish to get back to the main menu, or **OFF** to disconnect from the service.

### Command Level

Although menus can be helpful for the beginner who is feeling around the system, they can be clumsy for an experienced user. If you're a regular reader of the Apple City newsletter, you could scarcely be expected to go through half a dozen menu levels every time you wanted to access it. Command level provides an attractive alternative. To get there, you should choose the option *Command Level* from the welcome menu or simply type **Q** (for Quit). The -> prompt displays to let you know the system is waiting for you to enter a command. To get to User Publishing, you would type **PUBLIC**, the name of the database.

Once you get to User Publishing, however, you still have three menu levels to get through before you arrive at the Apple City newsletter. Command mode wouldn't be very helpful if it couldn't let you eliminate these steps. Therefore, something called *command stringing* is permitted. Command stringing means that the system allows you to enter all of your responses at one time, without waiting for each individual

menu. For example, to go directly to Apple City from command level you would type *PUBLIC 113*. The number 113 is the publication number of that newsletter, and it represents the three menu selection numbers that you would type in at the various menus in order to get to Apple City. Command stringing eliminates the need to look at menus.

The major drawback with command mode and command stringing is that you have to know the name of each of the databases you wish to access, and the desired responses to the menu choices or prompts that they issue. Some of this information can be gained only through experience on the system. Online help files are usually available by typing *HELP*. Much of the information you need, however, is available in the "Command Summary" at the back of *The Source Manual*, in the examples scattered throughout the rest of the manual, and in the "Command Guide." When in doubt, the best course is to log off, look it up, and log back on again.

### Command Files and Abbreviations

Once you have the information you need, it can be difficult remembering the exact command sequence. Here, too, The Source comes to your aid. Command files and abbreviations are both available. Command files are created with the text editor and contain the text of the command strings you wish to execute. After you've created the file, all you have to do to execute the commands it contains is to type *CO FILENAME*, where *FILENAME* represents the name of the command file. For example, if you created a file called *AC* containing the text *PUBLIC 113*, to read the Apple City newsletter, you'd just type *CO AC*. An even simpler method allows you to create abbreviations so that a single keystroke is substituted for one or more lines of text. The abbreviation process lets you issue the command *PUBLIC 113* just by typing a single key, perhaps the number 1. Each time you want to use abbreviations, however, you have to turn them on.

### SID File

The Source even provides for a special command file, called *SID*. Any commands included in a text file named *SID* are executed as soon as you log on. Thus, you can create a file which turns abbreviations on, displays any unread electronic mail messages, and returns to command level each time you sign

on. Detailed instructions for using command files, SID files, and abbreviations are given in the manual, and need not be repeated here. If you use The Source regularly, you should take the time to learn how to use these shortcuts. You pay for memory space (which could be used for command and abbreviation files) whether you use that space or not. By utilizing the system's shortcuts, you can save yourself frustration, time, and especially money.

### Control Keys

As with most systems, there are some special keystrokes that can be used to control output from The Source. These Control keys require that you press your Control key and a letter key at the same time. Since there is no Control key on the Macintosh keyboard, terminal software usually chooses a key such as the Option or Command key to represent Control. Refer to your terminal software manual for details.

Pressing Control-S temporarily halts output to your screen. Control-Q starts it again. Control-P interrupts the display and terminates it, taking you back to either the main database prompt or to the command level.

There's one more special command that's extremely handy. Normally, the display sent by The Source pauses every 24 lines, and the prompt *Press return for more output*, or just *-MORE-*, shows up. This gives you time to read each screen before going on. It's much cheaper to capture long sections of text to disk, however, and print it out offline. In such a case, you don't want to see the prompt or hit the Return key every 24 lines. You can suppress the prompt and cause the text to continuously scroll with the NOCRT command. The NOCRT command can be issued after the prompt, at which point another will be issued. Hit Return at the second prompt, and the text scrolls uninterrupted for the rest of your stay in that database.

### What's on the System

The Source contains an enormous number of databases, far too many to cover in just this one chapter. The following is only a summary of the services now available. Arranged by broad categories, special attention has been paid to those of particular interest.

### SourceMail

Frequently referred to as Smail, SourceMail is a high-quality electronic mail service which you can use to communicate with other Source members. Letters of any length can be sent either by entering the text at the keyboard or by transferring text from your file storage space. Delivery is almost instantaneous. Though the text editor on The Source is easier to use than on other services, our advice is, as always, to prepare the text of your message offline, using your own word processor, and then transfer it from the disk file once you've logged on. Various delivery options include *express mail* (your message gets routed to the top of the recipient's mailbox), *carbon copies* sent to other users, *registered mail* (you get an acknowledgment when the recipient reads it), and a security feature which requires the recipient to enter a password before the message can be read. It's also possible to create distribution lists so that you can routinely send the same message to a number of people at the same time. There are a number of flexible Read options to limit reading to only unread mail, express messages, messages about a particular subject, or messages sent on a certain date. After a message has been read, it can be deleted or moved to your permanent file storage space. The system automatically deletes a message left in your mailbox for more than 30 days.

### Chat

Another option for direct communication is the Chat function. Chat displays whatever you type on the screen of the other user, and vice versa. To initiate a Chat, type *CHAT* at the command level, followed by the ID number of the person with whom you wish to converse. (He or she has to be online at the time, of course.) That person will then see the message *\*\*CHAT FROM YOURID\*\** on the screen, where *YOURID* represents your ID number. If the recipient wishes to Chat, he or she must get back to command level (most often by using the Q command), and type *CHAT YOURID*. From then on, each of you will see everything the other types, until you end the Chat with the Break key or Control-P.

Both Smail and Chat require that you know the ID number of the other person. The main source of these numbers is the voluntary member directory, *MEMBER*. Interested members leave their names, locations, ID numbers, computer type,

and a list of their interests in this directory. You may then search the directory by any of these categories to find Source members in your area or those with similar interests. Another source of ID numbers is to read messages on Post, the bulletin board database (see below). Some messages on the Participate conferences also include the sender's ID number.

Chat also requires that the recipient be online. The command `ONLINE` lists the ID number of users currently logged onto the system. Some of the friendlier members just pick a number at random from that list. If you want privacy from this, you can block messages with the `CHAT-OFF` command.

If you want to communicate electronically with non-members, The Source also offers mail via hardcopy delivery services, such as Western Union's Mailgram, or the U.S. Postal Service's ECOM.

### Post

Post is The Source's electronic bulletin board system. It's divided into over 60 categories covering specific personal computers (Apple, Atari, HP, IBM, Kaypro, Osborne, TI, Victor, Zenith), interests (ham radio, collectibles, hobbies and crafts, investments, games, gripes, music), and traditional want-ad headings (property/houses for rent, help wanted, personals). Since these categories change from time to time, you may want to print a current list by typing the command `HELP POST CATEGORIES` at the command level.

Post allows you to retrieve a notice according to the category under which it's stored, its subject matter, the ID number of the person who posted it, the date on which it was posted, or any combination of these fields. To read the notices in the Apple category, for instance, you would type `POST READ APPLE` or just `POST R APPLE`. After a short search, the system tells you how many notices are found. Since there are probably hundreds, it allows you to narrow the search with other criteria. If you wanted only Macintosh notices, you could choose to narrow the search to notices with the word `MAC` in them by using the command `K MAC`. As is usually the case with commands on The Source, you could combine the steps with `POST R APPLE K MAC`. If there were still too many, you might limit the notices to a range of dates or to those with the keyword `SALE`.

The R option lets you read all the messages, one by one. To read only selected messages, you can use the Scan command, which lists the subject headings, and then enter the number of the message or messages you wish to read. The most recently posted message is always displayed first. Messages remain on Post for two weeks before they're automatically deleted.

Post is a great place for finding hardware bargains and for exchanging information. Although The Source reserves the right to delete offensive or inappropriate messages, in practice, you've got a broad leeway. The result is that you're much more likely to see discussions of software protection schemes or offers to trade software on The Source than you are on CompuServe. And the Personals category usually contains some fairly forthright messages.

Post is also a good place to find out information about other services of The Source. There are Post categories for Parti and Public Files; messages filed under these categories give information about what's going in various Participate conferences and about the contents of user-provided publications. Another category, Chatter, allows general give and take between members, and provides a meeting place where people can find others with whom to Chat.

### Participate

Parti is the online conferencing service of The Source. It provides Source users with a forum for discussing a wide range of topics. These discussions are grouped by conferences, which consist of a starting message setting forth the purpose of the conference, as well as replies to that message. There are literally hundreds of conferences at any one time, with subjects ranging from computers to religion, politics, sex, and everything in between. Of particular interest to Macintosh owners is a conference entitled "The Macintosh Apple," which was started by Steve Gibson, noted Apple programmer, *InfoWorld* columnist, and designer of the Gibson Light Pen system. To see the entire current list, type *PARTI* at the command level, enter the Parti area, and type the command *P "PARTI" C*, which stands for Profile Parti's Contents. You can also type *HELP CONFERENCES* at the command level to get an abbreviated list of the more popular conferences.

Although Parti performs many of the same functions as the Forums/SIGs on CompuServe, it's somewhat less convenient to use. The command structure is not easy for the beginner to pick up from the manual, although there is an online guided tour known as the *Practice* conference which does a good job of acquainting the novice with the feature's basic functions. Scanning messages is done by reading the opening few lines of the message, rather than a subject heading. Replies to previous messages are not tied to those messages, as are conversation threads in CompuServe's Forums. The ease of starting a new conference leads to a rambling mass of conferences, with very little structure. In short, although Parti has many novel and worthwhile features, its shortcomings make it less popular than it might otherwise be. The Macintosh conference, for example, drew only about 160 messages in the first ten months; MAUG on CompuServe might get that many new Macintosh messages in a week. Though quantity of messages is not all that the user is after (who wants to pay good money to read "HI FRED" messages?), a large base of messages at least insures that something of interest will turn up.

### Business and Investment Services

The Source features a full line of financial information services. BIZDATE provides hourly updates on market indicators, commodities, currency, and business headlines. STOCKCHECK provides stock market quotations from the Associated Press and lets you create portfolio files which can be used to automatically check a number of stocks at once. The UPI financial wire is also available, with a wide variety of market reports that you can search by key words at UNISTOX. STOCKVUE is Media General's stock analysis service, providing current and historical data on over 3100 companies whose common stock is traded over the counter, or on the New York or American exchanges. Management Contents's database of abstracts from leading business periodicals can be found in CONTENTS. An online employment service is also available at EMPLOY.

In late 1984, The Source announced a new line of investment services to be offered by Spear Securities. These services will allow Source members who establish brokerage accounts with Spear to trade securities online at discount commission rates. The entire trading process of order entry, stock trans-

action, and online confirmation will take only two minutes. An automated portfolio record-keeping system will also automatically track the value of your securities and provide statements of losses and gains. Current (last trade) stock quotations will be available, as well as the less expensive quotes that are delayed 20 minutes.

### News and Sports

The Source features two outstanding news services, the UPI news wire and BYLINES, a collection of syndicated features and editorials. Unlike some online news services which offer only a few stories that can be selected from a menu, the UPI database contains the complete contents of the wire service. You can select a story by type (national, regional, state, or feature), subject matter (general, business, sports, or miscellaneous), keyword appearing in the story, and date. Stories can be displayed from oldest to newest, or vice versa. The service can be used in conjunction with command files so that it's possible to use a one-word command to scan the news wire and display stories with a particular keyword, say, *Macintosh*, in them.

BYLINES contains syndicated features and columns from several newspapers. It allows you to select from dozens of columns on politics, entertainment, sports, health, advice, lifestyles, and leisure. They can be chosen by author, title, or searched by keywords. This database puts TV and film reviews, horoscopes, even the complete works of Miss Manners at your fingertips.

In addition, The Source also carries the Scripps-Howard News Service, Associated Press Viewtext, and the online edition of the *Washington Post*.

### User Publishing/Public Files

PUBLIC is an area of The Source where users can publish their own newsletters. Some of these newsletters last only a short time, but dozens are available on any given day. As you've already found, Apple City, an Apple users' publication, can be reached by typing *PUBLIC 113* from command level. SAUG, the magazine of The Source Apple Users Group can be reached at *PUBLIC 115*.

Another publication with timely news about the entire computer industry is Newsbytes, at *PUBLIC 155*. To see the

## The Source

whole list of current publications, type *PUBLIC* and choose the *Publication List* option. Information about the contents of current newsletters can be found in the *PUBLIC* category of Post, where writers often advertise their wares.

### Etcetera, Etcetera, Etcetera

There are dozens of other services available, from airline schedules and travel reservations to games, online shopping, and timely reviews of computer equipment and software. For an overview of the services available and to familiarize yourself with the menu structure, refer to this summary of the current menu structure. The characters in parentheses are the commands you can use to access these services directly from the command level.

## The Source Menu Structure

### NEWS AND REFERENCE

#### RESOURCES

##### News and Sports

- UPI News Service (UPI N G)
- Scripps-Howard News Service (SHNS)
- The Editorial Page (BYLINES)
- UPI Sports (SPORTS)
- The *Washington Post* (WPOST)
- Associated Press (AP)

##### Government and Politics

- President's Daily Schedule  
(UPI N M BC-PRESIDENT)

##### Senate Committee

- (UPI N M BC-SENATE)

##### House Committee

- (UPI N M BC-HOUSE)

- Political Commentary (BYLINES M)

##### Bylines and News Features (BYLINES)

##### Viewpoints (BYLINES M)

- Alan Dershowitz
- New Republic
- Julian Bond
- John Hess
- Virginia Payette
- Washington Merry-go-round
- Anderson Special Weekly
- Donald Lambro
- Ben Wattenberg
- In Washington
- Wagman File
- Don Graff
- Rusty Brown
- Misc. Viewpoint

### The Arts

- Ask TV Scout
- Tune-In Tomorrow
- Tune-In Tonight
- About Books
- Misc. Lively
- Ask Dick Kleiner
- Hollywood Features
- Showbeat
- Critic-at-Large
- The Private Eye
- Filmeter

### The Locker Room

- Just Ask
- Sports Focus
- Misc. Sports
- Sports Talk
- Olderman
- The Good Doctor

### Around the House

- Supermarket Shopper
- Slim Gourmet
- Gray Boone on Antiques
- Antiques & Stuff
- Design for People
- First Aid for the Ailing House
- Polly's Pointers
- Food for Americans
- Nutrition
- Stitchin Time

### Confidentially...

- Astro-Graph
- Miss Manners

## The Source

Your Birthday  
Dear Meg  
Your Stars This Week  
Living  
Fashion  
Young Originals  
Beauty Digest  
Ask Congressman Pepper

### Leisure

Senator Soaper  
The Aces  
World Almanac Q & A  
Almanac (Birthday)  
Bridge  
Barbs  
Column Closers  
Shorts

### Health and Technology

Dr. Lamb  
Animal Doctor  
All About Computers  
Dr. Gott

### Lifestyles

Saints and Sinners  
Thoughts  
News Focus  
In America  
Special Series  
Misc. News Focus

### Accu-Weather (WEATHER)

National Forecasts  
Regional Forecasts  
Major Metro Area Forecasts  
City Forecasts by State  
World Weather  
Accu-Weather Features  
Regional Highway Forecasts  
(Nov-Mar)

### BUSINESS/FINANCIAL MARKETS

#### Financial Markets

NYSE Closing Prices (UNISTOX  
045,089,100)  
AMEX Closing Prices (UNISTOX  
059,090,183)  
UNISTOX Reports (UNISTOX)  
Media General Stock Analysis  
(STOCKVUE)  
Stockcheck (STOCKCHECK)

#### Stock Analysis

Media General Stock Analysis  
(STOCKVUE)

#### News and Commentary

UPI Business News (UPI N B)  
Management Contents, Ltd.  
(CONTENTS)

Donoghue Finance/Investment  
Newsletter (DONOGHUE)  
Research and Reference  
Information On Demand (IOD)  
Business Publication Abstracts  
(CONTENTS)

### CATALOGUE SHOPPING

Books (BOOKS)  
Records, Radio Classics  
(MUSICSOURCE, RADIOSOURCE)  
Classified Ads (POST)  
Comp-U-Store (CSTORE)

### HOME AND LEISURE

Games (GAMES)  
Advice and Biorhythms (BIORHYTHM)  
Travel and Dining  
Domestic Flights (AIRSCHED-D)  
International Flights (AIRSCHED-I)  
Travel Tips and Specials (TOURS)  
Travel Reservations (LETSGO)  
Restaurant Guide (USREST)  
Official Airline Guide (OAG)  
Accu-Weather (WEATHER)  
Entertainment  
Weekly Bestseller List (BESTSELLERS)  
Movie Reviews (MOVIES)  
Music News  
TV Previews (BYLINES R TUNE-IN  
TOMMOROW)  
Soap Opera Tune In (BYLINES R  
TUNE-IN TODAY)

### EDUCATION AND CAREERS

Career Network (EMPLOY)

### MAIL AND COMMUNICATIONS

SourceMail (MAIL)  
Chat (CHAT)  
Post (POST)  
Participate (PARTI)  
Mailgram Message Service (MGRAM)  
Ecom Messages (ECOM)  
Member Directory (MEMBERS)

### PERSONAL COMPUTING

Microline (MICROLINE)  
User Publications (PUBLIC)  
Source Manuals (SYSDOC)  
Text Editor (ED)  
File Transfer to The Source (FILETRAN)  
Programming (ADAPPR)  
Microsearch (MICROSEARCH)

### System Critique

The Source is a premium information service at popular prices. It is well documented, and for the most part more responsive during peak hours than is CompuServe. It offers a full line of services; most feature a search option which lets you quickly locate information (by category, keyword, and/or date), without having to wade through endless menu levels. The system has all of the amenities, like sign-on customization, command stringing, command files, and abbreviations, that let you reduce commonly performed sequences to a few characters.

If The Source has any fault, it may be that it leaves too much to the user's discretion. The content of the User Publishing and Parti conferences depend upon what users are willing to provide and not necessarily on what they would like to see provided. At times this makes The Source seem like an ocean cruise without a cruise director. User-to-user communications just don't flourish as they would in a more structured environment.

Faults in individual services should not be too heavily weighted, however. Information services like The Source change so rapidly that if their contents don't please you today, you can always try again tomorrow. The crucial test is whether the system for delivering information is basically sound—in that regard The Source gets high marks.

**Editors Note:** Effective February 1985, The Source is altering some of its structure. There are several significant changes. The sections called "Using The Source" and "Member Information" are now free. You won't be billed for time spent getting familiar with the system, or while conducting business with The Source (ordering materials, changing password, billing questions, and so on). All of Today's News is in one area, more easily accessible. Direct command names for the various services are also listed in the menus you see on the screen. This makes it easier to learn the command structure.

Overall, the menu structure of The Source has been strengthened. First-time users will especially appreciate the ease of moving from place to place.

Though some of the categories are retitled, the description in this chapter is still valid. You shouldn't have any trouble navigating within The Source if you follow the directions outlined here.

# Chapter 10

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Dow Jones  
News/Retrieval

EEEEE

EEEEE

# Dow Jones News/Retrieval

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**Dow Jones News/Retrieval**  
**P.O. Box 300**  
**Princeton, New Jersey 08540**

**Telephone Numbers**

(800) 257-5114 in continental U.S. (except New Jersey)  
(609) 452-1511 in New Jersey and outside continental U.S.

Customer support available from 8:00 a.m. to 11:00 p.m. (EST),  
Monday through Friday, and 8:00 a.m. to 5:00 p.m. (EST) on  
Saturday.

In business circles, Dow Jones is synonymous with financial information. As the personal computer gained greater acceptance in the office, it was only natural for Dow Jones to turn to the online database as a new medium for delivering its many information services. The result, Dow Jones News/Retrieval, provides detailed financial information about public and private companies, current and historical stock market quotes and averages, research and economic survey services, and business and economic news services, ranging from current capsule summaries and transcripts of the program "Wall Street Week" to the full text of the *Wall Street Journal*. In addition, it offers more general information services, such as a sports update, a general news-wire service, an online version of the *Academic American Encyclopedia*, Cineman movie reviews, a national weather report, the *Official Airline Guide*, and Comp-U-Store. No user-to-user bulletin-board-style services are offered, although a more limited form of electronic communication is available through MCI mail.

Unfortunately, in computer circles the word *business* is often synonymous with *expensive*. As you'll soon see, Dow Jones News/Retrieval does not come cheap. Because of its steep fees, be aware that often the same types of services (and in some cases, the identical databases) are available elsewhere for a fraction of the cost.

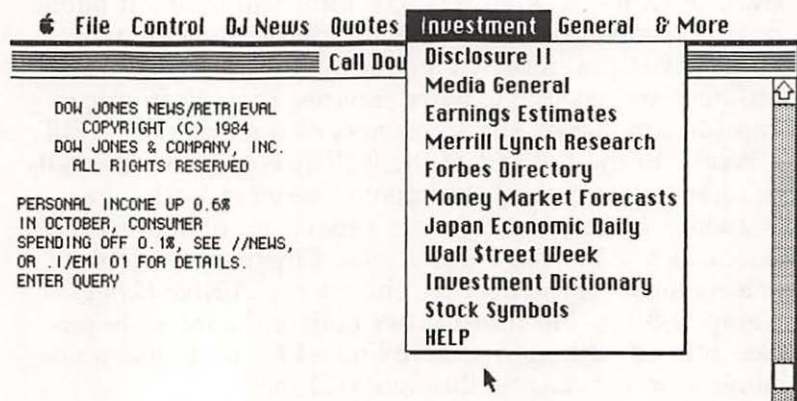
At such a high price, you would expect state-of-the-art

system software, but that's not the case. Dow Jones News/Retrieval lacks the most basic of telecomputing amenities, like prompts to press the Return key to move to the next page of text. When the last line of text is displayed, the system just waits for you to figure out what to do next.

Despite its relatively high cost and difficulty of use, Dow Jones News/Retrieval may be of interest to business users because of its dedication to quality and its high level of support. Some excellent examples are the Dow Jones software packages just starting to appear. These packages work interactively with Dow Jones News/Retrieval to track and analyze specific financial information.

The first such product released for the Macintosh is a terminal program called *Straight Talk*. This program makes the database much easier to use by placing the various services on pull-down menus, and it allows you to store several stock symbols so that price information or news about a particular issue may be accessed via these menus. Figure 10-1 shows a pull-down menu.

Figure 10-1. Investment Menu

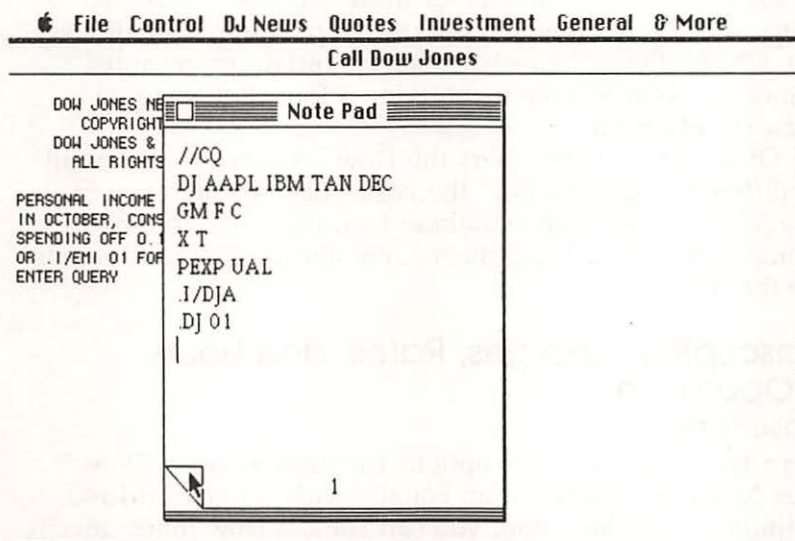


Also planned for the Macintosh is *Spreadsheet Link*. This program will automatically gather financial data and transfer it into your *Multiplan* (or other) spreadsheet for analysis, eliminating the need to enter each information request manually, write down the results, and then reenter the data in your spreadsheet. Programs for tracking personal investments

and technical market analysis are currently available from Dow Jones for other computers (such as the Apple II) and presumably will be made available for the Macintosh in the future.

Using these software packages, especially *Straight Talk*, with Dow Jones News/Retrieval eliminates some of its disadvantages. Logging on is far easier, and since you can access the service's databases with pull-down menus and the mouse, a process with which you're already familiar, you can move from place to place quickly. You can even simulate macro commands (which let you predefine a series of selections) with the Notepad. Using the Notepad, you can request any information, place it into memory, and then log off. *Straight Talk* comes with a sample macro already defined on the Notepad. It logs on, checks several stocks (including Apple and IBM), and then logs off. This Notepad, which looks like figure 10-2, can be changed to any instructions you want.

Figure 10-2. *Straight Talk's* Notepad



Once you're offline, you can review the data or even save it to disk for later editing. It's not always simple to create such macros, given Dow Jones's command structure (see the review of *Straight Talk* in chapter 5 for more details), but it does save

time. In fact, accessing information with this kind of automatic script is so time-efficient that even at Dow Jones's high rates, it could well cost less than a service with lower connect charges which requires time-consuming menu selection.

Although Dow Jones News/Retrieval has led the way in financial database services, others are doubtless to follow. The relatively new CompuServe Executive Information Service, for example, currently offers a somewhat less sophisticated approach to automated information retrieval. It's bound to become more refined as time goes on. And The Source is beginning to offer online brokerage services with such features as automatic portfolio tracking, current stock quotes with no delays, and actual online trading. Such competition has led Dow Jones News/Retrieval to reduce its rates somewhat and may lead to further reductions in the future.

In addition to integrated software packages, Dow Jones News/Retrieval offers a number of other creative services. It has begun conducting seminars in various cities, demonstrating how to use both the service and the software, and explaining some of the applications for these services. It has also inaugurated DowPhone, an interactive phone information service, which allows the caller to access certain prerecorded financial news messages by entering a four-digit code on a tone-dial telephone.

Of course, to some users the Dow Jones name makes all the difference, regardless of the cost. The very presence of Dow Jones in the online database field may therefore be the incentive needed to bring microcomputer telecommunications into the office.

## **Subscription Charges, Rates, and Hours of Operation**

### **Subscriptions**

There are a wide range of options for subscribing to Dow Jones News/Retrieval—at an equally wide range of prices. Beginning at the high end, you can contact Dow Jones directly and pay \$75.00 for a password to access the service. For \$50.00, you can buy the Dow Jones Connector, a package available at computer stores and some book stores. In addition to the password, the Connector offers a free hour of connect time. Or for \$19.95 you can purchase Radio Shack's Universal

Sign-Up Kit and get subscriptions to both Dow Jones *and* CompuServe, along with a free hour of time on each. In most cases, the newly revised manual for the service will not be available with the subscription. It runs an extra \$10.00.

Dow Jones has arrangements with a number of software and hardware manufacturers, where purchasers receive a free ID and an hour of time. Perhaps the number of free offers available explains the 150,000-subscriber base which Dow Jones claims. All Dow Jones software products, including the terminal program *Straight Talk*, come with such an offer. Since *Straight Talk* is priced at \$79, it's almost as cheap to buy the software just for the membership as it is to sign up directly.

As an interesting side note, Dow Jones has recently begun offering its information services via interactive cable TV hook-ups. Subscribers of the cable systems which feature this option pay a fixed fee (about \$25 per month for unlimited usage) and can receive much the same information on their televisions as computer subscribers get over the phone lines (perhaps this is one reason why Dow Jones has stuck to a narrow display format for its databases). Of course, it's extremely difficult to download data from your TV!

## Rates and Hours

Connect charges for Dow Jones News/Retrieval are grouped in a six-tiered structure. Depending on the database you access, rates at 300 bps can run from \$36.00 to \$72.00 an hour during business hours. At 1200 bps, the rates double, raising the highest rate (that for business and economic news, text search through the Wall Street Journal and Dow Jones's archive, and financial and investment services) to \$144.00 an hour—a staggering \$2.40 a minute.

Nonprime-time rates can be substantially lower, particularly for the most time-critical services such as stock quotes and news updates. Off-hours rates for these services run a mere \$9 an hour (\$18 an hour for 1200 bps). The discount is less pronounced in other areas, however; financial information services drop from \$72 to \$54 an hour, and general news and information services (such as the encyclopedia and movie reviews) remain at the comparatively high rate of \$12 an hour for 300 bps operation.

If you're calling from Alaska or Hawaii, the rate is a flat \$60 per hour, regardless of the time or the database accessed.

## Dow Jones News/Retrieval

Overall, it's safe to say that this price structure will discourage most casual users who have to pay for connect charges out of their own pockets.

To summarize, the connect charges for Dow Jones News/Retrieval are:

### **Evening (6:00 p.m. to 4:00 a.m. weekdays, all day on weekends and holidays)**

#### Business and Economic News

300 bps	1200 bps
\$12.00/hour	\$24.00/hour

#### Dow Jones Quotes

300 bps	1200 bps
\$9.00/hour	\$18.00/hour

#### Text Search

300 bps	1200 bps
\$36.00/hour	\$72.00/hour

#### General Information Services

300 bps	1200 bps
\$12.00/hour	\$24.00/hour

#### Financial and Investment

300 bps	1200 bps
\$54.00/hour	\$108.00/hour

### **Daytime (6:00 a.m. to 6:00 p.m. weekdays)**

#### Business and Economic News

300 bps	1200 bps
\$72.00/hour	\$144.00/hour

#### Dow Jones Quotes

300 bps	1200 bps
\$54.00/hour	\$108.00/hour

#### Text Search

300 bps	1200 bps
\$72.00/hour	\$144.00/hour

#### General Information Services

300 bps	1200 bps
\$36.00/hour	\$72.00/hour

### Financial and Investment

300 bps	1200 bps
\$72.00/hour	\$144.00/hour

*Rates for users in Alaska and Hawaii are \$60.00/hour, regardless of time of connection or database accessed.*

For heavy users, Dow Jones offers some premium-class memberships which can cut the price of connect time. The Blue Chip plan costs \$100 per year, but reduces the price of connect time during evening hours by one-third. The Executive membership costs \$50 per month, and entitles its holder to a one-third discount on *all* connect charges. These membership plans also entitle the holder to one-half hour of free time on a selected database each month. Dow Jones calculates that the user who averages \$25 per month of nonprime-time usage could benefit from the Blue Chip plan, while the break-even point for the Executive plan is about \$180 per month.

### Premiums and Access

In addition to connect time, some of the Dow Jones News/Retrieval services exact surcharges. The Disclosure II database charges an additional \$5.00 fee for each company search done in prime time, \$2.00 for each search during nonprime hours. Real Time Quotes requires that the user sign a separate user agreement, and pay a \$12.50 subscription fee each month. And the online portfolio tracking service costs an additional \$5.00 per month.

Telephone access to Dow Jones News/Retrieval through the packet-switching networks (Telenet and Tymnet) is included in connect charges. Dow Jones is also starting its own network, DowNet, which will service eight to ten major cities by 1985, the first group to include New York City, Princeton, N.J., Houston, and Chicago.

Dow Jones News/Retrieval is in operation from 6:00 a.m. to 4:00 a.m. each day. Prime-time hours run from 6:00 a.m. to 6:00 p.m. The time of contact is based on your own local time. Note, however, that the time Dow Jones is first available and the time it shuts down, is calculated by eastern time. Thus, if you live in California, you can begin to use the system at 3:00 a.m. and you can access it until only 1:00 a.m.

## Manuals and Documentation

The original manual for Dow Jones News/Retrieval was a 200-page book called the *Fact Finder*. Most of this manual was taken up with stock symbols and securities' codes. The balance featured a terse description of the various services and their operation. The new *User's Guide* now available is a much more comprehensive and useful guide, devoting a chapter to each database. It includes a sample session, applications, and a reference chart for each database.

Subscribers to the service receive a bimonthly magazine called *Dowline*, which provides features, stories about the various databases and software products offered by Dow Jones, and database summaries with current rates. There's also a free newsletter called *Intro*, which includes database announcements, software news, and customer service information.

## Navigating Within the System

The Dow Jones News/Retrieval system has a nominal menu structure, but in order to get to it, you have to enter the command `//MENU`. You'll then see a menu of the five major database groups, and be asked to select one (by letter, rather than number). After you make your choice, the system displays a list of commands. Type in the appropriate command.

This odd set-up characterizes navigating on Dow Jones News/Retrieval. There are a few commands used to get around within a database, such as `T` to take you to the Top page and `R` to Redisplay the last page. But the best method to get around the system is to become familiar with the commands which get you to a particular database *before* you log on. These commands all start with two slashes (`//`), except for the command to log off, which is just `DISC` for disconnect.

One odd quirk of the system appears to be a holdover from the days when the system was mainly comprised of the Dow Jones News Service. Dow Jones News requires that you input a period, followed by a company symbol to retrieve news about that firm (for instance, `.XYZ`). However, when you enter a period at the beginning of a line, you move to the News database. The same holds true with the Current Quotes database (which you can enter by typing a comma, followed by up to five stock symbols) and Historical Quotes (entered by first typing a semicolon). It's quite possible to change

databases inadvertently by entering a line starting with a period or another punctuation mark.

Online help files are available by typing the database command, then the word *HELP* (*//DJNEWS HELP*, for instance, will get you the help file for the News database). Unlike most systems, Dow Jones News/Retrieval has no provision for continuously scrolling the display so that you don't have to pause after each screen if you're routing output to a printer or disk file. Since multipage stories begin with an indication of how many pages are included, about the best you can do is enter that many Returns at the start.

## What's on the System

Dow Jones News/Retrieval contains a few exclusive services which are indeed outstanding. The Dow Jones News database lets you retrieve stories from the business wire by company name, industry code, and so on. Its powerful search capabilities make it easy to find what you're looking for. At the moment, the Real Time Quotes service is unique, since all other stock quote services either delay price quotes by 15 minutes or charge \$30.00–\$60.00 to access each stock exchange. A \$12.50 per month fee with Dow Jones News/Retrieval provides last-trade information from all the major exchanges.

Another exclusive is its research database, which contains the full text of the *Wall Street Journal*. The search software for that database was purportedly furnished by BRS (Bibliographic Retrieval Services), and it features all of the powerful search capabilities of BRS's own databases (see chapter 11 for more information on BRS/After Dark). Fans of the PBS show "Wall Street Week" can find transcripts online in Dow Jones News/Retrieval (although you may be better off sending \$2.00 to the show for a printed transcript). And the service offers investment information from many prestigious sources, such as Merrill Lynch Research and Standard & Poors.

Dow Jones News/Retrieval also contains many routine financial and investment databases of the kind commonly available on virtually all the other services. Current and historical quotes, Dow Jones averages, corporate earnings predictions, and the investment research services provided by Media General, Disclosure II, and Money Market services can all be found elsewhere—and often for much less money.

Likewise, its general news and information services are unexceptional. The *Academic American Encyclopedia*, *Cineman Movie Reviews*, *Official Airline Guide*, world news, sports, and weather reports are all available elsewhere for less. Access to MCI Mail and Comp-U-Store is almost universal with other systems. The addition of an exclusive Medical and Drug Reference database scheduled for late 1984, however, does show that Dow Jones is interested in expanding the usefulness of its services.

## Dow Jones News/Retrieval DataBases

The following is a brief summary of the databases currently available on Dow Jones News/Retrieval, grouped by charge tier. The command required to access each database is included in parentheses.

### Business and Economic News

#### Dow Jones News (/DJNEWS)

300 bps: \$72/hour prime, \$12/hour nonprime

1200 bps: \$144/hour prime, \$24/hour nonprime

Summaries of business news stories of the past 90 days from the Dow Jones News Service (Broadtape), with selections from *Barron's* and the *Wall Street Journal*. Stories are indexed by company, financial instrument, and industry or governmental unit, and can be accessed by searching for a stock symbol, financial instrument symbol, industry code, or special news code.

#### Weekly Economic Update (/UPDATE)

300 bps: \$72/hour prime, \$12/hour nonprime

1200 bps: \$144/hour prime, \$24/hour nonprime

A roundup of the past economic week, made available at 6:00 p.m. each Friday and updated at 11:00 a.m. on Monday. The summary menu includes Executive Summary, Economic Week, Statistical Highlights, Analysis, and The Month Ahead.

#### Wall Street Journal Online Highlights (/WSJ)

300 bps: \$72/hour prime, \$12/hour nonprime

1200 bps: \$144/hour prime, \$24/hour nonprime

A condensed version of major stories from the past five editions of the *Wall Street Journal*. You may choose items from the Front Page, Editorials, Front Page—Section 2, Market News, or Back Page for each of the five editions.

## Dow Jones Quotes

### Historical Dow Jones Averages (//DJA)

300 bps: \$54/hour prime, \$9/hour nonprime

1200 bps: \$108/hour prime, \$18/hour nonprime

Allows access to the Dow Jones Index for 30 Industrial stocks, 20 Transportation stocks, 15 Utilities, or the composite of all 65, for any day or 12-day period within the past year.

### Current Quotes (//CQ)

300 bps: \$54/hour prime, \$9/hour nonprime

1200 bps: \$108/hour prime, \$18/hour nonprime

Gives yesterday's closing price, today's opening price, and the day's high, low, and current price for stocks and other financial instruments (delayed 15 minutes). Composite prices are given unless a request is made for a quote from just the New York, American, Pacific, or Midwest exchange.

### Enhanced Current Quotes (//CQE)

300 bps: \$54/hour prime, \$9/hour nonprime

1200 bps: \$108/hour prime, \$18/hour nonprime

Retains all the features of the Current Quotes database, but adds a news alert feature which advises you when news concerning the instruments you're checking is available in the News database.

### Real Time Quotes (//RTQ)

*\$12.50 monthly subscription fee*

300 bps: \$54/hour prime, \$9/hour nonprime

1200 bps: \$108/hour prime, \$18/hour nonprime

Current stock market data without the usual 15-minute delay. Quotes are available on a last-trade basis for all stocks, including composites, on the New York, American, Pacific, and Midwest exchanges. This database also contains the news alert feature.

### Historical Quotes (//HQ)

300 bps: \$54/hour prime, \$9/hour nonprime

1200 bps: \$108/hour prime, \$18/hour nonprime

Historical high, low, and closing quotes on stocks and other financial instruments are displayed in 12-business-day periods. Sales volume also available. Daily quotes are available for the past year, monthly quotes from 1979, and quarterly quotes from 1978.

### Dow Jones Tracking Service (//TRACK)

*\$5.00 monthly service fee*

300 bps: \$54/hour prime, \$9/hour nonprime

1200 bps: \$108/hour prime, \$18/hour nonprime

Allows you to create and track up to five portfolio files with symbols for up to 25 securities in each. You can then use these files to automatically check prices for these securities in the Current Quotes database, or news about the firms in the News database.

## Dow Jones Text-Search Services

### **Wall Street Journal Full Text (//TEXT, select menu item 1)**

300 bps: \$72/hour prime, \$36/hour nonprime

1200 bps: \$144/hour prime, \$72/hour nonprime

The full text of the *Wall Street Journal* since January 1984 can be searched by words or phrases, document number, headline, publication date, company name, and/or industry or government agency.

### **Dow Jones News Archive (//TEXT, select menu item 2)**

300 bps: \$72/hour prime, \$36/hour nonprime

1200 bps: \$144/hour prime, \$72/hour nonprime

A collection of all stories which have appeared in the 90-day Dow Jones News database (//DJNEWS) since 1979 may be searched by words or phrases, document number, headline, publication date, name of publication, company name, and/or industry or government agency.

## Financial and Investment Services

### **Disclosure II (//DSCLO)**

*Per search surcharge: \$5 per company prime, \$2 per company nonprime*

300 bps: \$72/hour prime, \$54/hour nonprime

1200 bps: \$144/hour prime, \$108/hour nonprime

Extracts, company profiles, and detailed data on more than 8700 companies, obtained from Security and Exchange Commission (SEC) filings.

### **Corporate Earnings Estimator (//EARN)**

300 bps: \$72/hour prime, \$54/hour nonprime

1200 bps: \$144/hour prime, \$108/hour nonprime

The weekly earnings-per-share forecast of Wall Street research analysts for 3000 companies, prepared by Zacks Investment Research.

### **Forbes Directory (//FORBES)**

300 bps: \$72/hour prime, \$54/hour nonprime

1200 bps: \$144/hour prime, \$108/hour nonprime

Rankings and analysis of U.S. corporations in two groups—the 25 largest and the 500 largest—by sales, profits, assets, and market

value. Profitability and growth rankings for companies in 46 industries, and rankings of industries by return on equity, return on capital, sales growth, and earnings-per-share growth.

**Japan Economic Daily (/KYODO)**

300 bps: \$72/hour prime, \$54/hour nonprime

1200 bps: \$144/hour prime, \$108/hour nonprime

Produced daily by Japan's Kyodo News Service, this database contains same-day coverage of the top news stories, general business, economic and political news, and a summary of Japanese financial market activity. It contains the current, as well as the four previous, editions.

**Media General Financial Services (/MEDGEN)**

300 bps: \$72/hour prime, \$54/hour nonprime

1200 bps: \$144/hour prime, \$108/hour nonprime

Detailed corporate financial information on almost 4350 companies and 180 industries, divided into price, volume, and fundamental data. Price and volume information includes price range, one- and five-year high and low, price/equity (P/E) ratios, ratios of price/equity and price/revenue per share, relative price index, beta index of volatility, weekly volume, outstanding shares, and liquidity. Fundamental data includes revenue figures for the past 12 months, as well as the past fiscal year. The data includes earnings to date, earnings per share, growth rate, dividend rate and yield, profit margin, return on equity and total assets, revenue-to-assets and debt-to-equity ratios, shares outstanding, share holdings with market value, and insider net trading. Figures are updated each Monday morning before the stock market opening.

**Merrill Lynch Research Service (/MLYNCH)**

300 bps: \$72/hour prime, \$54/hour nonprime

1200 bps: \$144/hour prime, \$108/hour nonprime

Market analysis, recommendations for investment action, comments on specific companies and industries, revised earnings estimates, and Quick Response Query investment ratings (QRQ—ratings system for advice to buy and sell stocks of approximately 1400 companies), compiled weekly from research comments issued by Merrill Lynch's Securities Research Division.

**Economic and Foreign Exchange Survey (/MMS)**

300 bps: \$72/hour prime, \$54/hour nonprime

1200 bps: \$144/hour prime, \$108/hour nonprime

This weekly survey of economists and money market dealers at 50 leading financial institutions is used to provide an analysis of the U.S. economy and money markets, and to provide median forecasts

of domestic monetary and economic indicators. In addition, this database contains the weekly consensus analysis and forecast of foreign exchange rates of 30 foreign-exchange dealers.

**Official Airline Guide (/OAG)**

300 bps: \$72/hour prime, \$54/hour nonprime

1200 bps: \$144/hour prime, \$108/hour nonprime

Complete and unbiased schedules for direct and connecting domestic and international airline flights, along with fare information for all North American flights. Fares are updated daily and schedules updated weekly.

**Standard & Poor's Online (/SP)**

300 bps: \$72/hour prime, \$54/hour nonprime

1200 bps: \$144/hour prime, \$108/hour nonprime

Detailed profiles of over 4000 publicly held companies. Features include earnings and dividend histories and predictions, financial overview, dividends and earnings per share, and market history.

## **General News and Information Services**

**The Words of Wall Street (/DEFINE)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

Definitions of over 2000 words and phrases of investment terminology. Based on *Words on Wall Street*, by Pessin and Ross, published in 1983.

**Academic American Encyclopedia (/ENCYC)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

The complete text of over 20,000 encyclopedia articles, revised and updated twice a year.

**Master Menu (/MENU)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

A listing of available databases, with instructions on how to access them and how to obtain online help.

**Cineman Movie Reviews (/MOVIES)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

Reviews of current movies, top current movies ranked by box office sales, previews of coming attractions, and reviews of thousands of movies released between 1930 and 1983.

**News/Retrieval World Report (/ /NEWS)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

A continuously updated menu of national and foreign news-story summaries is available.

**News/Retrieval Sports Report (/ /SPORTS)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

Scores, standings, statistics, schedules, and stories for most major sports at the professional, major college, and top amateur levels.

**Compu-U-Store (/ /STORE)**

*Membership fee: \$25/year in order to make purchases*

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

Electronic shopping service allows you to search for more than 50,000 products, comparison shop, and place orders online.

**News/Retrieval Symbols Directory (/ /SYMBOL)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

Comprehensive listing of the more than 12,000 symbols used to access the various sections of Dow Jones News/Retrieval. These include symbols for stocks, stock options, mutual funds, U.S. corporate bonds, foreign bonds, U.S. Treasury notes and bonds, industry and government codes, and symbols for special news categories.

**News/Retrieval Weather Report (/ /WTHR)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

Weather-related news stories, two-day forecasts for U.S. cities, weather tables for foreign cities, along with a national weather summary and forecast by geographic region.

**Wall Street Week Online (/ /WSW)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

Online transcripts of the four most recent editions of the PBS television program.

**Medical and Drug Reference (/ /MEDX)**

300 bps: \$36/hour prime, \$12/hour nonprime

1200 bps: \$72/hour prime, \$24/hour nonprime

Contains profiles of more than 1000 ailments, including symptoms, causes, and treatment. This database also contains a guide to

prescription drugs, covering side effects and interaction with foods and other drugs. In addition, it features monthly medical and drug updates.

## Free Customer Newsletter and Mail Service

### **Intro (/INTRO)**

*No online charge*

Free online information about the Dow Jones News/Retrieval services, including new database information and other announcements.

### **MCI Mail (/MCI)**

*No online charge to receive mail. No connect charge.*

Delivery fee: Based on MCI "ounces" (7500 characters—about five typewritten pages), the rates run from \$1.00 per ounce (computer-to-computer) to \$25.00 (same-day hardcopy delivery in 15 major cities).

Four options of electronic and hardcopy document delivery to anyone, anywhere in the continental U.S.

## System Critique

As good as the informational content of this service may be, its format is adequate at best. It lacks almost every convenience feature which makes using online services a pleasure, not a chore. Most of the displays are formatted into 14–17 lines of 32 characters each—you can't adjust the length or width of the screen output. This means that only a small amount of information can be displayed at once. Since there is no method for continuously scrolling the output, you must constantly change the pages yourself.

The menu structure is of only minimal help to the beginner. There are no control keys for starting and stopping the display. If you type in the wrong character and try to delete it with a Backspace or Control-H, you'll just see an error message. The system periodically sends a string of low ASCII codes which may show as garbage characters on the screen or otherwise give your terminal-program problems. While most systems allow you to change your security password online, Dow Jones does not even let you use one. To log on, you must enter an ID number composed of a long string of letters and numbers. Since it's virtually impossible to memorize it, you must keep it somewhere near your computer. This can be a disastrous breach of security, for with written evidence of

your ID, others may be able to use the system and charge *your* account. Online storage of text files containing lists of stock in your portfolio are free on CompuServe and nearly so on The Source, but cost an extra \$5 per month on Dow Jones News/Retrieval.

Dow Jones News/Retrieval's rate structure doesn't win many friends, either. Admittedly, it has more complete financial information services than other online services, but The Source and CompuServe come pretty close to equaling its financial offerings, and at a lower price.

The shortcomings of the Dow Jones News/Retrieval system are such that it will probably appeal only to the serious investor who requires the most complete financial information. If you're interested in the general information features of Dow Jones News/Retrieval, it would be a good idea to look elsewhere, to cheaper services. Even if you're using the financial services of Dow Jones News/Retrieval, you should try, whenever possible, to use the system in conjunction with Dow Jones software which dials up the system and retrieves the required information automatically, without your intervention.

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# Chapter 11

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## Online Research Services

Knowledge Index and  
BRS/After Dark



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# Online Research Services

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## Knowledge Index and BRS/After Dark

Computers are the perfect tool for researchers. Storing and retrieving information are two of the things computers do best. It should come as no surprise, then, that giant online research databases have appeared. These databases catalog and index every type of written information imaginable—books, magazine articles, newspaper items, even papers presented in journals. There are databases devoted to every subject from astronomy to zoology, and everything in between.

Until lately, these research services have been expensive and difficult to access. For the most part, they've been used only by libraries, large corporations, and professional researchers. But the growing number of personal computers and telecommunications systems has pushed these databases to develop more consumer-oriented services.

Research databases help you find information. It's as simple as that. Let's say you're redecorating your computer room and want to find out what poster art is available from the U.S. Government Printing Office. Your session on a research database might go something like what follows. (The notes in boldface are only for explanatory purposes and did not actually appear on the screen during the session.)

In this sample session, the researcher entered the Government Publications database, and asked to see how many entries had both the word *poster* and a status code of 04, meaning that the publication was currently available. The database responded that of the 13,277 entries for government publications currently available, 66 contained the word *poster*, 49 of which were also available. The researcher then asked the system to list all 49 poster descriptions (though only the first was reproduced here). The first entry turns out to be a set of three 8 × 11 inch posters of the space shuttle and crew, available for only \$1.25. The description also gives ordering information. The whole process (including listing all 49 posters to a disk file) took about three minutes and cost about a dollar of connect time.

?b gove1 Enter the government publications database

8/5/84 22:25:53 EST

Now in GOVERNMENT PUBLICATIONS (GOVE) Section

GPO Publications (GOVE1) database

?find av=04 and poster Find all the entries containing the word *poster* and the status code 04 indicating current availability

13277 AV=04

66 POSTER

S2 49 AV=04 AND POSTER

?display s2/l/1-49 Display the full text of all 49 entries

2/L/1 First entry

8304202 NAS 1.43:P 29

Space Transportation System STS 8 (Poster Set)

National Aeronautics and Space Administration

1984: 3 posters, 8x11 in.

033-000-00908-9 UNIT: 4 DOLC: 06-28-84

Set \$1.25 DOMESTIC \$1.60 FOREIGN Discount

PRICE-ESTABLISHED: 12-30-83 RELATED-DATA: Specialty Item;

Poster, Flat; Envelope. Weight: 2 oz.

IN STOCK—WAREHOUSE & RETAIL (PRICED) STATUS CODE:

04 STATUS

DATE: 06-28-84, NB025U4

Includes the following color photographs: Space Shuttle orbiter OV-102 (Challenger) Crew Members, HqL-137; STS-8 Night

Launch, HqL-138; and STS-8 Payload Flight Test Article and STS-8

INSAT Launch, HqL-139. Each of the posters has a brief description on the back. Item 830-H-06.

SERIES: 057NA 297ZA

Posters

Space Transportation System

Challenger Spacecraft

Space Shuttles

Orbital Flight

Even if your taste in art doesn't coincide with that of the federal government, the example illustrates how a research database lets you quickly locate a piece of information that otherwise might be buried among thousands of other pieces. And the example is a fairly simple one. These databases allow you to search for items by magazine, author, or even by date. Most allow wild-card options, which let you search for parts of words, so that, for instance, one search turns up items including either the word *communications* or *communicating*. Such options allow you to pinpoint the most useful sources of information.

Granted, research-type databases are of greatest interest to students, or to professionals like doctors, lawyers, psychologists, and educators. But they can also be useful to anyone who wants to find a certain government publication, magazine article, product review of electronic equipment or home appliance, a recipe which appeared months ago, or a reference from an online encyclopedia. Moreover, because they're constantly expanding their services (and even including some consumer services such as electronic mail and shopping), these research databases will become increasingly useful to all telecommunicators. This chapter reviews two of the consumer-research databases currently available, Dialog's Knowledge Index and BRS/After Dark.

### Information Providers

It's important to remember just what service the Knowledge Index and BRS/After Dark provide. They each contain a gigantic electronic index of citations to written information on a wide variety of topics. Materials covered include books, magazines, journals, newsletters, tabloids, conference proceedings, and technical and financial reports. Citations typically give the title of the book or article, journal or source of publication, page number, author, publication date, a brief summary, and a list of terms added by the indexer to describe the subject matter.

These databases offer a quick and easy way to locate published material. But they usually don't include the full text of these books and articles. You have to find that yourself. In many cases, a trip to the public library will be enough. Where this isn't possible, Knowledge Index allows copies to be ordered online for a \$6.50 service fee, plus a copying fee of 20

cents per page. And there are already some databases which contain the full text of the indexed articles. More of these can be expected to appear in the future.

Most of the databases available from BRS/After Dark or Knowledge Index are generated by independent information providers. Many of these producers offer their own guides to using the database, as well as other information, free for the asking. Since this material is often more detailed and helpful than the documentation provided by the research services, it's worth taking the time to ask for it.

One final point about research databases. To use them effectively, you have to ask for information in very specific terms. Searching too broad a subject will simply turn up a mass of citations, perhaps only a handful of which are what you're looking for. It's important to do your thinking offline. Formulate your search strategy before you log on. Think of as many search questions as possible and try to anticipate unfavorable results. If your terminal program has a keyboard buffer for storing small text files or lets you transmit disk files, type out your questions ahead of time. If you get stumped, log off and regroup on your own time. Using these services requires some thought, and you'll be much better off if you aren't paying the system to wait while you think of what to do next.

## Dialog's Knowledge Index

**Dialog's Knowledge Index**  
**Dialog Information Services, Inc.**  
3460 Hillview Avenue  
Palo Alto, CA 94304

**Telephone Numbers**

(800) 227-5510 in continental U.S. (except California)  
(415) 858-3796 in California and outside continental U.S.

Customer support available from 7:00 p.m. to 11:00 p.m. daily.

Dialog Information Services, Inc. began in 1969 as a system developed by the Lockheed Corporation to supply NASA with the means to store and retrieve technical documents dealing

with the space program. As the system expanded, it was offered commercially to the general public and has grown into the largest collection of online databases in the world. Its nearly 200 databases hold over 140 *billion* characters of information. These databases catalog almost every conceivable source of information on any given topic.

Though it has become more accessible recently, Dialog still cannot be considered a consumer service. It's expensive to use; access charges average \$60-\$75 an hour and can run as high as \$5 a minute, depending on the database being searched. And the system is difficult enough to learn that the company offers two-day seminars to instruct new users in online search techniques.

In late 1982, however, Dialog decided to offer its services to consumers during nonbusiness hours at reduced rates. Knowledge Index, as this service is called, affords access to a selected group of 27 databases during evening hours and on weekends at a competitive price.

### Subscription Charges, Rates, and Hours of Operation

**Subscription charges.** To sign up for Knowledge Index, you must contact Dialog directly. For a one-time charge of \$35, Knowledge Index supplies you with an account number and password, a manual (and periodic updates), a quarterly newsletter, and two free hours of connect time (which must be used within a month of your first log on).

**Rates.** With Knowledge Index, you pay online charges only for time actually used. There is no minimum monthly charge and no minimum connect time per session. Connect time for all databases is billed at the relatively low rate of \$24 per hour (one-third to one-fourth the cost of Dialog's prime-time rates), and there's no surcharge for connection at 1200 bps. Telephone connection through the commercial telecommunications networks (Telenet, Tymnet, UNINET) is included in the hourly rate. Dialog is also starting its own data network, Dialnet, which will ultimately service 55 major U.S. cities and Great Britain. Current rates and a summary of your current billing information are available online.

**Hours of operation.** The service is available from 6:00 p.m. to 5:00 a.m. local time, Monday through Thursday; Friday from 6:00 p.m. to midnight; Saturday from 8:00 a.m. to midnight; and Sunday from 3:00 p.m. to 5:00 a.m.

## Manuals and Documentation

The Knowledge Index *User's Workbook* gives a detailed explanation of how to use the system. It leads you through an explanation of the types of information found on the system, with examples, and takes you through several sample sessions, each showing the commands and the system's response. Three chapters, each containing a number of worksheet exercises, cover increasingly sophisticated search techniques.

Knowledge Index periodically sends manual updates, as well as publishes the *Knowledge Index News*, a quarterly newsletter featuring announcements and tips about searching through the various databases. In addition, information about system changes is available online by typing *BULLETIN* after logging on.

## Navigating Within the System

Knowledge Index has no menu structure. Once you log onto the system, you must type the command *B* (Begin), followed by the code name of the database you wish to access. Once within a database you must use one of a few simple English-like system commands to *FIND* entries and *DISPLAY* results. Although the manual covers these commands in great detail, there are also online help files available which explain the system commands.

## What's on the System

Knowledge Index contains an interesting collection of databases. It features several covering medicine and drugs, and microcomputers, and one or two in each of the areas of agriculture, business, engineering, education, mathematics, and psychology. It also includes several databases of general interest, such as *Books in Print*, major newspapers, popular magazines, and government publications. Though most of the databases contain only descriptions and abstracts, a recent addition, the *Drug Information* database, holds the full text of its articles. More full-text databases can probably be expected in the future. Also, Knowledge Index has announced its intent to establish an electronic mail service in late 1984 that would tie in with other such services.

The following is a brief summary of the 25 databases currently available from Knowledge Index, grouped by subject.

The code name which must be entered with the B command appears in parentheses.

## **Agriculture**

### **Agricola (AGRI1)**

This database provides comprehensive information on all phases of agriculture, as well as related fields. It includes material from U.S. and international magazines, government documents and publications, books, and pamphlets. Dating back to 1979, the index is updated monthly by the producer, the U.S. National Agricultural Library.

## **Books**

### **Books in Print (BOOK1)**

Books in Print is the online version of the reference guide published and updated monthly by the R.R. Bowker Company. It contains ordering information and subject matter descriptions for virtually every book currently in print in the United States, as well as for books available in the next six months. It also has information on out-of-print and out-of-stock titles as far back as 1979.

## **Business Information**

### **ABI/INFORM (BUSI1)**

Contains information on all aspects of business, with an emphasis on general materials. ABI/INFORM includes material from over 500 U.S. and international business and management publications, from 1971 to the present. It is produced and updated monthly by Data Courier, Inc.

### **Trade and Industry Index (BUSI2)**

The Trade and Industry Index covers business information relating to all major industries and trades. It indexes over 300 trade and industry publications, and selectively covers an additional 1200 publications from 1981 to the present.

## **Computers and Electronics**

### **INSPEC (COMP1)**

INSPEC, based on the printed reference works *Physics Abstracts*, *Computer and Control Abstracts*, and *Electrical and Electronic Abstracts*, covers the fields of physics, computers, and electronics. It includes materials from over 2300 journals, as well as conference papers and dissertations from 1977 to the present.

**.MENU—International Software database (COMP2)**

Indexes and describes commercially available micro and minicomputer software. It provides information about system requirements, subject matter, and pricing for over 12,000 programs.

**Microcomputer Index (COMP3)**

Microcomputer Index is a complete index, from 1981 to the present, for the more than 50 publications dedicated to microcomputers.

**Computer database (COMP4)**

This database was designed to provide information to business and computer professionals with a wide range of hardware and software topics, including consumer product evaluations, technical data, and financial information about high-tech firms. It includes citations from over 500 journals and books, covering almost every aspect of computer electronics from January 1983 to the present.

**Corporate News**

**Standard & Poors News (CORP1)**

Provides full text coverage of corporate news about more than 10,000 U.S. corporations, gathered from such sources as reports to stockholders and regulatory agencies, press releases, and newspapers. Coverage goes back to 1979 and is updated weekly.

**ICC British Company Directory (CORP2)**

This directory provides listings for every limited-liability company in the United Kingdom.

**Education**

**ERIC (EDUC1)**

ERIC provides a complete index and abstracts of the more than half a million educational materials collected by the Education Resources Information Center of the National Institute of Education. Complete from 1966 to the present.

**Engineering**

**Engineering Literature Index (ENGI1)**

This database is the online version of the *Engineering Index*, a comprehensive reference to the world's engineering and technological literature. It includes materials published from 1975 to the present.

## **Government Publications**

### **GPO Publications Reference File (GOVE1)**

Indexes the documents currently offered for sale by the U.S. Government Printing Office. It includes publications from all cabinet-level departments and other government agencies (over 29,000 items in all).

### **NTIS (GOVE2)**

This database, produced by the National Technical Information Service of the U.S. Department of Commerce, indexes and summarizes over a million research and technical reports prepared or gathered by government agencies and their contractors.

## **Legal Information**

### **Legal Resource Index (LEGA1)**

Indexes articles, commentaries, reviews and other materials on all law and law-related topics. Coverage includes more than 720 law journals and 6 legal newspapers, from 1980 to the present. Provision is made for searching by case or statute name as well as by subject.

## **Magazines**

### **Magazine Index (MAGA1)**

Completely indexes over 400 popular American magazines from 1976 to the present.

## **Mathematics**

### **Mathfile (MATH1)**

Provides complete coverage of pure and applied mathematics, and selective coverage of publications on related fields such as statistics, computer science, econometrics, and so on. Citations are included from approximately 1600 journals dating back to 1973.

## **Medicine**

### **Medline (MEDI1, MEDI1, MEDI3)**

The Medline database offers extensive coverage of journal articles in the fields of medicine, dentistry, nursing, and health care. Its content corresponds to that of the print references *Index Medicus*, *Index to Dental Literature*, and *International Nursing Index*. The information is divided into three separate

databases: MEDI1 (which covers the years 1966–1972), MEDI2 (1973–1979), and MEDI3 (1980 to the present).

#### **International Pharmaceutical Abstracts (MEDI4)**

References a wide range of pharmaceutical and related material, drawn from over 700 U.S. and international journals published from 1970 on.

#### **Biosis Previews (MEDI5, MEDI6, MEDI7)**

The fields of biological and biomedical research are covered in three databases divided chronologically into the periods 1969–1976 (MEDI7), 1977–1980 (MEDI6), and 1980 to the present (MEDI5).

#### **Drug Information Fulltext (MEDI8)**

The Drug Information database contains the complete text of drug evaluations from the *American Hospital Formulary Service* and the *Handbook on Injectable Drugs*, both published by the American Society of Hospital Pharmacists.

### **News**

#### **Newsearch (NEWS1)**

Newsearch provides complete daily indexing of the current month's issues of the *New York Times*, *Washington Post*, *Wall Street Journal*, *Los Angeles Times*, and *Christian Science Monitor*, as well as the latest issues of over 1100 popular American magazines and journals. At the beginning of each month, the previous month's citations are transferred to Magazine Index and the National Newspaper Index.

#### **National Newspaper Index (NEWS2)**

Contains front-to-back-page indexing of the *New York Times*, *Washington Post*, *Wall Street Journal*, *Los Angeles Times*, and *Christian Science Monitor*. Information from these publications is available for the period 1979 to the present.

### **Psychology**

#### **PsycINFO (PSYC1)**

Corresponding to the printed *Psychological Abstracts*, this database covers the entire field of psychology and its related literature. It indexes and abstracts articles from over 1000 journals published from 1967 to the present.

#### **Mental Health Abstracts (PSYC2)**

These abstracts cover journal articles on all aspects of

mental health and mental illness from over 1500 journals published from 1969 to the present.

## BRS/After Dark

**BRS/After Dark**  
**Bibliographic Retrieval Service**  
1200 Route 7  
Latham, New York 12110

### **Telephone Numbers**

(800) 553-5566 in New York State

(800) 833-4707 in the rest of continental United States

(518) 783-7251 in Canada, Alaska, and Hawaii (call collect)

Customer support available Monday through Friday from 8:00 a.m. to 1:00 a.m., Saturdays from 8:00 a.m. to 5:00 p.m., and Sundays from 8:00 a.m. to 2:00 p.m.

Bibliographic Retrieval Service, one of Dialog's major competitors, also provides a consumer-oriented version of its research service. BRS contains fewer databases than Dialog, but its not-ready-for-prime-time counterpart, BRS/After Dark, gives consumers off-hours access to a high percentage of the regular databases. In fact, it actually offers almost twice as many databases as Knowledge Index.

## **Subscription Charges, Rates, and Hours of Operation**

**Subscription charges.** Currently the only way to subscribe to After Dark is to contact BRS. For the fee of \$35, you receive a user ID number and password, and the *User's Manual*.

**Rates.** There's a monthly minimum charge of \$12 based on two hours of connect time. Even when you use a higher priced database, only \$6 of each hour's fee goes toward the minimum. Therefore, you could run up a bill of \$20 for an hour of service on one of the more expensive databases and still have to pay an additional \$6 minimum charge if you didn't use any more time that month. The basic rate for connect time is \$6 an hour, which includes access through one of the communications networks (Telenet, UNINET, or Datapac). There is no surcharge for operation at 1200 bps. Most of the

research databases also charge royalty fees, which can bring the cost of connect time to as high as \$20 an hour.

**Hours of operation.** BRS/After Dark is available from 6:00 p.m. local time to 4:00 a.m. eastern time, Monday through Friday; on Saturday from 6:00 a.m. until 4:00 a.m. eastern time; and on Sunday from 6:00 a.m. to 2:00 p.m. and from 7:00 p.m. to 4:00 a.m. eastern time. (Note that the starting time for After Dark is based on your local time, but the closing time is based on eastern time.)

Although the monthly minimum is high enough to discourage the casual user, the hourly rates are low when compared to similar services. If you're a regular user of any of the databases contained on BRS/After Dark, you'll probably save money by signing up, particularly if your modem can operate at 1200 bps.

## Manuals and Documentation

The *User's Manual* that comes with your BRS subscription is short and to the point. It contains a tutorial that takes you step by step from logging on, to researching a topic, to logging off. Each step is illustrated with sample display screens. Advice on how to structure a search and some advanced tips are also included. An appendix gives a brief description of each database and establishes the various search fields (such as article title, author's name, subject, and so on) that can be used to locate an entry.

For up-to-date information on system changes, BRS provides an online newsletter. There's no provision for online help, but because of the size and simplicity of the system and the clarity of its prompts, none is really needed.

## Navigating Within the System

After Dark is easy to move through, since it has only a main menu and a menu of database categories. These menus are really helpful only for new users. Fortunately, After Dark lets you answer several levels of menu prompts without waiting for the menus themselves to appear. It calls this feature *command stacking*, and it should be used whenever possible. For example, to get directly to the database menu upon log on, you would type `80;24;1`, which answers the questions about screen width and length, and selects menu item number 1 on the main menu.

Once within a database, the only navigational commands you need to know are M to get back to the main menu, D to get back to the database menu, and O to log off.

### **What's on the System**

BRS/After Dark offers quite a number of databases. Most of them concentrate on the fields of science, technology, medicine, education, and social sciences. Doctors, chemists, teachers, and psychologists can have a field day here. Some materials, however, are of more general interest, such as Abstrax 400, which catalogs 400 popular periodicals; Peterson's National College Databank, which gives easy access to information for choosing a college; Books in Print; and the Internal Revenue Service Publications databases, useful for anyone who pays taxes. Of special interest is the online version of the *Academic American Encyclopedia*. Though there are other versions of this reference work available on other systems, this one is outstanding in its ease of use, completeness, and responsiveness.

In addition to research databases, BRS is planning to add services to match the more consumer-oriented information services. It publishes an online user newsletter and presently offers access to MCI Mail. Online shopping services are planned for the near future.

The following is a brief summary of the 42 databases currently available from After Dark, grouped by subject. The label needed to access the database is shown in parentheses, and the connect fee charged appears after its name.

### **Sciences/Medicine**

#### **Agricola (CAIN)**

\$8.00/hour

This database provides comprehensive information on all phases of agriculture and its related fields. Gathered by the National Agricultural Library, this information includes citations to material from U.S. and international magazines, government documents and publications, and books and pamphlets dating back to 1979.

#### **American Chemical Society Journals Online (CFTX)**

\$20.00/hour

Offers the full text of over 30,000 articles appearing in 18 primary chemistry journals from 1980 to the present. Each

entry contains abstracts as well as complete reference and footnote listings.

**Biosis (BIOL and BIOB)**

\$13.00/hour

The fields of biological and biomedical research are covered in two databases which are divided into the periods 1970–1977 (BIOB), and 1978 to the present (BIOL).

**Chemical Abstracts (CHEM and CHEB)**

\$15.00/hour

These two databases are the online version of the print reference *Chemical Abstracts*, and cover the literature published in all fields of chemistry. It may be searched by CAS registry number, patent number, and patent assignee, as well as subject matter, author, and so on. The CHEB database includes the period 1970–1976, while CHEM covers 1980 to the present.

**Data Processing and Information Science Contents (DISC)**

\$15.00/hour

DISC provides subject access to leading microcomputer journals from 1982 on, and offers a table-of-contents format that helps the user locate articles, features, reviews, and regular columns.

**Health Planning and Administration (HLTH)**

\$10.00/hour

The HLTH database covers literature in the fields of health care planning, organization, and management.

**INSPEC (INSP and INSB)**

\$12.00/hour

INSPEC, based on the printed reference works *Physics Abstracts*, *Computer and Control Abstracts*, and *Electrical and Electronic Abstracts*, covers the fields of physics, computers, and electronics. It includes materials from over 2300 journals, as well as conference papers and dissertations from 1977 to the present (INSP). The back-file database INSB covers the period 1970–1977.

**International Pharmaceutical Abstracts (IPAB)**

\$16.50/hour

References a wide range of pharmaceutical and related material, drawn from over 700 U.S. and international journals published from 1970 on.

**IRCS Medical Science database (IRCS)**

\$11.00/hour

Containing the full text of all articles published in the IRCS series on current medical and biomedical research experiments, methodologies, and findings, this database includes articles published from 1982 to the present.

**Kirk-Othmer Encyclopedia of Chemical Technology (KIRK)**

\$20.00/hour

KIRK is the full-text online version of the third edition of the 25-volume *Kirk-Othmer Encyclopedia of Chemical Technology*. Lengthy abstracts are unique to the online version.

**Mathematical Reviews Online (MATH)**

\$13.00/hour

Provides complete coverage of pure and applied mathematics, and selective coverage of publications on related fields such as statistics, computer science, econometrics, and so on. It includes citations from approximately 1600 journals dating back to 1973.

**Medline—Medlars Online (MESH, MS78,MS74,MS70)**

\$14.00/hour

The Medline database offers the most comprehensive coverage of journal articles in the fields of medicine, dentistry, nursing, and health care. Its content corresponds to the references *Index Medicus*, *Index to Dental Literature*, and *International Nursing Index*. It currently contains over 3,500,000 records. Actually four databases: MS70 (1966–1970), MS74 (1971–1974), MS78 (1975–78), and MESH (1979 to the present).

**National Technical Information Service (NTIS)**

\$8.00/hour

This database, produced by the National Technical Information Service of the U.S. Department of Commerce, indexes and summarizes over a million research and technical reports prepared or gathered by government agencies and their contractors.

**Pre-Med (PREM)**

\$10.00/hour

This database, updated weekly, makes available the latest citations to literature from over 100 core medical journals within ten days of their receipt by major medical libraries. After three months, these citations are moved to the MESH file.

**Robotics Information (RBOT)**

\$12.00/hour

Provides access to current literature covering all aspects of robotics from 1980 to the present.

**Business/Financial**

**ABI/INFORM (INFO)**

\$15.00/hour

Contains information on all aspects of business, with an emphasis on general materials. ABI/INFORM includes material from over 500 U.S. and international business and management publications. Coverage from 1971 to the present.

**Harvard Business Review/Online (HRBO)**

\$15.00/hour

HRBO provides the complete text of the *Harvard Business Review* from 1976 to the present, and abstracts of articles dating from 1971 to 1975. The latter will be retroactively converted to full text. The *Review* covers all phases of strategic business management.

**Internal Revenue Service Publications (IRSP)**

\$10.00/hour

IRSP contains the full text of over 70 IRS publications, designed to help in preparation of tax returns.

**Management Contents (MGMT)**

\$14.00/hour

Covers business topics related to management and the decision-making process. Coverage includes over 500 journals published since 1974 which address questions of administration, marketing, and personnel relations.

**Patdata (PATS)**

\$6.00/hour

PATS includes abstracts and other detailed information for all utility patents issued by the U.S. Patents and Trademarks Office since 1971, and reissue patents issued since 1975.

**Reference**

**ABSTRAX 400 (A400)**

\$14.00/hour

Provides online summaries of 400 popular periodicals in a variety of subject areas.

**Academic American Encyclopedia (AAED)**

\$12.00/hour

This online edition contains the full text of the 30,000 articles, including tables, bibliographies, fact boxes, and cross-reference listings.

**Books in Print (BBIP)**

\$14.00/hour

The online version of the authoritative reference guide published and updated monthly by the R.R. Bowker Company, it contains ordering information and subject matter descriptions for virtually every book in print in the United States, as well as for books to be published in the next six months. It also offers information on out-of-print and out-of-stock titles published since 1979.

**Peterson's National College Databank (PETE)**

\$16.00/hour

This online college selection service offers full-text profiles of undergraduate colleges and universities in the U.S. and Canada, including information on size, location, enrollment patterns, financial aid, housing, and more.

**Online Microcomputer Software Guide and Directory (SOFT)**

\$20.00/hour

Indexes and describes commercially available micro- and minicomputer software. It provides information about system requirements, subject matter, and pricing for over 3000 programs.

**Education**

**Bilingual Education Bibliographic Abstracts (BEBA)**

\$6.00/hour

Covers the field of bilingual/bicultural education and related topics, including second-language instruction and ethnic minority groups.

**Education Resource Information Center (ERIC)**

\$6.00/hour

ERIC offers a complete index and abstract of the more than half a million educational materials collected by the Education Resources Information Center of the National Institute of Education from 1966 to the present.

**Exceptional Child Education Resources (ECER)**

\$11.00/hour

This database covers materials dealing with the education of gifted, talented, or handicapped children.

**Ontario Education Resources Information database (ONED)**

\$11.00/hour

The ONED database includes research reports, curriculum guidelines, and other materials produced or sponsored by Ontario school boards and other agencies.

**Resources in Computer Education (RICE)**

\$11.00/hour

Designed to provide educators with information on the state-of-the-art in educational computer applications. It evaluates commercial and noncommercial software.

**School Practices Information File (SPIF)**

\$6.00/hour

SPIF describes educational practices, programs, tests, and materials currently in use. Gives grade level, target audience, evaluative and availability information.

**Texas Education Computer Cooperative database (TECC)**

\$12.00/hour

TECC contains teacher and student evaluations of educational software.

**Social Sciences/Humanities**

**ABLEDATA (ABLE)**

\$12.00/hour

ABLEDATA contains detailed and current product information on rehabilitation and technical aids for the disabled, including therapeutic, educational, vocational, and transportation aids.

**Family Resources (NFCR)**

\$12.00/hour

This database covers literature representing all aspects of family life.

**Mental Measurements Yearbook (MMYD)**

\$20.00

Includes information and critical reviews, as well as the full text of 1184 standardized tests.

**National Rehabilitation Information Center (NRIC)**

\$6.00/hour

Covers the rehabilitation of the mentally or physically disabled.

**Pre-Psych (PREP)**

\$6.00/hour

Contains only the most current materials on clinical psychology, of the same type as included in the PSYC database (see below).

**PsycINFO (PSYC)**

\$14.30/hour

PSYC corresponds to the published *Psychological Abstracts*, and covers the entire field of psychology and its related literature. It indexes and abstracts articles from over 1000 journals published from 1967 to the present.

**Public Affairs Information Service (PAIS)**

\$13.00/hour

PAIS provides broad coverage of the social sciences which affect public policy and the administration of government.

**Religion Index (RELI)**

\$13.50/hour

Covers scholarly material on religion, theology, and Bible studies, and also includes related material on art, literature, and the social sciences.

**Social SciSearch (SSCI and SSCB)**

\$20.00/hour

SSCI covers research in the social and behavioral sciences, and allows the user to trace a chain of citations forward or backward through time. The back-file database, SSCB, covers the period 1972-1976, while SSCI covers 1977 to the present.

**Sociological Abstracts (SOCA)**

\$20.00/hour

This database provides abstracts not only in the field of sociology, but also in related disciplines such as political science, family studies, and feminist studies.

**System Critiques and Comparisons**

There is considerable overlap between the services provided by Knowledge Index and those available from BRS/After

Dark. You should do some careful comparison before deciding whether either service suits your needs.

The first area to compare is the subject coverage. While there's significant overlap of databases, there are also differences. BRS/After Dark databases cover education and the social sciences in depth, and also contain chemistry abstracts, IRS publications, and a fine version of the *Academic American Encyclopedia*. Knowledge Index, however, has better coverage of computers and electronics, engineering, and legal research. While it does not have an encyclopedia, Knowledge Index does feature strong coverage of major daily newspapers and magazines. Both include comprehensive resources in medicine.

Although the search services of Knowledge Index and After Dark are generally similar, After Dark allows for greater specificity. For example, both systems offer the Books in Print database. Each entry in this database lists the title of the book, the author, the publisher, the date of publication, the type of binding, the price, some identifying publication numbers, the publication status, and the subject. While Knowledge Index allows you to narrow your search to works by a particular author, After Dark lets you use any of the categories as a search qualifier. Searching a particular field is a powerful tool that can save you time and money. The more specific you make your search, the more likely you are to find exactly what you're looking for. Using BRS/After Dark's capabilities, you can look for a book called *Computer Technology* by title without having to wade through a list of books that have the words *computer technology* in their subject heading.

BRS/After Dark may also be a little easier to use, since it has a full set of prompts. It also lets you change your password online, a definite plus.

Another difference between the two is that (at least at the moment) Knowledge Index features only one full-text database, while BRS/After Dark has several. A good example of this is the Academic American Encyclopedia database, which contains the full text of over 29,000 articles, along with tables, bibliographies, fact boxes, and even cross references.

Of course, don't forget price. Knowledge Index charges \$24 per hour of connect time, which is more than the most expensive database offered by BRS/After Dark. This means that a database like Agricola, which costs \$8 an hour on After

## Online Research Services

Dark, or ERIC, at \$6 an hour, is three or four times as expensive to use on Knowledge Index.

This advantage can be offset, however, by the \$12 per month minimum charge imposed by BRS. If you're a regular user of research services, then, After Dark will probably save you money in the long run.

But if you only need these services from time to time, you should instead look into signing up for Knowledge Index. With a one-time fee of \$35, it insures you access to a vast amount of information, should you ever need it. And if you plan search questions (and if possible, type them into a buffer in the computer) offline, you may need so little time as to make it more economical to pay only for the time you actually use rather than having to add a minimum fee to lower rates.

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# Chapter 12

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## Bulletin Boards

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# Bulletin Boards

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**B**ulletin boards have been with us, in one form or another, for hundreds of years. It's likely they'll be with us in the future. Why? What's so special about bulletin boards, electronic or otherwise?

It's difficult to pinpoint when the first bulletin board appeared. Perhaps it was the medieval practice of posting royal proclamations in the town square. People want to communicate, share ideas, teach, and learn. Bulletin boards help in that process.

The modern bulletin board, made up of a wide variety of messages tacked to almost any surface, abounds in our supermarkets, factories, community centers, and city halls. It's more than just giving away kittens or selling tires. Bulletin boards are people who have a message and who are willing to reach out to the entire community.

Our desire to share thoughts and ideas hasn't slackened in this age of instant information. In fact, the huge volume of data presented to each of us every day makes something like a bulletin board even more valuable. Information must be sifted—using the experience of others is one of our most valuable filtering devices.

That's why electronic bulletin board systems, often referred to as BBSs, are so popular. With all due respect to the almost countless sources of information available about computers today (including this book), there's no substitute for interaction between two or more like minds.

The thousands of computer-based BBSs online today offer much more than simple message posting. Imagine trying to maintain contact with other people using a regular bulletin board at a supermarket. Actually traveling to the market every time you wanted to leave a message makes the idea inconvenient at best, impractical at worst. Even if you made the trip regularly, you might miss the very reply you were looking for.

The fact that BBSs can be accessed without leaving your home makes an ongoing dialogue simple. A computer running a BBS manages the messages—not only numbering and indexing them, but also automatically notifying its many users of messages intended specifically for them. And just like on a cork-and-tack bulletin board, messages posted on BBSs are public. The question-and-answer exchanges can be seen by

others, who often throw in their own opinions. Even if you just "watch," you'll still learn by following the flow of conversation.

### Necessity

The first computer-based bulletin board system was born of necessity in 1978. The microcomputer phenomenon was just getting off the ground. The first microcomputer users were few in number and separated by long distances. The four major enclaves were located in California, Illinois, Texas, and Massachusetts. Although the computer clubs in these areas exchanged newsletters on a regular basis, there was a definite lack of spontaneous interaction between the major groups, and even within the groups themselves.

Ward Christensen and Randy Suess, both members of the Chicago Area Computer Hobbyist Exchange (CACHE) came up with the answer. They developed a program that, when run on a computer equipped with a modem and connected to a phone line, turned the computer into an automated message system. Callers to the Computerized Bulletin Board System (or CBBS as its originators called it) could leave and retrieve messages for each other at any time of day. The CBBS was a huge success and other clubs began pressing microcomputers into service as bulletin boards.

CBBS wasn't a universal program. It was written to work on a specific type of computer, known as CP/M-compatible. Christensen and Suess wrote a widely publicized article describing the program they had written and the structure of their system as it appeared to the person calling into the board. Realizing that similar programs would be written for other computers, they proposed that the types of functions provided and the specific commands used to invoke those functions be standardized. If there could be some uniformity between different BBS programs running on different computers, it could make learning new commands unnecessary.

Sure enough, bulletin board software for other popular systems soon followed. Craig Vaughn and Bill Blue created a BBS program for Apple II computers called People's Message System (PMS). Close behind was Bill Abney, who produced Forum 80 for the Radio Shack TRS-80 and Tom Giese, who created the Atari Message & Information System (AMIS) for the Atari 400 and 800.

The creators of CBBS were largely successful in getting a standardized user-to-BBS interface accepted. While there are important differences between different systems, there's enough of a common thread to make learning to use them relatively simple.

### Public Domain

Aside from message posting and reading, one of the most popular features of many BBSs is their offering of public domain programs. Public domain means that the program has been made available by the author to anyone, usually without any charge at all. By using terminal software able to send files via modem, copies of these programs may be transferred from the BBS to the callers' computers. The computer receiving the program is said to be *downloading*. The system sending the program is *uploading*.

The majority of public domain software available via BBSs are programs written by computer enthusiasts like yourself. Though generally not as powerful or polished as the best commercial programs, much public domain software is very good. Besides a plethora of games, you'll also find reasonably competent word processors, spreadsheets, database management systems, and even terminal programs. Whatever your needs, you can acquire a respectable library of "free" software that will handle all but the most demanding tasks. Normally, the only costs in acquiring public domain software via BBSs are zone or long-distance telephone charges.

A new class of software, called *Shareware*, combining aspects of both commercial and public domain programs, is also showing up on many BBSs. *Red Ryder*, one of the terminal programs for the Macintosh reviewed in chapter 5, is a Shareware program. More are being developed every day.

### Profits and Pirates

Everybody likes to complain about how expensive commercial software is. Critics are quick to claim that the cost of software is inflated as the product filters through the various distribution channels. The manufacturer typically sells the product to a distributor who in turn sells to the retailer. By the time a consumer has the product, it's already gone through three rounds of markup. The software author receives only a small percentage of the manufacturer's wholesale selling price.

Furthermore, the critics argue, this practice leads to an even more serious problem. The perception of high prices encourages unauthorized copying of software. Many software pirates try to rationalize their illegal acts with arguments like, "Since the software manufacturers are ripping everybody off, that makes it okay for us to rip them off." It ends in a classic chicken-and-egg dilemma. Manufacturers tend to keep prices high to make up for expected losses to piracy, and the pirates copy because they claim the prices are unreasonably high.

For these reasons, as well as others, some software authors occasionally decide to try marketing their own programs. Until recently, there have been few success stories. In the past, authors attempted to work within the established system as entrepreneurs, and often failed because they lacked the resources necessary to promote, advertise, and place their product.

Programs in the public domain, however, are quite different. They're distributed with no warranties, packaging, or support, and vary in quality from marginal to very good. Most important, they're free.

### **Freeware, Shareware**

A few years ago, Andrew Flugelman combined aspects of both public domain and commercial software to come up with a new idea he called *Freeware*. His Freeware was based on three concepts:

- Users should have the opportunity to fully assess the value and utility of a program by using it extensively. Does it adequately serve its intended purpose, does it suit the users' needs and tastes?
- Original software of high quality and generated by independent authors could and would be supported by the computing community at large.
- Copying these programs should be encouraged, rather than restricted. The ease of disseminating programs outside traditional channels should be exploited by software authors as a means to maximize distribution. (This is, by far, the most radical concept of Freeware.)

Freeware was trademarked by Flugelman, so as these ideas spread and other authors began to follow suit, the term Shareware was coined as a generic name for such software distribution. Here's how Shareware typically works:

Anyone can get a copy of Shareware software from sources such as local computer bulletin board systems or user groups. It can also be obtained by sending a blank, formatted disk to the author, along with a self-addressed postage-paid return mailer, or by obtaining a physical copy of the program. If requested from the author, a copy of the program is returned via mail. Documentation is generally in the form of a file on the disk. The user must print it out if a paper copy is desired.

Shareware programs and documentation usually contain a notice suggesting a "contribution" of some set amount to the author if the program is found to be useful. The contribution is completely voluntary. Even if none is made, the user is encouraged to share the program with others.

While few Shareware authors are making a killing, many are said to be realizing a steady stream of supplemental income.

How good is Shareware? The best of it is quite good indeed and often better suited to the needs and expertise of the casual user than many expensive commercial programs. If you're willing to do without typeset documentation and can rely on people you know who are using the same program for your technical support, Shareware may be right for you.

While a number of Macintosh owners are working on developing BBS software for the Macintosh, most BBSs which include message and file transfer sections devoted to Macintosh users are actually running on a non-Macintosh computer. Don't be surprised. Since many Apple user groups have a substantial number of Macintosh owners as members, it was only natural that existing systems are being used to provide a forum for Mac-related information. A bulletin board may be subdivided into many different sections to broaden the appeal of the system. While an Apple II can't run a program written for a Macintosh, that same program (or a program for any other computer) may be stored on an Apple II's disk drive.

### Getting On, Staying On

One of the best Macintosh-oriented bulletin board systems around is operated under the auspices of NYMUG, the New York Macintosh Users Group. To give you a taste of what a bulletin board is like, we'll take an armchair tour of the NYMUG BBS right now.

For clarity's sake, what's printed by the BBS is shown in normal text. Responses and commands typed in by the caller are in a second color. Remember that after each entry, you need to hit the Return key.

*We'd like to thank NYMUG, and its sysop, David S. Rose, for permission to reproduce this sample session.*

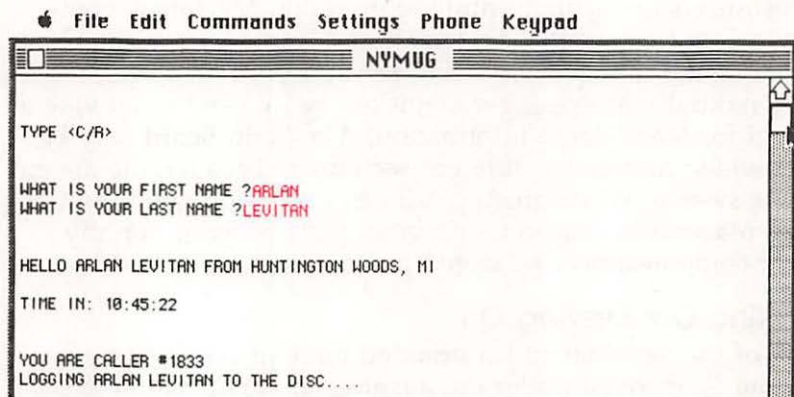
First of all, of course, you have to call up the bulletin board. The process is the same as dialing up any system. If you have an autodial modem, it can do the work for you.

Once you're connected (and that may take several tries, depending on how busy the BBS is), you'll enter the log-on procedure. The first thing you'll see when calling the NYMUG BBS is:

TYPE <C/R>

The system is simply asking that you hit the Return key. Some BBSs may require something else, but it's usually quite clear. Depending on the BBS you're calling, this next section may be omitted if you've been on before. Since I've been on NYMUG's board previously, all it asks for is my name. My first time on the board, it also requested the city and state where I live, as well as my telephone number. Hit the Return key and you'll see:

Figure 12-1. Sign On Please

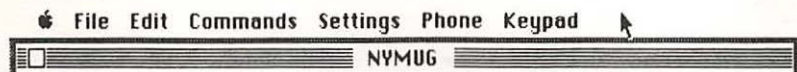


The board automatically logs you onto the disk. If this was your first time on, you'd be advised to read the Bulletin

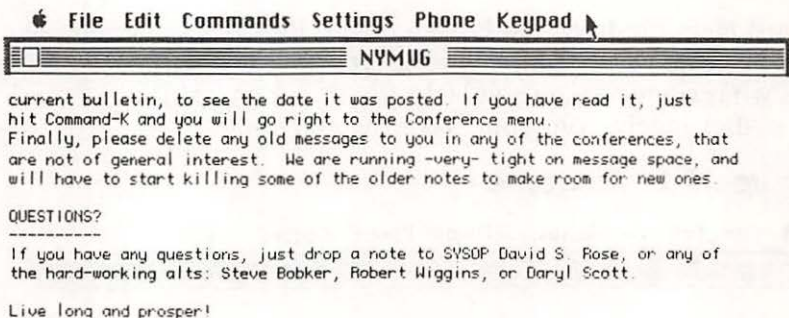
Board Help file from the NEWS menu. Reading something like this is strongly advised whenever you first use a BBS. (We'll see what comes up on the Help file in a moment.)

After logging on, your screen would show:

Figure 12-2. Welcome



## Bulletin Boards



>>>---BULLETINS---<<<

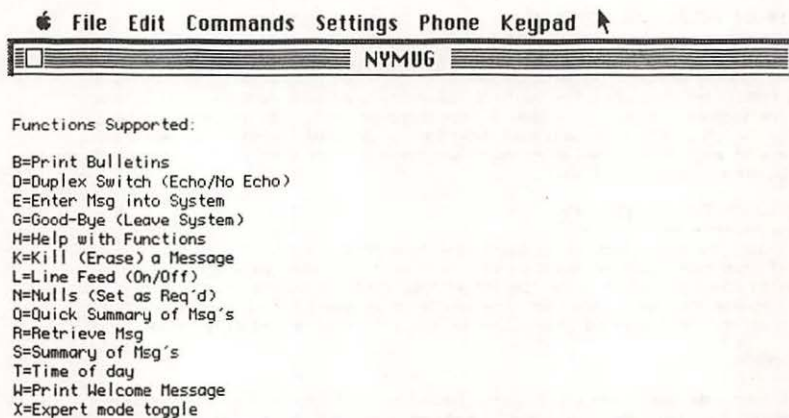
NEXT MESSAGE WILL BE #378

The system welcomes you and prints a number of bulletins. This day's messages just happen to include mention of a new version of an upload/download conversion program.

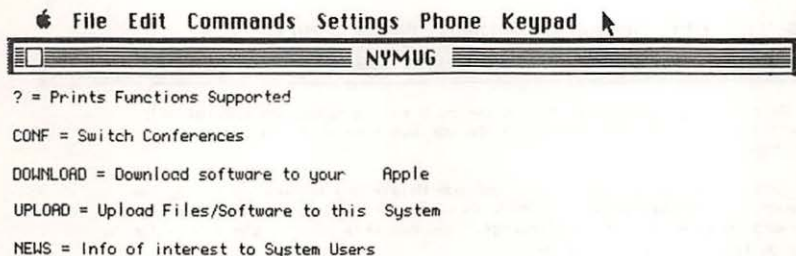
### Your Road Map

If this had been your first time on the BBS, you would have seen this list of system commands. (Most boards show these only your first time on.) It might be a good idea to have your printer turned on so that you can create a hardcopy of these commands (and the summaries which follow) for permanent reference.

Figure 12-3. System Functions

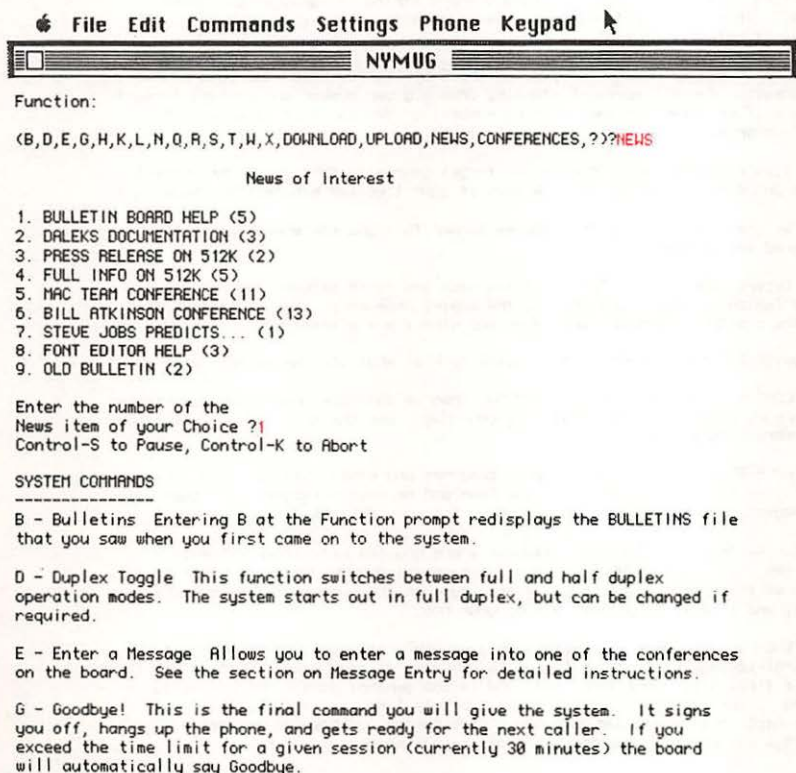


## Bulletin Boards



The first time on the board there was a reminder to select the NEWS function so that you'd see how the BBS operates. Of course, you can use this feature any time, perhaps to refresh your memory of the command details. Choosing NEWS shows you another menu, from which you can select 1, Bulletin Board Help.

Figure 12-4. NEWS and Help



## Bulletin Boards

File Edit Commands Settings Phone Keypad

NYMUG

**H - Help** At any Function prompt, entering H will display the special Help file and give you a quick recap of the various functions and control characters.

**K - Kill a Message** By entering K, you can delete any message on the system. However, if the message was locked with a password, you will have to match the password in order to kill the message. You can skip several steps by entering K;xx;yy to kill notes xx and yy.

**L - Line Feed Toggle** This switches between sending and not sending line feeds, to accomodate different types of terminal programs. The board starts out with line feeds.

**N - Nulls** This is enabled only if the the line feed mode is in effect. It adds a delay after each carriage return to allow printers to move their print head back to the margin. You will probably never need this with your Mac.

**Q - Quick Scan** An abbreviated scan of messages, showing only the Subject and Date. See the 'S' command.

**R - Retrieve Messages** The heart of the system, this command lets you read messages that other visitors have left. After entering R, the system will tell you how many messages are in the conference, and ask you which message you want to retrieve (by number.) You can chain message requests together in the form R;xx;yy;zz or you can read a whole string of messages by typing R;xx;\* This will start retrieving messages with number xx, and keep going until it gets to the end.

**S - Scan Messages** Scan will display the Subject, To, From, and Date information for all messages starting from a given number and working forward. You will be asked for the starting number, or you can enter S;xx at the Function prompt to start with message number xx.

**T - Time and Date** Just in case you forget yourself, this shows the current time and date, and tells you how much of your time (30 minutes) you have left.

**W - Welcome** Re-displays the Welcome Banner that you saw when you first entered the system.

**X - Expert User Toggle** This switches back and forth between the regular user mode (which you start out in) and the expert user mode. In the latter, some of the system prompts are shortened and others are eliminated.

- Quick Function Summary For a quick look at what all the letters mean...

**DOWNLOAD** - This takes you to the NYMUG program database, where you can choose from many programs to download into your Mac. See the section on Downloading for more information.

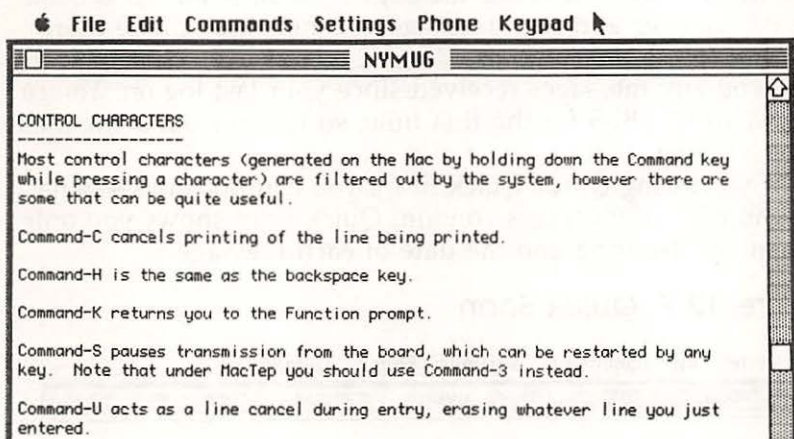
**UPLOAD** - This command lets you send programs and other information up to the board, so that it can be put in the Download or News databases for other users to access. See the section on Uploading for more details.

**NEWS** - Sends you to the News database where you can read files of news, reviews, help, and NYMUG business. After entering NEWS, you will be shown a menu of the current offerings. Simply type in the number of the item you want, and it will be printed out on your Mac.

**CONFERENCE** - Entering CONFERENCE, or just CONF, lets you choose which of the several message sections on the board you want to work with. Section One is where first time users start out, and is the general gossip and community board. Other sections specialize in subjects like hardware, software, communications, and group business. Each conference has its own set of message numbers; you can only look at one conference at a time.

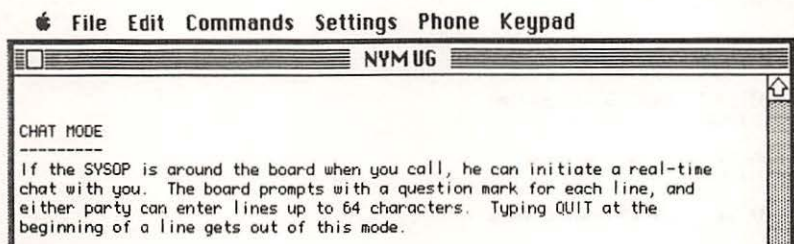
There's even some information on the control characters used by this BBS.

Figure 12-5. Control Characters



Or you can talk directly with the BBS sysop.

Figure 12-6. Chat Time



If you'd continued to read these bulletin board help messages, you would have come across details on how to download and upload programs or other files to the database. This information can be extremely useful and makes it much easier to access this important part of the BBS. For brevity's sake, let's just assume you've finished reading this section of the NEWS menu and have even printed out a copy of the system commands. You'd see:

More News?

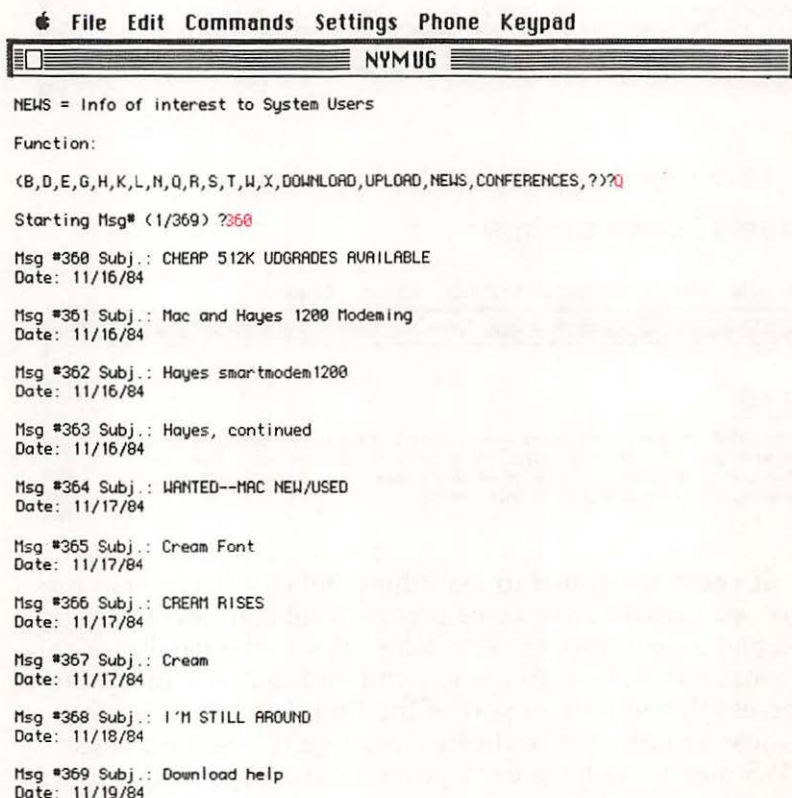
Entering *N* (for No), and hitting the Return key would send you on.

## Reading and Writing

The heart of any BBS is its message system. Some BBSs make it easy to leave and read messages—others may prove more difficult to the first-time user. Some boards even automatically give you any messages received since your last log on. You're on NYMUG's BBS for the first time, so let's try out some message retrieval.

By pressing *Q*, for Quick Scan, you can quickly see what any number of messages contain. Quick Scan shows you only the subject heading and the date of each message.

Figure 12-7. Quick Scan



If you also want to see the *To* and *From* designations, use the S command instead. As before, you'll be prompted to enter the beginning message number.

Figure 12-8. Scan Instead

```

  File Edit Commands Settings Phone Keypad
  NYMUG

Function:
<B,D,E,G,H,K,L,N,Q,R,S,T,U,X,DOWNLOAD,UPLOAD,NEWS,CONFERENCES,??>S

Starting Msg# (1/369) ?365

Msg #365 Subj.: Cream Font
To: LINDA KAPLAN From: ALEXANDER BENENSON
Date: 11/17/84

Msg #366 Subj.: CREAM RISES
To: ALEXANDER BENENSON From: LINDA KAPLAN
Date: 11/17/84

Msg #367 Subj.: Cream
To: ALL From: STEVEN BOBKER
Date: 11/17/84

Msg #368 Subj.: I'M STILL AROUND
To: PHILP CHAO From: ALAN STEVENS
Date: 11/18/84

Msg #369 Subj.: Download help
To: SYSOP From: TED KURTZ
Date: 11/19/84

```

To actually read the messages, you need to press the R key. After entering the number of the message you want to read (in this case, 365), you'll see its entire text. If you don't want to read any more of the messages, just press the Return key. That's what happened at the last prompt in figure 12-9.

Figure 12-9. Reading

```

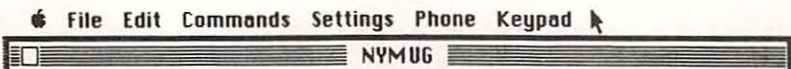
  File Edit Commands Settings Phone Keypad
  NYMUG

Function:
<B,D,E,G,H,K,L,N,Q,R,S,T,U,X,DOWNLOAD,UPLOAD,NEWS,CONFERENCES,??>R

Msg# to retrieve (1/369) ?365

Msg # 365
Subj.: Cream Font
To: LINDA KAPLAN
From: ALEXANDER BENENSON

```



Date: 11/17/84

Linda: I noticed that Cream looked uneasthetic in uppercase. If I can find a font that looks the same but has good upper-case, I'll fix it. I think that the early versions of Pascal used it. I'll see what I can do, and get back to you. -- Alex

Msg# to retrieve (1/369) ? 369

Msg # 369  
Subj.: Download help  
To: SVSOP  
From: TED KURTZ  
Date: 11/19/84

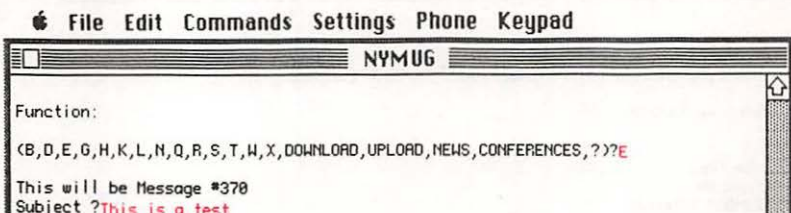
I'd like to take full advantage of the downloading capabilities I see something called Binhex 2, and other Binhex programs. I'm a new Mac user and am not very knowledgeable. Do I need to buy MS Basic or apple Basic? If so, can I get the gist of it from the manuals? I've never seen 'Basic' so I don't even know what it looks like. How is a program converted or put into my Mac so that I can either open what I've downloaded or use it. I hope my questions aren't too primitive. Any information and advise would be appreciated.

Msg# to retrieve (1/369) ?

Of course, a bulletin board would be relatively worthless if it didn't allow you to leave messages as well as read other people's. Let's leave a message on NYMUG's BBS. Typing *E* lets you enter a message into the conference you're currently using. The message is assigned a number, and the system asks several questions. *Subject ?* first appears—you can enter anything you want, but try to make it relevant to the message. It will be easier for others to know what you're talking about when they use *S* or *Q*.

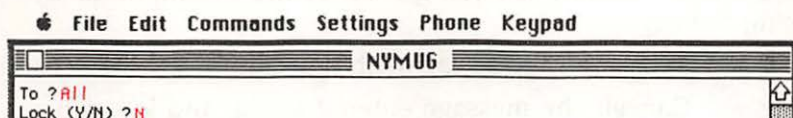
If you change your mind and decide not to leave a message, hit Return and the process is aborted. You'll return to the main *Function* prompt, as shown in figure 12-10.

Figure 12-10. Entering a Message



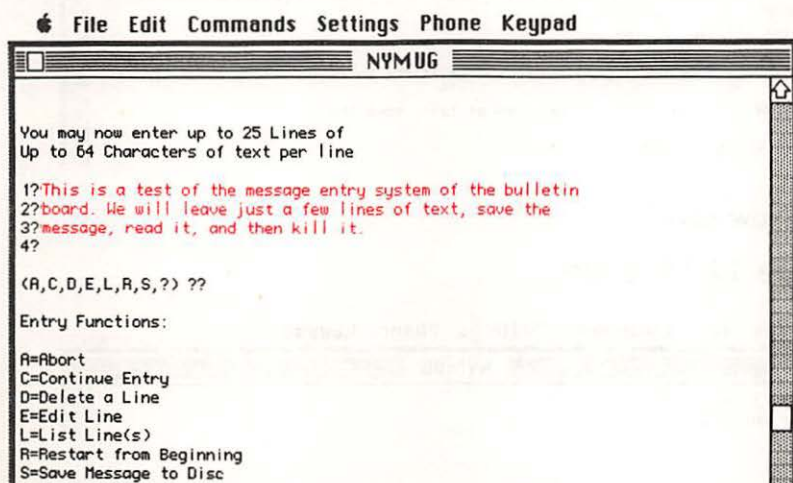
More prompts will appear. *To ?* lets you direct your message to a specific person, the sysop, or All. If you send it to a specific person (assuming you spell the name correctly), the system will notify that person of a message waiting when he or she next logs on. *Lock (Y/N) ?* is asking if you want to insure that the message cannot be killed or deleted. If you answer Y, for Yes, you need to enter a password (up to four characters). This same password has to be typed in before the message can be removed. It's not a bad idea, just to make sure no one inadvertently (or otherwise) deletes your note.

Figure 12-11. *To* and *Lock*



You may now enter up to 25 lines of up to 64 characters per line will show on your Macintosh screen. A *!* prompt also appears. Hitting the Return key lists the possible entry/editing commands. Anything else is added to your message. You can enter as many lines as you want—when you're finished, just enter a blank line.

Figure 12-12. Test Note



Notice the prompt (A, C, D, E, L, R, S, ?) ?? in figure 12-12. On this BBS, the letters indicate:

A—Abort. Erases everything that you have entered for this message, and returns you to the *Function* prompt.

C—Continue. Lets you enter more text at the line after the last line previously entered. Use this if you hit Return by mistake.

D—Delete. Deletes one line, after asking you which number line to delete.

E—Edit. Allows you to retype a line or edit part of it. Typing /oldword/newword/ replaces *oldword* with *newword* and displays the new version. You can get out of the editing mode by pressing Return.

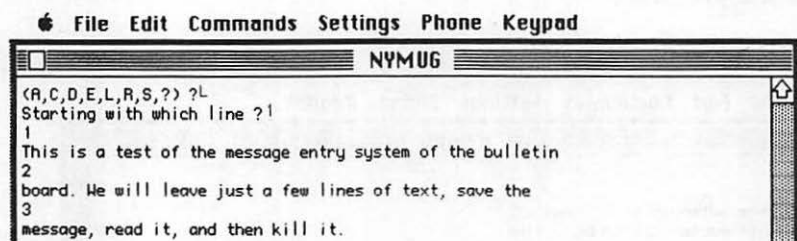
L—List. Lists the message so far, with line numbers.

R—Restart. Cancels the message entered so far, and lets you restart it from Line 1.

S—Save. Saves your message to the disk and returns you to the *Function* prompt.

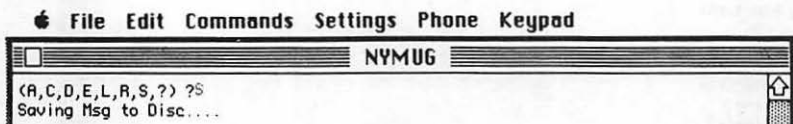
First, let's list out the message, just to check it.

Figure 12-13. List



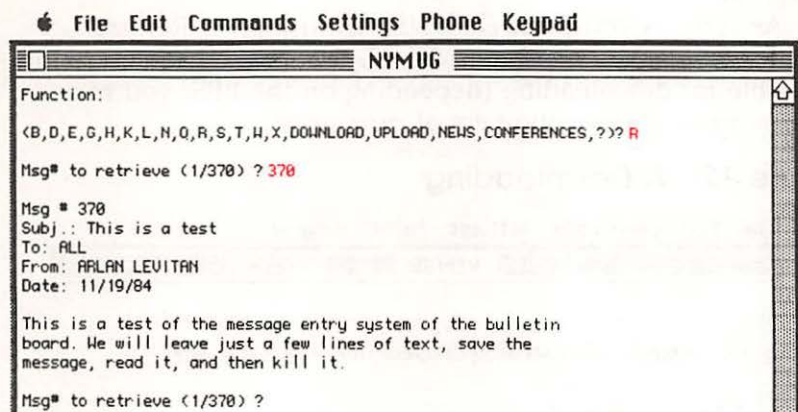
Now save it.

Figure 12-14. Save



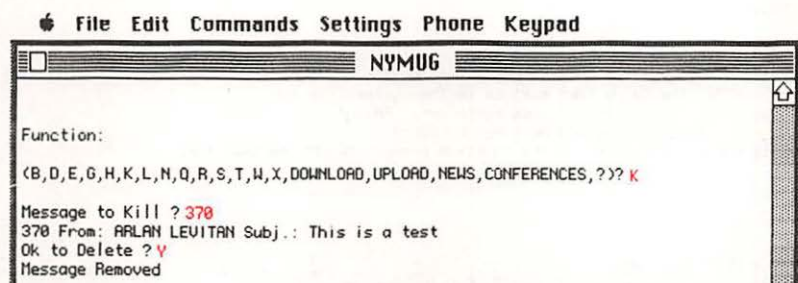
You can even read your own message as one final check.

Figure 12-15. One Last Time



Since the message was just for practice, and won't be of interest to anyone actually on the BBS, let's kill it.

Figure 12-16. Kill



Simple, wasn't it?

### Pulling Things Off the Board

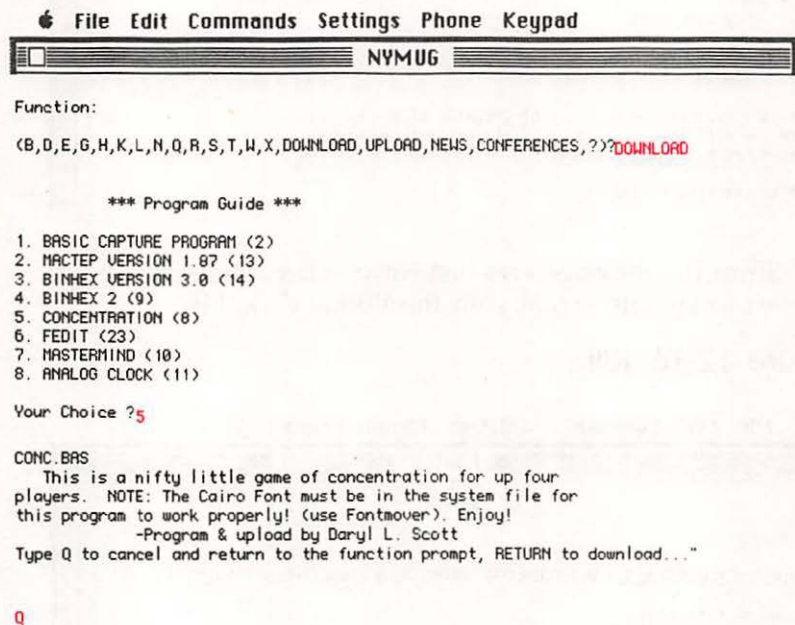
Another popular area of almost any bulletin board system, whether it's for the Macintosh or not, is its Program database. Here you'll find programs (as well as other informational files) for your computer. As mentioned earlier, these public domain programs are made available by their authors.

Let's check out NYMUG's download section. Keep in mind that you need terminal software which has downloading capability. Most terminal programs do. Refer to your manual

for details on how to retrieve programs or files from other computers.

As soon as you enter *DOWNLOAD* and press Return, you'll see a display like figure 12-17. It shows what's currently available for downloading (depending on the BBS, you may find fewer or greater numbers of programs).

**Figure 12-17. Downloading**

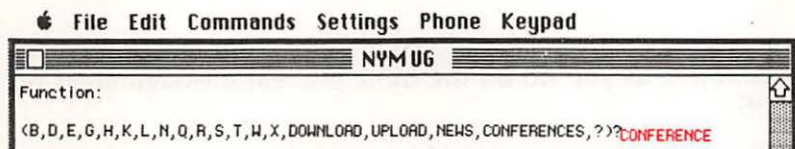


At this point you should make sure that the download feature of your terminal program is turned on. You can then press Return and the program *CONC.BAS* will download into your Macintosh. Remember, however, that if the program is written in BASIC, you must have that particular version of BASIC to run it. Some programs and files for downloading are in hexadecimal and must be run through a conversion process before you can use them on your Macintosh. Such programs will be noted, and there will usually be instructions provided to help you along. If you have problems, simply leave a message for the sysop.

## Conferencing

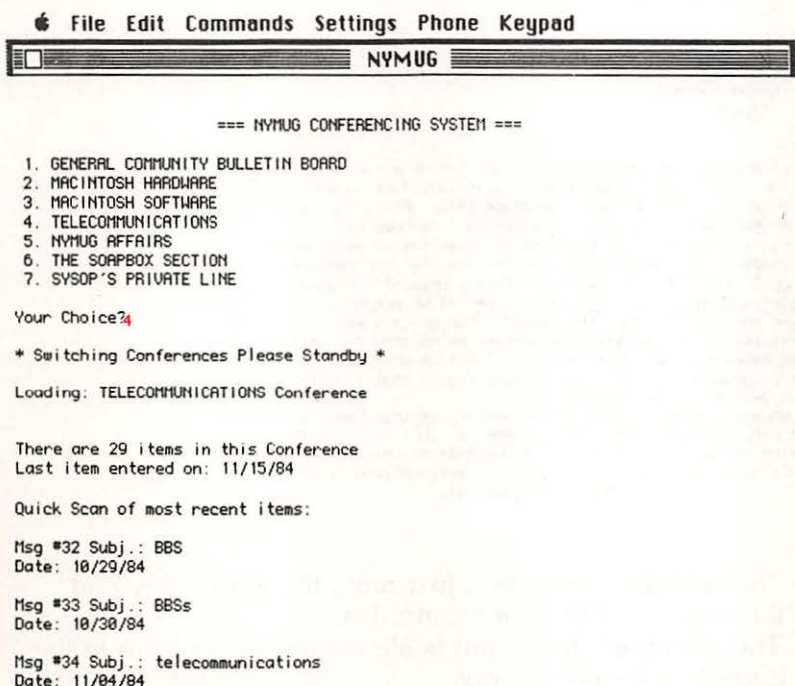
Besides leaving and reading general messages, you can often access more specific Forums or conferences on BBSs. NYMUG's includes several. To switch to a different message conference area on the board, just type *CONFERENCE*, or *CONF*.

Figure 12-18. Conference



And you'll see another menu, giving you seven different conferences. Keep in mind that you can be on only one conference at a time.

Figure 12-19. Conference Menu



File Edit Commands Settings Phone Keypad

NYMAUG

Msg #35 Subj.: Your msg 34  
Date: 11/05/84

Msg #39 Subj.: Hex Downloads - careful!  
Date: 11/13/84

Msg #40 Subj.: 1200 baud op's  
Date: 11/15/84

You can usually read and leave messages on a conference or Forum just as you do on the more general message areas of the BBS.

Figure 12-20. Reading in Conference

File Edit Commands Settings Phone Keypad

NYMAUG

Function:

(B,D,E,G,H,K,L,N,Q,R,S,T,W,X,DOWNLOAD,UPLOAD,NEWS,CONFERENCES,??)? R

Msg# to retrieve (1/40) ? 34

Msg # 34  
Subj.: telecommunications  
To: ANY AND ALL  
From: STEWART FEUER  
Date: 11/04/84

Hello,

Does anyone have any idea how to get inside macwrite or ms word for that matter. I am attempting to interface my macintosh with a Mergentahler CATronic Phototypesetter. Presently, I am able to make an ascii dump of a macwrite file however, I am looking to be able to salvage some of Macwrites formats during the transfer. This would eliminate the need for reformatting text once it is in the typesetter. I have presently rigged translation tables with many other types of WP programs, however the computer for the rest of us apparently won't divulge its hidden secrets. The problem being that Mac write has no embedded commands to speak of and I am more of an arm-chair programmer if that to be able to figure what is going on inside a macwrite formatted file.

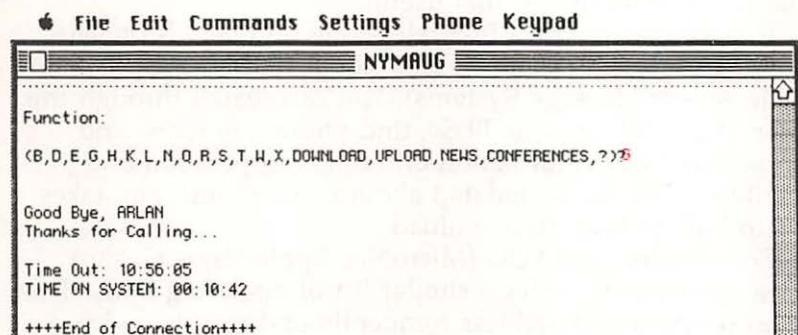
If anyone can help figure out an answer, it would mean a great help. Also the MAC STREET JOURNAL which I am doing the printing for would be able to be typeset at blindingly fast production speeds and give a highly professionalized look.

Thanks for your help

To leave the conference, just press the Return key and you'll see the full *Function* prompt list.

The 30-minute time limit is almost up, so we have to log off. It's only a keypress away.

Figure 12-21. Goodbye



## Postscript

While BBS systems tend to support the kind of computer running the system, there are certainly exceptions. The system operator is the caretaker of the BBS and decides what the emphasis of the BBS will be. He or she may decide that the BBS won't even be about computers. A board may focus on things as diverse as science fiction, religion, politics, science, space travel, photography, or medicine. There are even BBSs that function as computerized matchmakers.

All that it really takes to set up a BBS is a computer, modem, phone line, and bulletin board software. That's why there are so many boards. Since the equipment necessary to call a BBS is almost the same as the minimum required to run a BBS, many people figure that it might be fun to create and operate a board. What they sometimes forget is that while a BBS is running on the computer, the machine can't be used for anything else. It also ties up the telephone line. Most important, however, BBSs demand attention and long hours from their sysops. If the system operator isn't willing to spend a great deal of time monitoring the message traffic and performing regular maintenance, the BBS can quickly become cluttered or even stop working altogether.

BBSs come and go as new system operators bring their boards online and others disband. For this reason, any sort of detailed list of bulletin boards is almost always out of date. A BBS list several months old invariably includes disconnected telephone numbers or numbers which have been reassigned to

other people. That's why you won't find such a list in this book. It just wouldn't be that useful.

A good place to find BBS telephone numbers is on The Source. By accessing PUBLIC 112, you'll find a list of PAMSS (Public Access Message Systems). You can search through this list for Macintosh-specific BBSs, find phone numbers, and even receive basic information on hours of operation and capabilities. The list is updated about every month and takes close to half an hour to download.

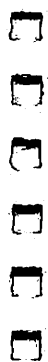
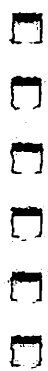
CompuServe's MAUG (MicroNet Apple Users Group) XA4 section also includes a similar list of operating BBSs. This list, however, is updated less frequently and may include boards no longer working or even incorrect telephone numbers. Keep that in mind.

# Chapter 13

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## Macintosh File Transfers

Mac to Mac, Mac to Others,  
and Back



# Macintosh File Transfers

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## Mac to Mac, Mac to Others, and Back

**Y**our Macintosh is a unique computer. That's as true with its file structure as it is with the way it displays menus. The file structure implemented by the Finder (the computer's interface with the user) and the way it allows application programs to handle files impose special restrictions on transferring files between Macintosh systems, as well as between a Macintosh and other kinds of computers. These restrictions make downloading and uploading a bit different than on other computer systems. If you're planning to pull files and programs from databases or bulletin boards, this chapter will explain some of those restrictions and problems.

### MacForks

Macintosh files consist of two elements called *forks*. Most Macintosh files contain both a *data fork* and a *resource fork*. Consider a letter written with *MacWrite*. The letter appears in the Finder of your system as a document file.

If the *View* option of the Finder is changed to anything but *by Icon*, the Finder displays information about the file rather than a small picture. One of the ways to display the contents of a disk is *by Kind*. Macintosh files are typically either *applications*, such as *MacWrite*, or *documents*, which are normally associated with the application used to create them. This relationship is referred to as *ownership*. A letter created with *MacWrite*, for instance, is usually "owned" by *MacWrite*. Opening the letter by either double-clicking its icon or selecting the icon and then using the *Open* option of the *File* menu results in the Macintosh trying to call the application which owns the letter. Only then is the file loaded into the application. If the owner of the document is not available on the disk, the Finder tells you that an application could not be found to open the document.

The information relating to the kind of file and ownership is stored in the resource fork of a Macintosh file. The resource

fork also contains special information about the appearance of a file. For example, a *MacWrite* document's resource fork carries all the information relating to the fonts used and the layout of the printed form. In an application file, the resource fork contains information about the environment the program expects to run in, including things which define the appearance of the application's icon.

The data fork of a *MacWrite* document, however, contains the actual text of the letter. There's no information about the appearance of the text on the Macintosh screen in the data fork. Similarly, the data fork of an application contains the actual code that's executed by the computer when the program is run. Yet the application cannot be operated without other information in its resource fork.

You don't see the data and resource forks of files in the Desktop of the Macintosh. The Finder hides the file structure from you and presents a unified icon.

There's a special kind of Macintosh document file called *text only*. Text-only files are used to move textual data between different Macintosh applications. The rules of ownership for these files are slightly relaxed, and applications must be specially constructed to recognize and manipulate them. For example, it's possible to load a text-only file created by Microsoft BASIC into *MacWrite*. Text-only files have little or no resource fork and are thus fairly easy to transfer between a Macintosh and non-Macintosh system.

### What It All Means

But what does all this mean when it comes to file transfers?

When transferring files over telephone lines, it means special handling by the sending and receiving terminal software is required. To directly transfer *both* the resource and data forks, both the uploading and downloading systems must be aware of this special file structure.

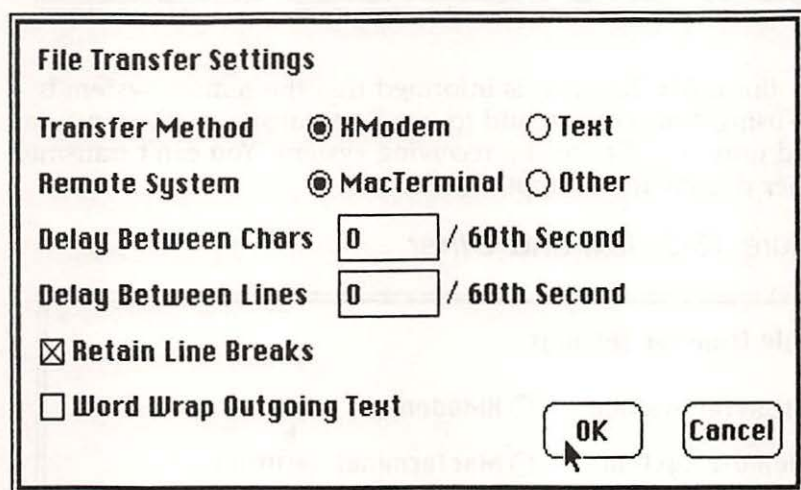
An error in transmitting textual information (data forks of documents) may not be critical. If the word *dog* is changed to *dig* during transmission by line noise, for instance, you could probably change the word by loading the file into *MacWrite* and editing it. Not so with information in resource forks or in the data fork of an application. The exact format of the resource fork and application code stored in a data fork is critical. Trashing, or scrambling, one or more pieces of information

in these forks may cause an application file to be unusable or prevent a document file from loading into its owner. For this reason an error-checking protocol such as Xmodem is essential to successfully transmitting Macintosh files intact.

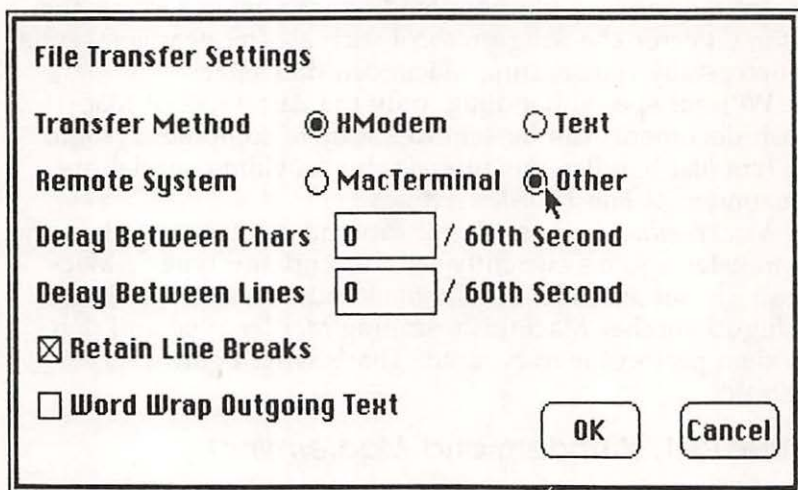
Without special handling, only the data forks of Macintosh documents can be sent to a remote computer system. *MacTerminal* handles this problem by providing special options under its *File Transfer* settings.

*MacTerminal* knows what it can and can't do based on the file transfer options currently set. To send any type of Macintosh file successfully, *MacTerminal* must be told that it is talking to another Macintosh running *MacTerminal* and that Xmodem protocol is to be used. That's what figure 13-1 illustrates.

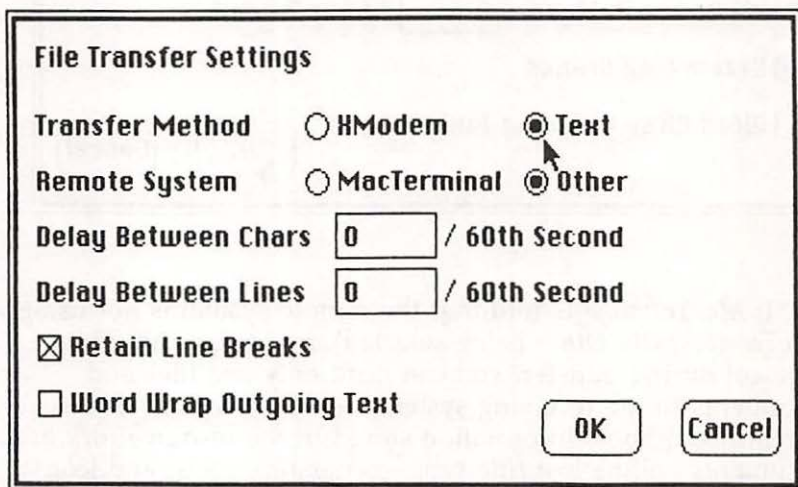
Figure 13-1. Xmodem and *MacTerminal*



If *MacTerminal* is told that the remote system is not using *MacTerminal* (by *Other* being selected), and to use Xmodem protocol during transfer, you can send only text files and documents to the receiving system. Text files will be transferred intact. Some information stored in the resource fork of documents will be lost (file type, ownership, fonts, and icon shape). Transmission of applications isn't allowed.

Figure 13-2. *Xmodem and Other*

But if *MacTerminal* is informed that the remote system is not using *MacTerminal* and to use *Text* transfer mode, you can send only text files to the receiving system. You can't transmit either documents or applications.

Figure 13-3. *Text and Other*

Thus, here are the general rules for successful transfer of files between Macintoshes via modem:

1. Use terminal software with a Mac-to-Mac file transfer option.
2. Use the same terminal software on both ends of the connection.
3. Invoke error-checking protocol during file transfers (if the Mac-to-Mac mode of the terminal program doesn't do so automatically).

### Macintosh to Other Systems by Local Connection

It's also possible to move data between systems located nearby without using modems. A modem turns the data into a form which can be sent as an audible signal over a phone line. If the two systems are in the same room, a simple cable connection between the two will suffice. Since a cable eliminates the need for modems, it's called a *modem eliminator*, or more commonly a *null modem*.

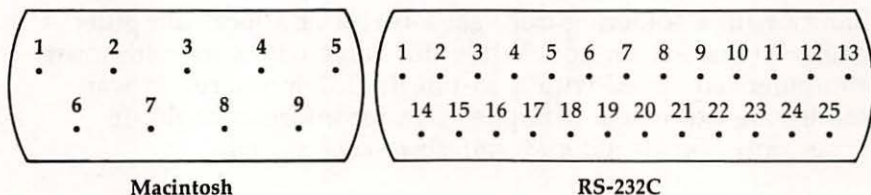
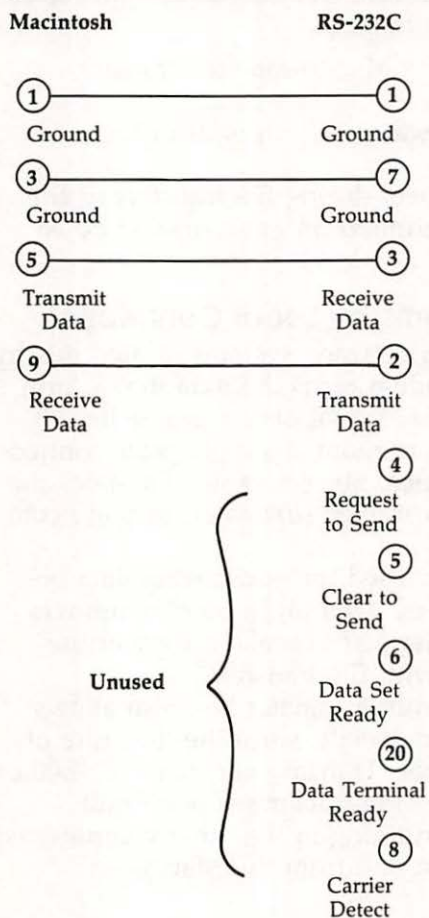
A null modem is typically used for transferring data between two dissimilar computers. After all, if both computers are Macintoshes, it's a lot easier just to make a copy of the disk rather than fool around with file transfers.

Eliminating the modem from a transfer link also allows you to use higher transmission speeds, since the data rate of the modem is no longer a factor. Transmission rates of 4800 or 9600 bps are typically used for file transmission via null modem. A terminal program running in the other computer is used to send or receive data to and from the Macintosh.

### Build Your Own

Figure 13-4 below shows the pin connections for a Macintosh to 25-pin RS-232 cable. If you need a null modem and aren't handy with a soldering iron, get a friend or a local computer dealer to make it for you. While this cable will work with most computers equipped with a 25-pin RS-232 interface, no warranties are expressed or implied. It's for informational purposes only. *This is not a Macintosh-to-modem cable!*

## Figure 13-4. Null Modem Pin Connections



### File Transfer Checklist

1. **Make sure that communications parameters of both systems are set *exactly* the same including:**

Transmission Rate

Parity

Number of start/stop bits

2. **In a Mac-to-Mac transfer by modem:**

Set each terminal system to half duplex or local echo mode. If you don't do this, you'll not see what you type or send on your own screen. Establish the communications link first by having one party set their modem to autoanswer and have the other party dial into that system. Type a few messages back and forth before invoking any file transfer just to make sure that you can both send and receive data.

3. **When using Xmodem transfer:**

The sender usually goes into transmit mode and waits for a signal from the receiving system. Give the sending system a few seconds to get set up before starting the receive-file process.

4. **When using text mode transfer:**

The sender will not usually wait for a signal before beginning transmission. The receiver should go into receive mode before the sender starts. For example, if you are logged onto an information service and want to save an article you're going to read by typing:

```
READ ARTICLE <Return>
```

The cleanest way to receive is to type:

```
READ ARTICLE (Go into receive mode and then press Return)
```

When the article is finished being listed, go out of receive mode.

### Caution!

Although Mac-to-Mac file transfers can provide complete documents and applications, transferring both forks of Macintosh files to other computers is difficult. There's really no direct way, at the moment, to transmit complete files from a Macintosh to a non-Macintosh. (There are possibilities, however—you can use hexadecimal translation programs, which are sometimes available on Macintosh BBSs, to convert files properly.) The best you'll be able to get is the data fork. That

means that text can be transmitted, but applications and the resource fork of documents cannot. You may end up with the text of a *MacWrite* document, for example, but things like fonts and icons will not be transferred.

File transfer from information services like CompuServe is also sometimes hard to do. If you're downloading a program during a high-usage period, for instance, the remote computer will often have to pause briefly. That's not really a problem if you're simply reading text, but if you're downloading something, your terminal software may interpret the pause as a break in the signal. If it does, it will shut down, believing the connection has been broken.

This generally isn't a problem when you're downloading from a BBS. Since you're the only one on the board at that moment, there's no need for pauses.

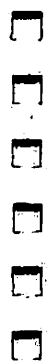
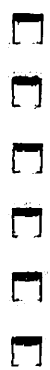
### At Last

If all you want is to download text from an information service, some terminal programs offer an alternative to file transfers. These programs remember the entire text of a telecommunications session. After or during a telecomputing session, they allow text to be copied to the Macintosh's Clipboard using the *Copy* or *Cut* options of the *Edit* menu. *Paste* may sometimes be used to insert this text into another application. This technique will result in varying degrees of success, depending upon how amenable the intended receiving application is.

Programs like *MacTerminal* and *Straight Talk* allow you to do this to a certain extent. See the descriptions of these terminal programs found in chapter 5.

# Glossary

The Telecomputing Lexicon



# The Telecomputing Lexicon—A Glossary

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## A

### **acoustic modem**

This type of modem receives and transmits audio signals through a regular telephone handset. The handset is placed into a cradle, which has rubber cups to hold the mouthpiece and earpiece.

### **answer/originate**

*See* originate/answer

### **ASCII (as-key)**

American Standard Code for Information Exchange. Since computers understand only numbers, not letters or other characters, some standard code is required to convert the numbers to letters. ASCII is the code used for all personal computer communications. For example, in ASCII, the number 65 stands for the letter A. There are 128 standard ASCII code values, ranging from 0 to 127, each of which is assigned a particular meaning.

### **asynchronous communications**

Data communications in which the sender signals the receiver each time he or she starts or stops sending information.

### **autoanswer**

This feature allows a modem to take the telephone off the hook when it rings and initiate communications with the caller.

### **autodial**

Another modem feature which allows the computer to dial telephone numbers, either those that are typed on the keyboard, or those sent automatically by a terminal program.

## B

### **baud**

A unit commonly used to indicate the speed of data transmission.

### **BBS**

Bulletin Board System. Also referred to as CBBS.

**Bell-compatible**

A modem which uses audio tones that meet Bell Telephone standards. Thus, 300 bps modems which meet the Bell standard are said to be Bell 103-compatible, while 1200 bps modems are said to be Bell 212A-compatible.

**bit**

A binary digit. The smallest unit of information that a computer can use, corresponding to a 0 or a 1. In data transmissions, these correspond to either a high-pitched audio tone or a lower pitched one.

**bits per second (bps)**

A unit measuring the speed of data transmission.

**buffer**

A holding area within your computer's memory. In communications, a buffer is used to temporarily save data so that you can recover it after it's scrolled off the screen. Many terminal programs allow you to open and close buffers from the keyboard and to save their contents after your communications session, either to a disk file or to your printer.

**C**

**carrier signal**

An audio signal whose tone can be altered in order to carry data.

**CBBS**

Computer Bulletin Board System.

**character**

Any letter, number, punctuation mark, or special symbol transmitted during data communications.

**character length**

A communications terminal setting referring to the number of data bits which comprise each character sent. Seven data bits are required to transmit each character in the ASCII set, but in order to transmit the binary data that computers use, eight bits are required.

**communications settings**

A group of options which determine how two computers will communicate. These options are controlled by your terminal software, and include speed of transfer, parity, duplex, character length, and number of stop bits.

**communications software**

The computer program which allows your computer to send and receive data via a modem and the phone lines.

**connect time**

The amount of time you spend with your computer connected to a remote database. Commercial databases generally charge users on the time connected.

**control character**

A nonprinting character that controls some aspect of the terminal.

**D**

**data bits**

The portion of all bits used to send a single character over a telecomputing link which actually holds data. Usually seven or eight bits.

**direct connect modem**

A modem which plugs directly into a modular telephone jack. Contrast with acoustic modem.

**download**

To receive and store data sent by a remote computer for later use.

**duplex mode**

Indicates whether the remote computer echoes characters typed at the Macintosh keyboard. *See full duplex and half duplex.*

**E**

**echoplex**

Another term for half duplex mode.

**F**

**flow control**

The process of throttling the rate of data transmission by a mutually agreed-upon method. Used if a receiving system is not capable of handling incoming data at full speed.

**framing bits**

Part of the bits used to send a single character of data over a telecomputing link. Framing bits delineate the beginning and end of each character.

**full duplex.**

Communications mode in which the remote computer echoes characters typed on the Macintosh keyboard back onto the Macintosh screen.

**H**

**half duplex**

Communications mode in which the remote computer does not echo characters typed on the Macintosh keyboard back onto the screen. In half duplex mode the terminal software or modem on the Macintosh end of a telecomputing link handles display of keyboard entry on the screen.

**handshaking**

See flow control

**K**

**keyword and keyword search**

The ability to specify retrieval of information by user-specified words. For example, requesting a list of only those articles having the word *MACINTOSH* from an information service database.

**M**

**mainframe**

A large computer system used by commercial information service providers, schools, and businesses. A mainframe is usually capable of handling many telecomputing sessions at one time.

**mark**

The audible equivalent of a 1 on the phone line of a telecomputing link.

**N**

**null modem**

Cable used for file transfers between two computers in the same room. Since phone lines are not involved, this eliminates the need for a modem on each system.

**O**

**originate/answer**

In a telecomputing link, one modem is said to be in answer

mode, the other in originate. Each mode uses predefined frequencies for receiving and sending data.

## P

### **packet-switching networks**

National telecommunications networks that let you dial computers in other areas of the country via a local phone call. Commonly used to access commercial information services.

### **parity**

A method of error checking used to insure the integrity of individual characters of data transmitted. Typically odd, even, or none.

### **protocols**

Rules used to facilitate exchange of data between two computers.

## R

### **RS-232C**

The standard which defines electrical connections for implementing serial interfaces on computers. Also used to refer to connection between Macintosh and modem.

## S

### **scroll**

The movement of incoming data or text on your Macintosh's display. The most recent information appears on the bottom of the screen and moves upward a line at a time. The topmost lines eventually disappear from view.

### **serial interface**

Converts the Macintosh's internal form of data into a format suitable for transmission over a telecomputing link.

### **space**

The audible equivalent of a 0 on the phone line of a telecomputing link.

### **start bits/stop bits**

See framing bits

### **sysop**

System operator, or caretaker, of a BBS.

## T

### **terminal**

A device that displays data received from a remote computer. Also capable of sending data typed on its keyboard to the remote computer.

### **terminal emulation**

Feature provided by some terminal programs to behave like a specific brand of terminal (for instance, IBM, TeleVideo, and so on).

### **terminal program or terminal software**

Allows a microcomputer to act as a terminal.

## U

### **upload**

To send data to a remote computer for later use. Opposite of download.

## V

### **videotex**

Loosely used to define transmission of textual data by information services. Classical definition requires that graphics be mixed with the text.

## X

**XON/XOFF** A commonly used type of flow control.

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