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- What's available
- Where they are
- How to get them

- Software
- Instructions
- Users' groups
- Telecommunications

"The Most Valuable Computer Resource You'll Ever Own"

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SAVE MONEY

Ada Booth

ENRICH/OHAUS
San Jose, California

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ABOUT THE AUTHOR

Ada Booth teaches mathematics at the University of Santa Clara. She has enjoyed working with—and playing with—computers for many years, and has taught computer programming.

She has written numerous articles in various journals in connection with computers and education. In addition, she has been a newspaper writer and a magazine editor.

The IBM PC was her first microcomputer, obtained shortly after the PC became available. She is an active member of the Silicon Valley Computer Society, and headed their Science and Engineering Special Interest Group.

She is currently writing a beginner's guide for new PC*jr* and PC users.

ACKNOWLEDGMENTS

Members of PC Users' Groups were extremely helpful and informative. Many thanks to SVCS for letting us reprint its catalog of club library disks.

PC World magazine graciously gave permission to reprint recent lists of users' groups and IBM PC Bulletin Boards from their pages.

Electronic bulletin boards who deserve special mention and thanks include People's Message System, Santee, CA, for their exhaustive list of public access bulletin boards, and Frank Canova of Florida for his compilation of User-Supported Software.

INTRODUCTION

Since its introduction only a few years ago, the IBM Personal Computer has become immensely popular. As a result of its wide distribution, many kinds of resources have become available for users of IBM PCs and PC-compatible systems.

The very recent development of the PC*jr,* a lower-priced but compatible relative of the PC, increases the market even further. "Junior" may look different from its big brother, but it can use almost all the same software and perform most of the same functions, particularly if it has a disk drive and enough memory for the applications involved. In addition, PC*jr* introduces improvements and increased capability in the areas of graphics and music.

Programs to make your computer do what you want it to do, magazines specializing in the PC, help and instruction on how to solve YOUR problems—all are available to you, and many of them can be obtained FREE if you know where to look.

Equipment purchases can often be made more cheaply if you know about the various GROUP purchase opportunities. If you haven't bought your system yet or are considering additions, read before you buy.

Whether you are a computer novice or an expert—or something in between—you will find useful and money-saving information in the following chapters.

Care and Feeding of Your Computer

Learn how to avoid unneccessary repair bills, as well as how to make your PC or PC*jr* computer more convenient to use.

Users' Groups

Probably the most helpful single resource you can take advantage of is a PC Users' Group. Joining a users' group will give you access to free software, free instruction, group discount buying opportunities, and many other valuable services.

This chapter discusses, describes and lists users' groups. Learn what they are, how they work, where they are, how to find them, how to join one, and what they can do for YOU.

Free Software

Thousands of programs for your PC or PC*jr* are in the public domain. That means that you are permitted to use them, copy them, learn from them, adapt them and "customize" them to fit your needs even better—at no cost to you.

To find out what programs are available, what they can do, where and how you can get them, see the FREE SOFTWARE chapter.

Computer Magazines

Another source of information, programs and useful programming tips is available in computer magazines. Quite a few of the magazines are aimed solely at IBM PC users, while others which are more general in nature are featuring increasing amounts of material applicable to the PC.

You can get FREE trial subscriptions to one of the best of the current PC magazines, to a brand-new publication for PC*jr* users, and also to a magazine which serves as a reader's guide, indexing over 400 articles from other publications. See the chapter on magazines to learn how to get these, as well as for more information about computer journals.

Your Computer and the Telephone

Electronic "Bulletin Boards" have many uses, ranging from providing news and stock market information to offering you consultant services, as well as providing another source of free programs which you can obtain by telephone at home.

You will also be able to send or receive messages (electronic mail), share programs or information with friends who have computers, check on employment opportunities, or in some cases, even work at home instead of commuting.

In the chapter on bulletin boards, you will find how you can take advantage of these services. You will also find information about the equipment you will need and how it works, as well as lists of bulletin boards operated at no charge to the user.

Networking—Computers Linked to Each Other

This is one of the growing new trends in computer utilization, joining many computers in fast direct connection so that they can share information and resources readily. Read about it.

Freeware and User Supported Software

A relatively new development in distribution of programs, this might be called Honor System marketing.

Here is how it works. An author develops a program, often initially for his or her own use. Then the author, instead of marketing it commercially, makes it available to others to try out. You obtain a copy of the program, either by writing directly to the author or from some other source (copying is ENCOURAGED). Then you try it. If you decide you like the program and think it's useful, you're requested to send a modest check to the author.

Although the software isn't completely free, it costs much less than you would have to pay for an equivalent program under typical commercial marketing. Some of the most popular programs in recent surveys of user satisfaction have come from this category.

A Bonus—Free Programs Right in This Book

You will find some sample programs and useful routines written by the author and never published before. They are written in BASIC. All you will have to do is type them into your computer (carefully) exactly as they are printed. We explain what they do and how you can alter them or write similar programs yourself.

Updates

On a continuing basis, each time the book is reprinted, information which has developed since the last printing will be added in a special section at the back of the book.

Check the update section for the most recent additions.

CARE AND FEEDING OF YOUR COMPUTER
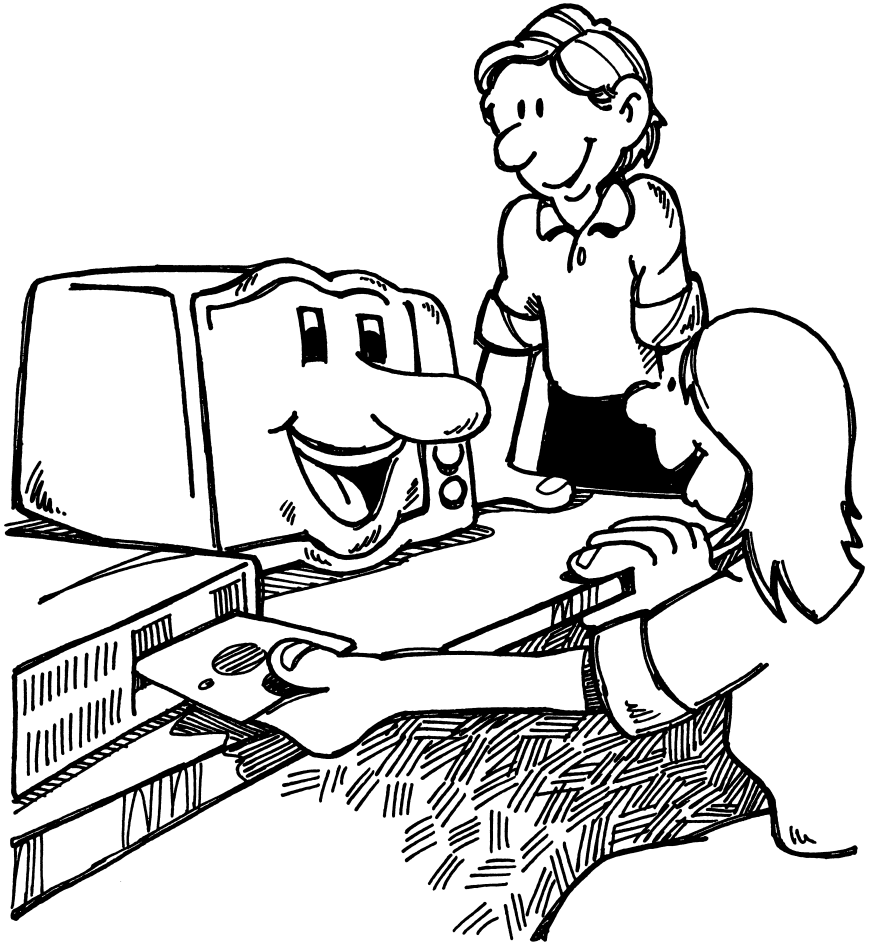
THE CARE AND FEEDING
OF YOUR COMPUTER

The only proper diet item for your computer is information. It reacts badly to cookies, coffee, crumbs, cola—or any other accidental input, no matter how nutritionally sound the food may be for people!

Avoid Repair Bills

To avoid unnecessary repair bills, the first rule should be: **DON'T** allow **ANY** food near the computer. If there's nothing there, nothing can get spilled.

When we talk about spillage, people usually think of children, but adults can represent just as great a hazard. So make the food-ban a rule in the office as well as the home.

Other items can cause trouble (and have done so) by finding their unwanted way into the machine. Cat hair is an example. So if you have a pet which roams the area and might climb up, make sure you get a protective cover for your equipment. Plastic keyboard covers are available and useful. You can also obtain covers to protect other components.
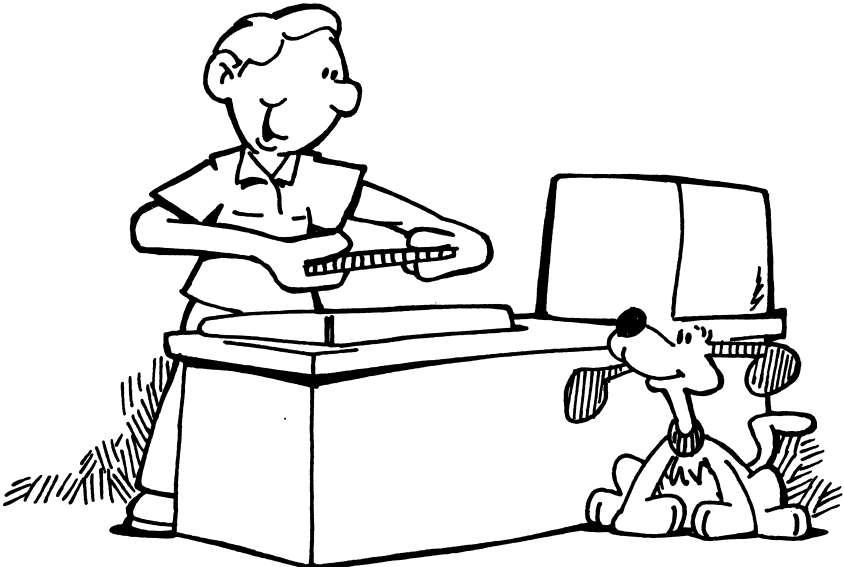
Electrical Storms

This is a danger you might not have thought about until it was too late, like the member of the Wisconsin Users' Group whose warning message to other members appeared in the newsletter AFTER his modem was ruined.

Storm-caused electrical surges can severely damage your modem if it is left plugged into the power lines during a lightning storm. This can happen even though the equipment is not turned on at the time. The PC computer itself is less vulnerable, but it would be a safe rule to guard against trouble.
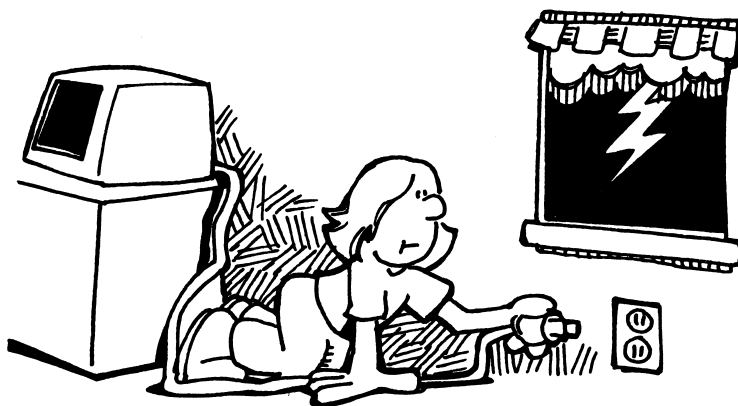
In case of electrical storms, **UNPLUG** your equipment unless you have installed some kind of special protection against this hazard.

Minimize Wear and Tear

When you think of all the switches you have to turn on and off every time you use the computer, two thoughts occur. One: it's a nuisance for you. The other: will the switches eventually give trouble?

A solution for both of these problems (which also simplifies the unplugging process in case of thunderstorms) is to buy a strip outlet which you can put in a convenient place on your computer table. It contains an on-off switch and several outlets for the power plugs from your computer, monitor, printer, modem, etc. You thus have only one item to plug into the wall outlet. You can leave all components ready for use, plugged into the strip.

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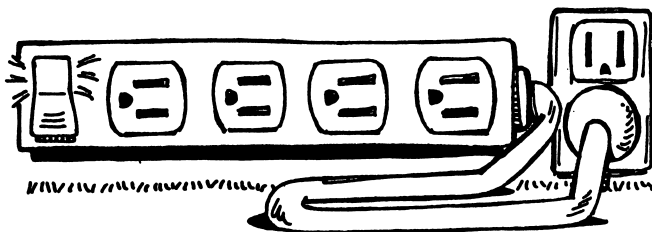
Result: No more reaching around to turn on three or four switches. One conveniently located switch turns on everything. (Of course, you can still use the individual switches to turn off specific components at any time.)

Parenthetical note: You may have heard that it is important to turn on the different items of equipment in a particular sequence, with the computer turned on last. Similarly, the old rule was to turn the computer off first. This is not necessary with the IBM PC, so don't worry about it. IBM says it's perfectly all right to turn everything on or off with one switch—or in any order you please.

The Disk Drives

When you are using the PC or PC-XT computer and a diskette is in position in the drive, the drive door must be closed (the center hinged tab pushed into the down position.) This closed position looks neat, and it is a natural thought to close the doors even when the drives are not in use.

Natural, but not right. Although no particular damage will be done by closing the doors, you can avoid unnecessary wear on the mechanism by leaving the drive doors **OPEN** when not in use.
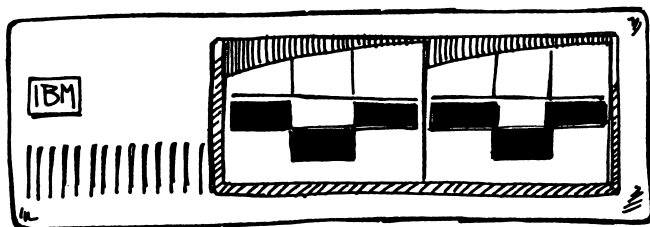
For the **PC***jr* the door position is more crucial. Junior uses a smaller, more compact "half-height" drive. IBM warns several times in their instructions that the drive door must **NOT** be closed when the drive is empty. This warning sounds worrisome, but it is not really a problem. After the manual was written, IBM decided to re-design the PC*jr* disk drive so that the door latch cannot be closed when the drive is empty. All production models have this protection against accidental closure.

The Keyboard

The same kind of caution that applies to a typewriter will be more than sufficient for taking care of the keyboard. Don't drop it. Don't drop objects on it. Control a passion for cleanliness which involves using cleaning solutions on the keys. (Spilling cleaning solutions is just as bad as spilling coffee or ashes.)

If small children are going to be using the machine or playing games on it, supervise them. Make sure they don't just bang the keys.

Disks—Protect the Information that Makes the Machine Work

If you turn on your PC or PC*jr* without a disk in place, it does come on and can be used for calculation and programming, since an operating system called "Cassette Basic" is built in.

However, if you have a PC or PC*jr* with disk drive, the overwhelming majority of your work with the computer will involve the use of "diskettes", thin 5¼ inch "floppy disks" (i.e. non-rigid, as opposed to "hard disks").

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The diskette (or disk, as it's also called) can be used to store programs, which give the computer its instructions. Or it can store information for future reference. Clearly, it is vital to the successful use of your computer that such important resources be preserved.

Fortunately, it is not difficult to care for your diskettes properly, so that they will continue to serve you well. The rules are very simple:

Avoid extremes of heat and cold. Any normal "room temperature" storage is all right, but don't leave diskettes exposed to direct sunlight or near a heater. And don't forget that the sun moves during the day, so a spot on a table near a window may be shady in the morning but not in the afternoon!

Don't bend the diskette. If you are sending material "on-disk" through the mails, use a special diskette mailer. These are inexpensive and readily available, and will protect your disks from possible rough handling.
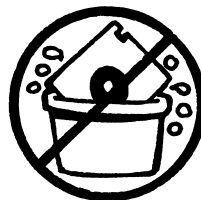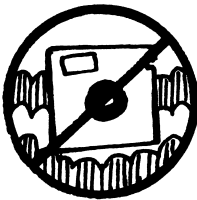
Keep the disk clean and dry. (If an accident happens, there is some possibility you may be able to salvage the information. An article in a user group newsletter spoke of carefully washing and drying a damaged disk. It might work, but don't count on it.)

Never handle the disk by any part except the label end which you must hold when you move it in or out of the disk drive.

Since the information is recorded on the disk magnetically, it is important not to subject the disk to any unintended magnetic fields. Obviously you're not going to play with a bar magnet near the disk. But there are other magnetic fields around the house that you might not have thought of. Telephones, for example, have magnets. Often tools, like screwdrivers or scissors, are magnetized. Be aware of any electric motors in the vicinity of your disks as a possible source of magnetism.

The caution suggested is not difficult to exercise, once you are aware of magnetic sources. A distance of a couple of feet should provide an ample margin of safety.

If you are travelling by plane, **never** walk through the metal detector with disks. (The X-ray machine used to look at your hand-carry baggage should not do any harm. If you really want to play safe, however, simply hand the disks to the guard separately.)

And now for the most important safeguard: Make a backup copy of every disk that matters. Then, if you accidentally erase something while you are working at the computer (which is the most common mishap; we all do it at some time), you haven't lost the information. The backup copy is still there.
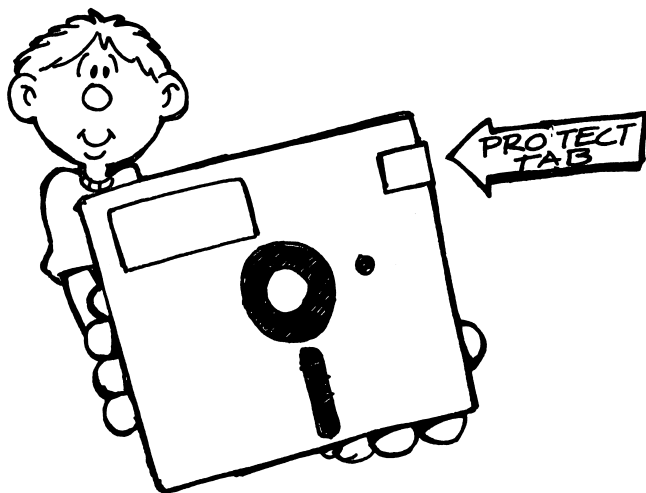
If you have a disk which you want to protect from any possible accidental erasure (in case some one else uses the computer with that particular disk), you can put a "write-protect" tab over the notch in the side of the diskette. The tab can be removed if you really want to make a change at some future time.

The most important and best protection, however, is a backup copy stored safely somewhere.

Here's a note of reassurance about a question that keeps coming up. You may have heard that you should never turn the computer on or off with a diskette in the drive. Although this caution used to be necessary with some computer systems, due to "transient" voltage changes which occur when the equipment is turned on or off, your PC does not have any problem in this regard.

You're quite safe in following IBM's instructions to put the DOS disk in the system before turning on the power. You can also turn the power off while a disk is in the drive. No damage will occur and no information will be lost.

The Screen

It isn't good for any television or monitor screen to have an unchanging image stay on for a long period of time. The same bright image that's good to look at will damage the phosphor of the screen if left alone long enough.

One way you can prevent damage is to make sure that you turn the monitor off or turn the intensity down if you walk away from the computer for any significant period of time. Unfortunately, this method is reliable only if no one who might turn on the machine is ever absent-minded.

It's too easy to leave "for a little while" and then get busy with something else. Most of the time you'll remember, but sometimes you may return hours later to find the screen still glowing brightly.

An excellent solution to the problem appeared in John Socha's December 1983 article in Softalk (page 81). He gave a listing for a program he developed which automatically turns the display screen off after a period of 3 minutes during which no key is pressed. (This program applies to the PC but not the PC*jr*.)

The display comes back on the next time you hit any key. This is a valuable utility, which could be placed on every system disk you use. (Note: There are a few programs which will not work properly with SCRNSAVE on. For example, you should not use SCRNSAVE when running the DRIVE game on page 190 , or the blinking cursor will be visible when it should be hidden. Very few programs, however, present any problems.)

Socha's SCRNSAVE will probably have found its way to club library disks by the time you read this, so you may not even have to look up the article! In any case, it's worth having. (As an incidental point, when you do press a key to return the display to active state, use one of the non-printing keys: i.e. shift key or "Alt" or "Ctrl", so you won't be printing anything on the screen.)

USERS' GROUPS

If you are not already a member of a PC Users' Group, probably the first thing you should do after reading this chapter is check the directory of current groups provided in this book.

See if there's a users' group located near you. Call the contact person listed and get the information about services they provide, special interest sub-sections, newsletters, club disks, meetings, etc.

Why?

Because this simple step will get you started on what may be the single most useful money-saving and frustration-avoiding action you can take to get more out of your PC.

What Are Users' Groups?

They are non-profit organizations. Their members include a wide variety of backgrounds and interests, and their experience with the PC (and, for many of them, with other computers as well) can help you. On the other hand, your experience and background may make you the ideal individual to help someone else. Everyone involved comes out ahead in this sort of sharing.

Problems members have had and solutions to the problems are brought up at almost every meeting during question sessions. General advice and specific advice are readily available.

Free Software—Club Disks

Most groups maintain library sections which provide free distribution of contributed software programs. Sources of the programs are varied. Some may have been written by members of the group; some originated as articles in computer magazines or newsletters from other groups; some are "public domain" (permission granted to copy and use) programs from electronic "bulletin boards". The club librarians decide to copy the programs they feel are of most general interest to their members.

Since computer users often have similar problems to solve (some of which stem from the shortcomings of the computer software as it was delivered!), many useful "patches" show up in club disks which solve particular problems.

For example, the DIR (DIRectory) command in the PC disk operating system (DOS 1) seemed designed to frustrate the user when asked for a listing of the files stored on a disk.

When the person who wanted to see what was on the disk requested the DIR, a list of the files began appearing on the screen, one title per line, in no particularly sensible order. With such a system, if you had more than 24 files, there was a problem. When the listing reached the bottom of the screen it kept on rolling, and the first files disappeared from view before you had a chance to read them. Clearly, a procedure like this can be infuriating.

That's an example of one problem which plagued everyone who used a PC. How about the solution? The next paragraph describes a typical scenario.

Some knowledgeable user develops a program to solve the problem (in the case of DIR, provide an organized listing). SDIR, the new program, prints a heading showing which drive it is reading and how much free space is left on the disk. Then it presents an alphabetized list of the files, shown in two columns on the screen.

Since the new system is clearly superior, SDIR rapidly becomes a standard program available to club members all over the country. Most users put SDIR on almost all their disks, since it takes up very little space and is so handy.

Eventually, IBM realized that its DIRectory command could use some improvement, and later editions of its operating system (DOS 2) have made some improvements. The directory is still not alphabetized, however, and SDIR still provides a superior listing.

Many important utility programs have come from articles in computer magazines. SCROLLK, which was published in an article by John Socha in the May 1983 issue of *Softalk,* is an example. On request, it "freezes" the screen so you can look at it at leisure. When you are ready to continue, you

press a single key to get your choice of action, either advancing one line at a time, or one screenful at a time.

Other types of programs which are available through club disks include business and financial programs, games, educational software, demonstration programs, graphics, helpful printer utility programs, and a wide variety of applications software in many fields. See the chapter on *FREE SOFTWARE* for more details on club library disks—what's available (including a catalog), how to get them, and how to use them.

Special Interest Groups (SIGS)

When a group has fewer than 50 or so members, general meetings may be sufficient to deal with members' interests and desires for specific information. Few groups stay that small, however. An organization which may start with 20 members can easily find, a few months later, that it has more than a hundred. And within a year it may be twice that size, or even more.

For that reason, most groups organize special interest subgroups at the request or initiative of members. These SIGS usually meet once a month, at which time they have an opportunity to share information and questions on the specific topics which interest them.

Almost all clubs have a **NEW USERS' GROUP,** since new members have special concerns and interests which usually include learning more about how to use their machines. (Even people with much previous computer experience find it useful to get help and instruction on the PC from people who have already gone through the initiation process.) These groups provide **FREE** introductory information and instruction in an informal setting where you can get your individual questions answered.

Other SIGS can include groups interested in particular programming techniques, programming languages, communications, applications, or professions.

Now that the PC*jr* is on the market, clubs have responded to its introduction by planning new special interest groups focusing on that machine. For example, Silicon Valley Computer Society announced in its December 1983 newsletter that a PC*jr* SIG would be organized in February 1984.

The following listing of assorted special interest groups was compiled from various club newsletters:

Novice
Financial
Word Processing
Statistics
PCjr
Software
Education
Games
Medical
Communications
Science and Engineering
Business
Spreadsheet Modeling
Database
Hardware
Graphics
BASIC
PASCAL
COBOL
FORTRAN
FORTH
APL
ASSEMBLER
and many more!

Buy at a Discount

Most users' groups have group purchase sections which help members get both hardware and software at significantly lower prices. This feature alone can save you many times the cost of your club dues, which are typically between $15 and $30 per year.

If you haven't yet bought your computer, attend a meeting of a nearby users' group, talk to some of the members, and find out whether you can save money on the initial purchase of your system. The discounts can amount to hundreds of dollars. For example, group purchase prices quoted in a recent newsletter from Madison, Wisconsin represented savings of 30 to 40 percent.

You can also get valuable advice on choice of equipment, as well as recommendations of the better retailers. You may even find that you are entitled to discounts you didn't know about! (University staff or state employees, for example, can often buy equipment at discounts of up to 30%.)

How to Find a Local Users' Group

PC World and *PC* magazine both publish listings of PC Users' Groups periodically. No printed directory is going to be complete, however, since new clubs arise continually. Furthermore, smaller or less formally organized groups will probably not be included. It was estimated that there were some 400 active IBM PC Users' Groups in the United States at the beginning of 1984.

The users' groups directories do represent a good starting point, however, and we include one at the end of this chapter, reprinted by permission of *PC World* from their February 1984 issue.

Check the directory. If there is a group conveniently located for you, phone the contact person for more detailed information about meeting times, place, etc. If none of the listed groups are close enough, don't assume that none exist near you. Call the closest. They may know of others in your area which are not yet on the published lists. (For example, a recent phone call to Madison, Wisconsin, where only one group appeared in a November 1983 listing for the state, turned up three others which had been formed in 1983.)

Also check with your local retail stores which handle the PC. They will probably know about groups in their service area.

Suppose There Really Aren't any Nearby Groups?

This can happen. But that doesn't mean that you have to lose the advantages of membership.

Two options are open to you. If you're interested primarily in the regular newsletters, information, buying help and software available through the clubs, you can join a group even though you don't attend the meetings.

For example *Capital PC,* which started in 1982, for users in the Washington, DC area, now has over 2000 members, located all over the world. It is currently one of the largest PC groups in the United States, and its membership is increasing at a rate of about 150 per month. Its newsletter, *Capital PC Monitor,* is almost a small magazine. The club maintains numerous "bulletin boards" available to members by telephone from their homes, and plans to subsidize installation of at least one bulletin board for each Special Interest Group.

Silicon Valley Computer Society, a large California group, maintains a club software library which runs to well over 50 disks, with catalog and copies of desired disks available by mail, as well as at regular club meetings. In 1984 the club started to "publish" a catalog on disk, which could then be easily updated when new disks were added to the library.

See the chapter on *FREE SOFTWARE* for more about club library disks. We reprint an indexed catalog of the first 43 disks from Silicon Valley Computer Society.

Similar services exist at most of the larger clubs.

Or you might consider joining with a few other PC users and starting a group. This is not as hard as it sounds. All you need is to find a nucleus of five or six people who are interested in getting together for mutual help. Notices in appropriate places—computer-related businesses, universities, computer stores, education groups, governmental departments, newspapers (which usually like to print local coverage items of this sort)—should turn up others who share enough of your interests and concerns to start a group.

While you still have only a few people, the group can be quite informal. You don't have to worry about organizational detail and bylaws or places to meet. However, you will probably find that, once started, the group will grow rapidly. Then a more structured organization will be appropriate.

You don't have to start from scratch in this aspect of club organization. You can draw on the experience of other groups for help. Also you can check a detailed article on starting a users' group, from the February 1983 issue of *PC.*

USERS' GROUP SNAPSHOTS

There are far too many groups in existence to describe each one and its operations. Besides, there are many similarities among groups, despite differences reflecting the particular interests of their members.

So in the following pages we give brief descriptions of a few representative groups from different parts of the United States and Canada. The information was gathered from club newsletters and phone calls to club officers in late 1983 and early 1984. We chose some very large groups and some small ones for our sample, to show various styles of organization and operating philosophies.
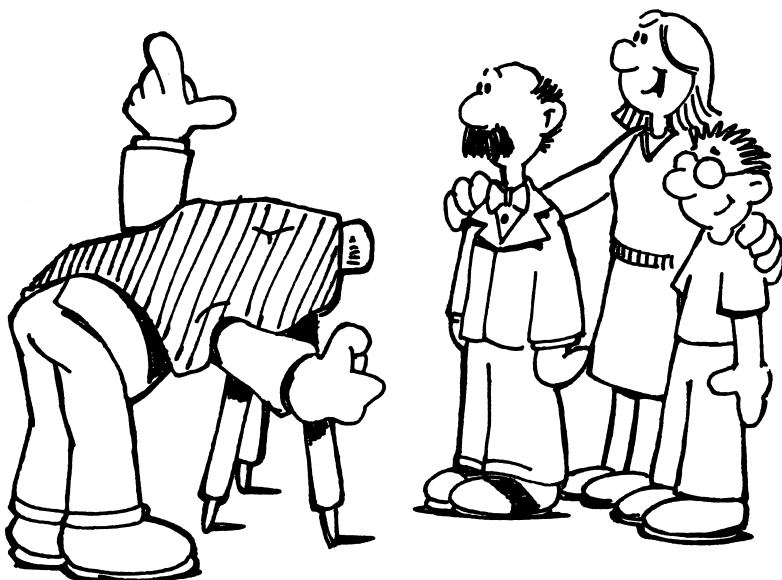
Since names of officers and telephone numbers of contact persons are subject to change, while club addresses are usually constant, the club snapshots do not list contact persons or telephone numbers. You can find that information in the user group lists. Actually, in the typical case, even if new officers have been elected, their predecessors will be able to give you information anyway.

SILICON VALLEY COMPUTER SOCIETY
P.O. Box 60506
Sunnyvale, CA 94088

The club was started in early 1982, and its history is typical of many of the clubs in high-technology or urban areas. Its first meetings were held in an auditorium at the Dysan Company which could hold over 100 people very comfortably. That seemed like plenty of room.

After a few months, standees became the rule at meetings, as word got around and potential new members came to find out about the group. Most of them joined, and membership increased rapidly.
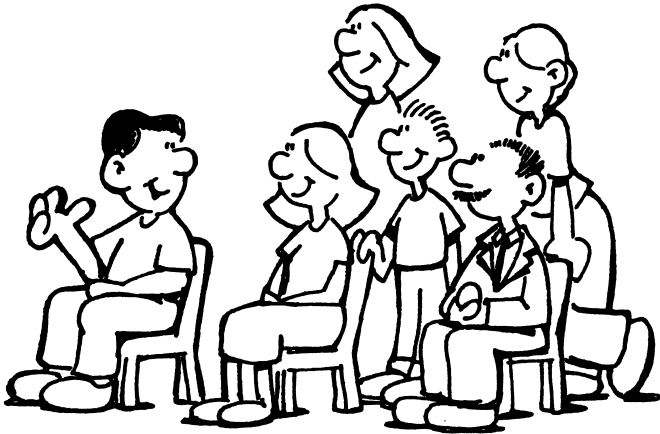
By the end of 1983, membership had passed 700. The original copier-produced newsletter had grown to a full-size printed version. The club software library numbered about 50 disks. Three changes of meeting place for general meetings had occurred, with the continuing problem of finding a large enough auditorium. (Current meeting place, as of February 1984, is at the Westinghouse Engineering Theater in Sunnyvale.)

By the summer of 1983 it was clear that the sheer volume of the routine administration and organizational work had become too much for volunteers who were doing other things full-time. A retired member accepted a newly-created paid post as Executive Director, taking care of memberships, mailing out disks, getting the newsletter printed and mailed, etc.

All the other functions are done by volunteers, as before. The club publishes the monthly *SVCS NEWSLETTER*. Active special interest groups, meeting regularly, include:

Telecommunications

Software Tools

Business-Financial

Software Library

Graphics

New Users

FORTH

Other groups existed for a while during 1982 and 1983 to meet members' needs at the time. Among them were a science and engineering section and some other computer language groups.

Dues are $30 per year. Club disks are available at meetings for $5. They can be ordered by mail for an extra $1.50 each to cover handling and postage. As they become available, new disks are described in the *SVCS NEWSLETTER*. An indexed catalog of the first 43 club disks was printed in 1983.

In February 1984 SVCS decided to start a new type of catalog. It is available on disk and can be updated regularly and quickly. It contains a CATALOG program so that users can search for entries in areas of particular interest to them.

CATALOG is a menu-driven interactive program with automatic search and retrieve features to locate entries either by disk number, file name, or description of the software. It thus serves as a sort of "intelligent index" to the library of programs.

ATLANTA IBM PC USERS' GROUP
P.O. Box 76516
Atlanta, GA 30358

This group has a membership of over one hundred, still within a size where it is practical to do most of the club's business at the monthly general meetings. Special interest groups are starting, however. In particular a Business Users' Group holds monthly sessions.

In the summer of 1983 the club set up an electronic bulletin board system. The equipment involved includes a previously-owned IBM PC, purchased by the club, plus donated equipment. Hayes gave the group a Smartmodem 1200, while Quadram (also an Atlanta area company) donated a Quad-board. A club member, Rod Roark, wrote the software for the bulletin board system. Other members supplied the phone line and "parking place" for the equipment.

The club offers classes and instruction for new users. A newsletter, *Atlanta PC News,* is published monthly for members. Dues are $20 per year.

THE BOSTON COMPUTER SOCIETY IBM PC USERS' GROUP
P.O. Box 307
Wellesley Hills, MA 02181

This very large PC Users' Group is itself a sub-group. The more than 3000 members of this PC group form a section of the 9000-member Boston Computer Society. Annual dues are $20.

The PC Users' Group publishes its own newsletter for members, *PC Report*. The monthly magazine, which runs about 30 pages per issue, provides phone numbers of relevant group chairmen or coordinators. It publishes detailed abstracts of new library disks, reports from the SIGS, articles and programs.

General meetings are held once a month, with typical attendance of 300 to 350. The club maintains a group purchase section, a "human resources exchange", and an active software exchange program, in addition to the following special interest groups:

ASSEMBLER
Accounting Software
Analog/Digital
Novice Tutorial
DOS/Communications
Hardware
BASIC
VisiCalc/dBase II
PC to Host Communications
Spreadsheet Modeling

Database
Word Processing
Scientific/Engineering
Junior
Selecting Business Software
PASCAL
Graphics

Club software disks may be obtained by mail for $6, which includes disk, mailer and postage. Well-written, detailed abstracts describing the contents of library disks can be ordered for 5 cents each. As they become available, abstracts of new disks are listed in the club newsletter.

Two bulletin boards are accessible by computers via telephone, one provided by the Boston Computer Society, the other specifically for the PC Users' Group, at (617) 353-9312.

NORTHERN ALBERTA PC USERS' GROUP
37 Brunswick Crescent
St. Albert, Alberta
T8N 2K5 Canada

This is an example of a group which functioned informally for quite a while until October 1983, when it started its first meeting as an officially organized society.

Dues have been set at $25 per person or $35 per family membership annually. There is also an "associate" membership category for people who live too far away to attend meetings. Associate membership costs $15 per year.

The society's first special interest group, organized at the initial meeting, is directed primarily towards the needs of new users. It will provide help and instruction in using the BASIC language. The group's chairman says this is only the first in what is planned to be a series of SIG formations.

The club provides copies of its software library disks to members for $4 or $5 per disk. Members with modems may access the club's bulletin board.

Membership totalled about 80 after the organizational meeting. Plans for 1984 include expansion of current services, including more special interest groups, publication and regular mailing of a newsletter, and more formal group purchase arrangements for members.
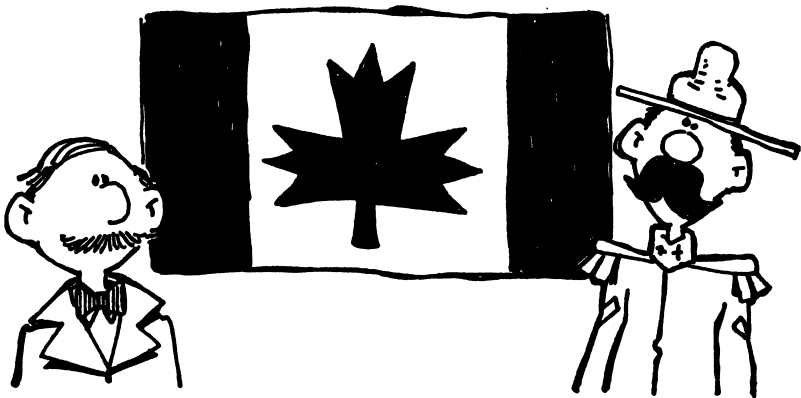
CAPITAL PC USERS' GROUP
P.O. Box 3189
Gaithersburg, MD 20878

This is one of the largest groups in the United States, with well over 2000 members in late 1983, and growing at a rate of between 100 and 200 new members each month.

Dues are $25 per year for members within the country, $40 per year for international members. The higher overseas fee is needed to cover the cost of international mailing of the *Capital PC Monitor,* a monthly publication of the group.

Because of the size of the club, two separate general meetings are held each month with the same agenda. One meets in Washington, DC, while the other meeting is held at a Virginia site.

Special Interest Groups are listed below (languages in capital letters).

Advanced
APL
BASIC
CEAM
COBOL
Communications
Data
Education
Federal Users
Financial
FORTH
FORTRAN
Games
Medical
Novice
PASCAL
Software
Statistics
Word Processing

SIG meetings are usually held once a month. Each SIG has a chairman whose telephone number is listed in the *Capital PC Monitor*. Most of the SIGs maintain at least one electronic bulletin board for computer-to-computer messages and information transfer by telephone.

In addition, the club maintains a special phone number which provides a "Hotline for Beginners" at (703) 978-0866 (Tuesday and Thursday 5-7 p.m., Saturday 1-7 p.m.) and another with recorded information about the club at (703) 978-1530.

Two group purchase sections exist to help members save money, one for hardware and a separate one for software.

Each month the club offers free classes, at which participants can learn more about various topics.

Club software disks are available at each monthly general meeting for $5 each. If you wish copies by mail, a check for $6 is required to cover the extra cost of the mailer and postage. Foreign members send $7 to cover the extra international mailing cost.

A Bit of History

All this developed in about a year and a half. The club was formed in March 1982, after a planning meeting held in February at which thirty people showed up (about twenty were expected).

At the first regular scheduled meeting on Monday, March 15, 1982, a room was reserved which would hold seventy people. One hundred showed up. For the next month, the officers prepared by reserving a room with a capacity of 300.

The *Monitor* started as a 7-page newsletter produced by copier. The combined July-August 1983 summer issue, about one year later, ran 48 pages, in professionally-printed magazine format.

Useful Addresses

Capital PC Users' Group (Membership)
P.O. Box 3189
Gaithersburg, MD 20878

Capital PC Monitor
12009 Glen Mill Road
Potomac, MD 20854

Software Exchange
P.O. Box 6128
Silver Spring, MD 20906

Education SIG
P.O. Box 34210
Bethesda, MD 20817

CENTRAL TEXAS USERS' GROUP
325 Explorer
Austin, TX 78734

This group started in November 1982. One year later it had about 75 members, who pay annual dues of $35.

Special interest groups include:
> *Languages (PASCAL, C, APL, ASSEMBLER)*
> *Graphics (particularly applications to science and engineering)*
> *Spread Sheets*
> *Word Processing*
> *Group Purchases*

The club's software library disks are provided at $4 each. The group does not have an exclusively IBM PC bulletin board, but shares a local bulletin board with other microcomputer users.

The group's newsletter, published monthly, is *PC Plus*.

MADISON IBM PC USERS' GROUP
P.O. Box 83
Madison, WI 53701

In January 1982 six people in Madison got together to discuss common concerns and interests regarding their PCs. A year and a half later, the users' group they started had a membership of over 300, increasing at about 30 new members per month.

Users associated with the University of Wisconsin make up about half of the group. The club maintains a bulletin board system, which had been so heavily used that getting connected became a problem. The group hopes that a new faster modem donated by a local computer store will speed things up enough to relieve some of the pressure.

Annual dues are $15. The monthly newsletter, *Bits & PCs,* is in printed format. It contains about 24 pages of news and information, including highlights from the bulletin board messages (such as the fact that a well-known software company offers a 90% discount if their program is being bought for educational purposes). Other articles explain how to increase the usable speed of a modem, how to make changes in some popular word processing programs to improve their functioning, and other brief but useful notes in answer to questions.

Special Interest Groups include:
> *New Users*
> *Database*
> *Graphics*
> *Laboratory and Scientific*
> *Spreadsheet*
> *System Level*
> *Word Processing*

The group purchase committee achieves significant savings for members, with discounts of up to 40%. A software/hardware review committee gets samples of programs and equipment and writes evaluation reports.

The program library makes disks incorporating popular public domain software available to members for $5 per disk.

GREATER CINCINNATI IBM PC USERS' GROUP
P.O. Box 3097
Cincinnati, OH 45201

This group, sometimes referred to as ACORN (the name of the club's monthly newsletter) was started in the summer of 1982, when some 25 people got together at the local Computerland store.

It is one of the clubs which maintains an active special interest group for young enthusiasts. The children's section caters mostly to 12 to 16-year-olds. A primary interest in this group is, as one might expect, games. However, a number of the students progress to other computer concerns, becoming more interested in programming.

Other special interest groups, as of November 1983, were:

Novice   *University of Cincinnati*
ASSEMBLY LANGUAGE   *Stocks Analysis*
C   *Spreadsheets*
PASCAL   *Word Processing*

Membership of the group was up to about 270 people in November 1983. Annual dues are $15.

The club maintains a software library exchange, with disks available at meetings for $5 each. Descriptions of new library disks and the programs they contain are published in the monthly club newsletter, the *Acorn.*

The Novice SIG, in addition to instruction offered at its regular monthly meetings, provides the newsletter with a section called "Beginner's Corner". Careful and well-written explanations help the new user understand how to operate the computer.

The club members can access an electronic bulletin board located on the campus of the University of Cincinnati.

Members can take advantage of savings through group purchase arrangements.

PORTLAND IBM PC USERS' CLUB
P.O. Box 2068
Beaverton, OR 97075

The Portland Club was started in the Spring of 1982 with twenty or thirty members. A year and a half later, the membership is now up to 225. All the work on the club's various functions and special interest groups is done by volunteers, so the members prefer not to let the organization grow too large. Therefore the club is considering a split into two separate groups, one for East Portland and one for the western area.

Dues are $20 per year. A club software library includes about a hundred disks, many obtained in software exchanges with other users' groups throughout the country. Cost of disks is $5 to members, $8 to non-members.

The club does not maintain a formal group purchase section, but does provide some services. Diskettes and keyboard covers are purchased and resold to members by the club. Also the group bought a re-inking machine for members' use, so they could re-use their old ribbons rather than having to buy new ribbon cartridges for their printers.

Active Special Interest Groups include:
> *Business Applications*
> *Data Base Management*
> *Education*
> *Spread Sheets (Visicalc, Supercalc, etc.)*
> *Graphics*
> *Graph/Plotters*
> *FORTH*
> *ASSEMBLER*
> *COBOL*
> *C*
> *PASCAL*
> *BASIC*
> *FORTRAN*

General meetings are held once a month. The newsletter is sent to members each month in advance of the meeting. No club electronic bulletin boards are maintained at present.

COLUMBIA PC USERS' GROUP
c/o Jennifer DuPont
1560 Daniel Boone Blvd.
Columbia, MO 65201

This group started unofficially in October 1982, on the initiative of a computer retailer in Columbia. It later became an officially organized club.

Columbia is not a large city, although it is the site of the University of Missouri. Therefore, the club membership has remained small, about 50. This means that the monthly general meetings are not too large for convenient exchange of information, as well as for more formal programs.

The club meets in a room on the University campus, which is available at no charge to the group. Dues are $20 for students, $35 for others. Various backgrounds are represented among the members, although education is the most common. Software exchange is done at meetings. Members bring their own disks and make copies of club materials, at no charge.

Special interest groups:
Educational Research
Graphics
Word Processing
Business and Professional
Languages

The subgroups are small enough to meet on an informal basis at member homes.

A newsletter for members is published bimonthly.

NEW YORK IBM PERSONAL COMPUTER USERS' GROUP
c/o Eric Jaffe, M.D.
Cornell University Medical College
1300 York Avenue

The New York club was started in early 1982. It now has about 1450 members. Dues are $10 a year, among the lowest of the groups surveyed. They report that this dues structure has been adequate because of the income gained at each meeting from sales of disks from their software library. Members can also order disks by mail at a cost of $7 per disk, together with a self-addressed stamped diskette mailer.

Members who contribute disks with original programs suitable for addition to the library are entitled to receive a club disk free.

The club maintains a group purchase section and a club bulletin board accessible by modem.

Special interest groups are:

APL
Architects
ASSEMBLER
BASIC
Beginners
C
Communications
Corporate Sector
Data Base Management
Graphics
In-House User Groups

Investments
Medical and Scientific Applications
System Design
UCSD P-SYSTEM PASCAL
Word Processing

A monthly newsletter of about 30 pages goes out to members at the beginning of each month. It contains advertising, hints, programs and articles in addition to names, addresses and phone numbers for SIG chairmen and calendar of events of interest for the month. Classes, expositions, conferences, and other computer club meetings appear on the calendar as well as the various activities of the NYPC Users' Group.

User Group Directory

PC World publishes a User Group Directory every month. If your group is not in this list but would like to be, send the group's name, address, contact, and other information to *User Group Dispatch, PC World,* 555 De Haro St., San Francisco, CA 94107.

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FREE SOFTWARE

Thousands of programs are available for you to use legally. You can copy them, adapt them to your purposes, share them with others—all as you see fit. No "computer piracy" or infringement of copyright laws is involved.

We are talking about public domain software. Public domain programs can come from many sources. Magazine articles provide some. Computer books (this one included) often publish program listings which you need only type in properly on your own computer (and SAVE) to add to your own files of programs.

If you have a modem (a device which enables your computer to communicate with other computers by telephone), you can get many free programs from electronic bulletin boards or from other computer users with whom you can communicate by phone. (Note that even if you have a PC*jr* without a disk drive, you can still use a modem to get programs which you can SAVE to your storage device.)

Or you can use what is probably the simplest method of acquiring programs: share and copy programs from disks. You can swap programs with friends or colleagues in the same professional field or you can take advantage of the large variety of software available on club library disks. The only requirement for this method is that you have a computer equipped with a disk drive.

In some fields (education, for example) you will find many groups especially set up to share computer software. Check the resources available to you at work.

Club library disks include programs of many types. Special Interest Groups within the clubs provide another good source of programs that you might want.

Most of this chapter consists of a catalog of programs available from the Silicon Valley Computer Society, reprinted by courtesy of that group. Other club libraries may contain different programs, in line with the interests of their members. They will also probably have some of the same software, since there is a good deal of sharing among the users' groups.

You often have a choice between getting disks at meetings or ordering them by mail. In any case, when you get your new software home, there are some things that you should know before you happily slip the disk into the drive slot, turn on the computer, and find that your machine won't accept the gift you just brought it.

The library disks do not contain the "operating system" which is needed to run the computer. There is a reason for that. The operating system is copyrighted, and a license fee would be required if it were included on the disk.

No problem. First you should cover the notch on the library disk with a write-protect tab to ensure against accidental erasure. Next turn on your computer with your regular system disk in place. Then, after your machine accepts its running instructions, you can insert your new club disk and see what programs are on it by calling for the directory (DIR in the DOS command).

The next thing you ought to do is format one of your own blank disks with the FORMAT/S command. If your club disk contains programs written in BASIC you will also need to copy either BASICA.COM, which will run all BASIC programs, or BASIC.COM (if the advanced features aren't necessary and you want to save memory space). Now you are ready to make your own working copy. Use the COPY *.* command to put all the files on your prepared disk.

Now you will have a working disk to use, and you can put away the library disk as a backup copy.

The same instructions apply to user-supported software or disks ordered from magazines.

```
**************************************************************************
                             S   V   C   S
                  SILICON VALLEY COMPUTER SOCIETY
                  PO Box 60506, Sunnyvale, CA 94088
--------------------------------------------------------------------------
           C A T A L O G    O F    D I S K E T T E S    # 1
--------------------------------------------------------------------------
These diskettes contain programs made available to SVCS members.
Commercial sale of any program is expressly prohibited.  SVCS encourages
contributions   to   the  authors  of  programs  distributed  under  the
"freeware"  concept.   There  are  no  restrictions on duplication of these
disks, however, contributions in support of the librarian function would
be appreciated.
**************************************************************************
```

Most diskettes are formatted /1/8. Diskettes 5, 40, and 41 are double
sided 8 sector. Diskette 15 (MVPFORTH Screens) is not a PC-DOS diskette.
No provision has been made for putting SYS files on SVCS diskettes. A
number of the utilities were written for a specific version of DOS. In
a few cases programs may be sensitive to a ROM variations.

Some diskettes are devoted to a single major software package. PC-TALK,
PC-FILE, RatBAS, KERMIT, MVPFORTH are examples. Such diskettes will be
updated as new releases are obtained.

In general, the first order of business will be to TYPE the README.xxx
file. A + before or after the extention indicates color/graphics is
required. Next .DOC, .TXT, .HOW files should be read for further
information. Normally .BAS files are in tokenized form readable by
BASIC or BASICA. In many cases listing .BAS files with the interpreter
will reveal extensive REM documentation.

Programs have been assimilated from many sources including bulletin
boards and diskettes from other clubs. SVCS particularily encourages
submission of original programs. Such programs make a positive
contribution to the growing supply of quality non-commercial software
which plays an important role in making the IBM PC the better choice.

Cross Reference	Cross Reference
Old ADX	New SVCS		Old ADX	New SVCS	
No.	No.		011	29	
001	21		012	30	
002	22		014	31	
003	23		015	32	
004	24		016	33	
005	25		017	34	
006	26		018	35	
007	27		019	36	
008	28		020	37	

          Notes: ADX009 was recalled.
                  ADX010 was never released.
                  ADX013 duplicated SVCS 5.

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```
***********************************************************************
     SILICON VALLEY COMPUTER SOCIETY                     Disk No. 1
***********************************************************************
PATTERNS BAS+   Generates random patterns on color monitor
BLACKJCK BAS    Blackjack game on the monochrome display
YAHTZEE  BAS    Yahtzee game on the monochrome display
MENU     BAS    Menu for selecting programs on this disk
DOTS     BAS    Displays dot patterns for display characters
HATDANCE BAS    Plays the Mexican Hat Dance song
KALEID   BAS+   Generates random patterns on the color display
MAXIT    BAS+   Number game
STRINGS  BAS+   Generates random patterns on the color display
WOMBAT   BAS    Generates word problems
CIRCLE   BAS+   Draws random patterns on the color display
OTHELLO  BAS    Othello game
PONGPONG BAS    Pong type game
COPYOVER BAT    copies games from DOS 1.0 or 1.1 disk
COPYOVER DOC    description of how to use COPYOVER.BAT


***********************************************************************
     SILICON VALLEY COMPUTER SOCIETY                     Disk No. 2
***********************************************************************
MSPOOL   COM    Print spooler for monochrome/printer adapter
CSPOOL   COM    Print spooler for printer adapter
DISKMOD  BAS    Utility to examine and modify disk sectors
SDIR     COM    Displays the directory on one screen
CLEAN    COM    Exercises disk when using a cleaning diskette
GRAF2    COM    Graphic screen dump using the PrtSc key
MONITOR         Toggles between monochrome and color display
CR       BAS    Cleans up downloaded BASIC files
KYBD     BAS    Outputs keyboard input to the printer like a typewriter
SYSTAT   COM    Displays system status
PROGRAM  DOC    Details on running the programs on this disk
STARTREK BAS    Guess
CLS      COM    Clears the screen from DOS
ADDCR    BAS    Adds a carriage return to each line in a text file
LISTER   BAS    Generates a formatted listing of BASIC programs
NEWKEY   BAS    Reassigns the ten function keys
CROSSREF BAS    Generates a crossreference listing for BASIC programs
UNPROT   TXT    Procedure for unprotecting BASIC programs
HEXCONV  BAS    Converts binary files to ASCII for transmission
HGRI     EXE    Graphics screen dump using PrtSc key


***********************************************************************
     SILICON VALLEY COMPUTER SOCIETY                     Disk No. 3
***********************************************************************
RT       EXE    The RatBAS Translator.
RT       UM     User's Manual for RT.EXE.
RATBAS   UM     User's Manual for the RatBAS language.
RATBAS   TXT    Paper on RatBAS by the authors.  The RatBAS article in
                PC Magazine Vol 1 No. 6, Oct 1982 is a slightly edited
                version of this paper.
TEST     RAT    A sample program written in RatBAS.
SORT     INC    An 'include' routine which will be used by TEST.RAT.
TEST     BAS    TEST.RAT after being processed by RT.EXE.  This is an
                ASCII file which may be read by the BASIC interpreter or
                the BASIC compiler.  It is also quite readable by humans.
```

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```
**********************************************************************
    SILICON VALLEY COMPUTER SOCIETY                        Disk No. 4
**********************************************************************
DBMENU    BAS  Menu program for Data Base Management System (DBMS).
CREATE    BAS     Part of DBMS
INSERT    BAS     Part of DBMS
LOOKUP    BAS     Part of DBMS
SCREEN    BAS     Part of DBMS
DUMP      BAS     Part of DBMS
BACKUP    BAS     Part of DBMS
CHESS     EXE  Chess program.
SURVIVAL  BAS  Adventure type game.  Survive a crash landing on the moon.
SATURN    BAS+ Graphics demo.  The ringed planet with orbiting moon.
CATCH88   BAS  Catch falling goodies.  Improve typing skills.
METEOR    BAS  Arcade type game.  Eat goodies while dodging meteors.
HANGMAN   BAS  Popular word guessing game.
ELIZA     BAS  Talk your problems out with ELIZA the psychotherapist.
MODEM7    COM  Communications & file transfer program adapted from CP/M.
MODEM7    DOC   Documentation file for MODEM7.COM.


**********************************************************************
    SILICON VALLEY COMPUTER SOCIETY        Double Sided   Disk No. 5
**********************************************************************
PC-FILE   EXE  PC-File main routine
PC-SORT   EXE  PC-File sort utiltiy
PC-PRINT  EXE  PC-File list/print utility
PC-MERGE  EXE  Program for merging two similiar but seperate databases
PC-EXPOR  EXE  Program for exporting to WordStar, VisiCalc etc.
PC-UTIL   EXE  Alternate to use of certain PC-DOS utilities
FILEFIX   EXE  Program to repair damaged databases
AUTOEXEC  BAT  batch file for booting PC-file
PC-FILE   DOC  PC-File documentation
DOC       BAT  batch file for printing PC-FILE.DOC
PRT       CTL  part of PC-File
PRT40     CTL  part of PC-File
PRT80     CTL  part of PC-File
SAMPLE    BAS  List for example of interfacing with a PC-File database
```
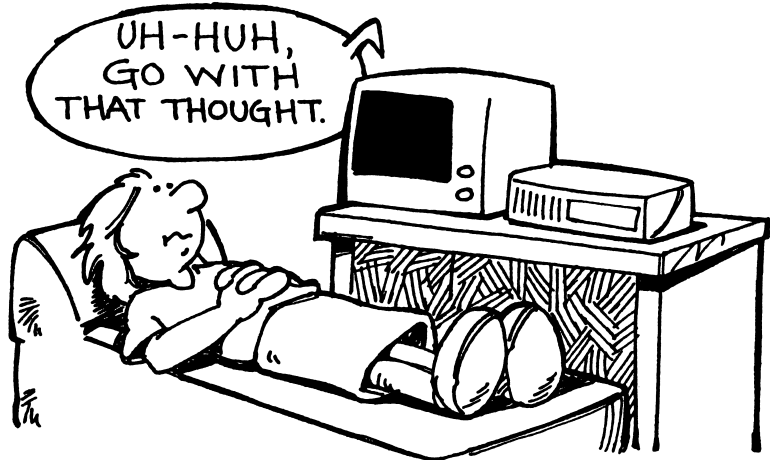
```
*****************************************************************************
    SILICON VALLEY COMPUTER SOCIETY                        Disk No. 6
*****************************************************************************
CHARS    BAS  Full character set display. Color or Monochrome card.
CHARS    EXE  Compiled, stand alone version.
GDUMP    BAS+ Med Res graphics to C.Itoh 8510/NEC 8023 printers.
GDUMP    EXE+ Compiled, stand alone version.
FREE1    EXE  ELECTRONIC DISK-Generates 160KB RAM drive. (256KB rqd)
FREE1    BIN  Part of ELECTRONIC DISK.
FREE1    DOC  Documentation on above.
FREE3    COM  NEW RESET - Softer resets save RAM drive data.
FREE3    DOC  Documentation on above.
COLOR40  COM+ DOS switch to colorgraphics 40 col text mode.
COLOR80  COM+ DOS switch to colorgraphics 80 col text mode.
COLORG   COM+ DOS switch to colorgraphics med res graphics mode.
MONO     COM  DOS switch to monochrome 80 col text mode.
PROFILE  BAS  Generates PROFILE.MEM      See PC MAGAZINE, Oct 1982
PROFILER BAS  Demos use of PROFILE.MEM
STARLANE BAS  2-4 players invest in interstellar trading & shipping.
DCBA     HOW  Patch to DISKCOPY for production copying.
KB_FLAG  BAS  Software control of keyboard modes. [TUTORIAL]
GUIDE1   REF  Reference Guides - DOS, BASIC & Volkswriter function keys.
GUIDE2   REF  Reference Guide - C.Itoh/NEC command codes.
              [A>TYPE fname CtrlPrtSc Enter]-require C.Itoh/NEC printer.
NUM-WORD BAS  Routine converts numeric value to literal expression.
PRTSET   BAS  Printer setup program for C.ITOH/NEC printers.
GRAFHAT  BAS+ Draws "industry standard" graphic pattern in HiRes mode.
GRAFHAT  EXE+ Somewhat faster compiled version of above.
ZELLER   BAS  Determines day of week using Zeller's congruence.
CNTRLBK  BAS  Demos CtrlBreak disable & imbedded protect/unprotect.
CHECKOUT BAS  Checkout various ports, devices.  Strong on modems.
STICK    BAS  Displays joystick/paddle gameport values.
ACRS     BAS  Accelerated Cost Recovery System, Creative Computing 2/83

*****************************************************************************
    SILICON VALLEY COMPUTER SOCIETY                        Disk No. 7
*****************************************************************************
EXPLIST  EXE  :EXPANDING LISTER FOR BASIC PROGRAMS
EXPLISTR EXE   EXPANDING LISTER REQUIRING COMPILER RUNTIME LIBRARY
EXPLIST  DOC   DOCUMENTATION FILE
EXPOPT         OPTIONS FILE
EXPMAIL  EXE   GENERATES A REPLY/CONTRIBUTION LETTER TO AUTHOR.
PRINT    BAS  PRINTS ASCII FILES WITH TITLE BANNER AND PAGE #'S
PRINTNEC BAS  SAME AS "PRINT" FOR NEC 8023/C.ITOH 8510 PRINTERS
BIHEX    BAS  CONVERTS BINARY FILES TO ASCII HEX AND BACK AGAIN
LF       COM  DIRECTORY LIST SORTED ALPHABETICALLY BY EXTENT & NAME

*****************************************************************************
    SILICON VALLEY COMPUTER SOCIETY                        Disk No. 8
*****************************************************************************
CROSSREF EXE  :EXTENSIVE CROSS REFERENCE GENERATOR FOR BASIC PROG.
CROSSREF DOC   DOCUMENTATION FILE
CRMAIL   EXE   GENERATES A REPLY/CONTRIBUTION LETTER TO THE AUTHOR
CROSSOPT       OPTIONS FILE
CROSSWDS DAT   DATA FILE
MONITOR  BAS  :BASIC SUBROUTINES FOR FORMATTED SCREEN DISPLAYS
MONITOR  DOC   DOCUMENTATION FILE
```

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```
ACATALOG BAS   A catalog of the programs on this disk (items 1-31)
ASCICHAR BAS   Display or Prints primary and alternate character sets
ASCII    BAS   A chart of ASCII Characters (Decimal)
AUTOINST BAS   Prints Autostart Program Instructions (AUTOST.BAS)
AUTOPEEK BAS   Displays 10 locatins of memory in Dec or Hex
AUTOST   BAS   Sets Date and Time, Displays Files and Runs program
CHECKOUT BAS   Checks Serial and Parallel equipment & handshake
COLORSET+BAS   Displays color options on a color monitor
KEYSBAS  BAS   Programs Function keys for Basic and Prints OVERLAY
KEYSMP   BAS   Prints a Function Key OVERLAY for Multiplan programs
LONGZONE BAS   Computes GMT (UCT) and Local Time for any longitude
MENU     BAS   Runs AUTOST.BAS program
MINIPROG BAS   A Skeletin Basic program used to start a new program
MODULO   BAS   Demonstrates Modulo Arithmetic
MONOSET  BAS   Displays Screen options for the monochrome monitor
NUMVERT  BAS   Displays numbers in ASCII, DEC, OCT, HEX, and BINARY
OPKEYS   BAS   Programs the Function Keys for basic programming
PAYMENT  BAS   Computes Payment for a fully amortized loan
PEEK     BAS   Peeks at a location in memory
Q        BAS   Returns to DOS with a clear screen and keys reset
REAL$    BAS   Displays and Prints a table of Real Estate Appreciation
SYS      BAS   Returns to DOS with a clear screen and keys reset
TIME     BAS   Displays system date and time on the screen
!        BAT   Boots up Basica and AUTOST from DOS
AUTOEXEC BAT   Boots up Basica and AUTOST from power ON Startup
STARTUP  BAT   Transfers DOS and Basica from DOS Disk in B to Disk in A
2COLOR   +COM  Transfers to Color Graphics Adapter and Monitor from DOS
2MONO    COM   Transfers to Monochrome Adaptor and Monitor from DOS
DISKID   REV   Contains Disk ID Label and Year for AUTOST program
2COLOR   +SYS  Transfers to Color Graphics Adapt and Monitor from Basica
2MONO    SYS   Transfers to Monochrome Adaptor and Monitor from Basica
INDEX    DOC   This contains details on the following files: 48-56
MDM7I    COM   This is a MODEM and TERMINAL file transfer program
MDMIBM   ASM    Part of MDM7I.COM above
MDM7     DOC   This describes how the modem program is to be used
CRCK4    COM   This a file checksum program
CRCK4    CPM    Part of CRCK4.COM above
LOOK     COM   This is a memory byte search program
FIND     COM   This is a disk file string search program
WASH     COM   This is a disk maintenance program
WASH     DOC    Documents WASH.COM
SQUISH   BAS   This program removes spaces, REM's and condenses lines
SQUISH   DOC    Documentation on SQUISH.BAS
```

```
CHASM    BAS   CHeap ASseMbler.  Version 1.7
CHASM    BAT   Starts CHASM.  BASIC or BASICA must be on the same disk
CHASM    DAT   Mnemonic data file.
CHASM    DOC   Documentation file.
CHASM    OVL   Empty file used to fool BASIC to free memory space.
CLS      ASM   Example assembly language program to clear the screen.
TCHASM   BAT   Creates new CHASM disk.
```

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```
BIGTYPE  BAS  Displays character set in large block font.
DDATE    COM  Allows quick updating of date and time on bootup.
DISKMODF BAS  Improved version of disk sector modifier program.
JUMBLE   BAS  Permutes jumbled words.
PALLETTE BAS  +Displays colors available in low res(160x200) graphics.
SPEED411 COM  Sets disk step rate to 4 ms.  Test with format and copy.
TIMING   BAS  Accurately times the execution of short BASIC programs.
HALS     DOC  Doc on BIGTYPE,DDATE,DISKMODF,JUMBLE,PALLETTE,SPEED411,TIMING
LF       COM  Directory lister sorted by extension & filename.
VDEL     COM  Provides for OK's when doing wildcard deletes.
CD       COM  Sets default drive and .NAM file info and sorted dir.
WAIT     COM  Batch file PAUSE for three seconds.
GUMUP1   DOC   Doc on LF, VDEL, CD, WAIT.
SYSTAT   COM  Status report on all drives incl. info from .NAM files.
SYSTAT   DOC   Documentation on SYSTAT.COM.
FK       COM  Function key handler (with reset) for DOS 1.0 & 1.1 .
FK       DOC   Documentation on FK.COM.
SD       COM  Directory lister, 4 up.
SDIR     EXE  Directory lister, 2 up.Slight upgrade of SDIR.COM on SVCS002
UNPROT2  DOC  Ultra simple technique for unprotecting BASIC programs.
ARTILL   BAS  +Artillary for two, random terrain & winds. Quite good.
GRAFGE   BAS  +Uses graphic screen to develope your own ASCII 128-255 set.
GRAFGE   DOC   Documentation for GRAFGE.BAS.
MEMPEEK  BAS  Similiar to disk modify programs except for RAM memory.
SQUISH   SRC  Upgrade of SQUISH on SVCS009, modified for compiler.
SQUISH   EXE  Compresses BASIC programs, removes REM's, etc.
SQUISH   DOC   Documentation on SQUISH
GSDUMP   BAS  +Graphics Sideways memory DUMP to C.ITOH 8510 (or NEC8023).
COLOUR   DOC  Tutorial + small routines re Artifacting, HIRES color,16-color
CPCPRO   DOC  Tutorials -BASIC PrtScr, Printer bit graphics, Keyloc
RESCMD   BAS  Generates resident COMMAND.COM. Banish 'Insert DOS disk in--
RESCMDCK BAS  Resident COMMAND.COM with BEEP, PAGE, CLS. Requires clock.
RESCMD   DOC   Documentation on resident COMMAND.COM.  (DOS 1.1 only)
```

```
BALANCE  BAS  Calculate remaining balance of loan.
BESTLINE BAS  Calculate best fit to points - technique 1.
BOND     BAS  Calculate accrued bond interest.
BUDGET   BAS  Recursive personal budget model.
COMPOUND BAS  Calculate compound interest.
CRITICAL BAS  Critical path method for activities (not CP/M !).
FUTURE   BAS  Calculate future value of an investment.
INCOME   BAS  Calculate income averages for taxes.
LEASE    BAS  Calculate lease versus buying values.
MEAN     BAS  Calculate mean, variance and stnd dev.
NETrREST BAS  Calculate net present value of investment.
NUMERIC  BAS  Convert number to new base.
PERT     BAS  Program evaluation and review technique.
PVTAX    BAS  Calculate the value of an interest tax deduct.
REGRESS  BAS  Calculate best fit to points - technique 2.
TREASURY BAS  Calculate value of treasury bill.
```

```
*************************************************************************
     SILICON VALLEY COMPUTER SOCIETY                          Disk No. 13
*************************************************************************
IOSTUFF   DOC    Describes files below.
DISKREAD  EXE    Displays disk contents by sector.
DISKREAD  OBJ     -object for DISKREAD.EXE
DISKREAD  PAS     -source for DISKREAD.OBJ
INTRPT    OBJ    Object to be linked to your PASCAL program object.
INT13     ASM     -source for INTRPT.OBJ
INTRPT    ASM     -source for INTRPT.OBJ
IOSTUFF   OBJ    Object to be linked to your PASCAL program object.
IOSTUFF   PAS     -source for IOSTUFF object
IOSTUFF   INC    Source to be INCLUDED with your PASCAL program source.
PRIME     PAS    Source for DEMO.
SAMPLE    PAS    Source for DEMO.


*************************************************************************
     SILICON VALLEY COMPUTER SOCIETY                          Disk No. 14
*************************************************************************
This disk is the Moutain View Press Public Domain FORTH
COMMAND   COM    Boots FORTH on initial startup
MVPFORTH  ASM    Assembly language source for MVPFORTH
MVPFORTH  EXE    Executable FORTH - type MVPFORTH to start from DOS

*************************************************************************
     SILICON VALLEY COMPUTER SOCIETY                          Disk No. 15
*************************************************************************
FORTH Screens for FORTH disk (SVCS# 14)
 Note that this disk is not a DOS disk and has no files or directory


*************************************************************************
     SILICON VALLEY COMPUTER SOCIETY                          Disk No. 16
*************************************************************************
BATMAN    BAS    :Sample menu/batch manager program; requires SHELL.BAT
BATMAN    DOC     Documentation file
BSR       BAS    :Simple program to drive ABM/BSR controller
BSR       DAT     Data file
BUZOFF    COM    Turn off paper out buzzer on Epson. Can execute from Wordstar
COMPRS    COM    Enable compressed print on Epson.  Can execute from Wordstar
CVTHEX    EXE    Binary/hex conversion for files larger than 32K
DCPATCH   DOC    Patch for DISKCOPY.COM 2.0
DIAL      COM    Dials Hayes Smartmodem
DIR       BAS+   :Disk cataloging program; very colorful
DIR       DAT     Sample data file
DIR       DOC     Documentation file
FK203     ASM    Function key reassignment program for DOS 2.0
FK203     DOC    Documentation file
GRAFTRAX  ASM    :Screen dump using PrtSc key for Epson/Nec/C.Itoh
GRAFTRAX  BAS     Sample BASIC program that calls GRAFTRAX.COM as subroutine
GRAFTRAX  COM     Executable program file
GRAFTRAX  DOC     Documentation file
HANG      COM    Hangs up Hayes Smartmodem
HOST      BAS    :Comm program to allow remote access
HOST      DOC     Documentation file
PEPATCH   DOC    Patch to PERSONAL EDITOR
POSTER    BAS    Prints large character posters
PRTFIX    COM    :Corrects "DEVICE TIMEOUT" errors with printer
PRTFIX    DOC     Documentation file
QD        COM    Quadram RAMDRIVE program; FOR QUADRAM BOARD ONLY
QD        DOC    Documentation file
SCROLL    ASM    :Scrolls specified area of display screen
SCROLL    BLD     Program file to "BLOAD" from BASIC
SCROLL    DOC     Documentation file
SCROLL1   BAS     Sample program
SCROLL2   BAS     Sample program
SHELL     BAT    Bat file used with BATMAN.BAS
SOUNDS    BAS    Generates different sounds; contains documentation
```

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**************************************************************************
    SILICON VALLEY COMPUTER SOCIETY                         Disk No. 17
**************************************************************************
PC3SC     MRG  :Adds split screen capability to PC-Talk III
PC3SC     DOC   Documentation file
SDIR22    ASM  :Sorted directory program for DOS 2.0
SDIR22    COM   Executable program file
VDISK     ASM  :Sample ramdisk program from DOS 2.0 manual
VDISK     COM   Executable program file
VDISK2    ASM  :Same as VDISK.COM modified for double-sided disk
VDISK2    COM   Executable program file
VOLSER    COM  :Program to write 2.0 volume labels on diskettes
VOLSER    DOC   Documentation file
XOFF      MRG  :Adds XMODEM protocol to PC-Talk 2.0
XOFF      DOC   Documentation file
DEFKEY    COM  :Keyboard reassignment program; DOS 1.1 and 2.0
ORIGINAL  KEY   Original keyboard configuration file
BSLASH    KEY   Backslash keyboard configuration file
DEFMAIL   EXE   Mail/donation assistance
DEFCOPY   BAT   Copies distribution disk
DEFKEY    DOC   Documentation


**************************************************************************
    SILICON VALLEY COMPUTER SOCIETY    NOT AVAILABLE     Disk No. 18
**************************************************************************
TALK64    BAT  :Batch file to run 64K version of PC-Talk III
TALK128   BAT   Batch file to run 128K version of PC-Talk III
PC-TALK   BAS   BASIC source file without remarks
PC-TALK   EXE   Compiled program file
PCTKREM   MRG   Remarks file to merge with PC-TALK.BAS
COPYTALK  BAT   Batch file to copy disk
README    DOC   Documentation file for running PC-TALK III

**************************************************************************
    SILICON VALLEY COMPUTER SOCIETY    NOT AVAILABLE     Disk No. 19
**************************************************************************
PC-TALK  DOC  :Documentation file for PC-Talk III; 80 pages
PRINTDOC BAT   Batch file for printing the documentation file.

**************************************************************************
Disks No. 18 and 19 are available from:
      THE HEADLANDS PRESS, INC.
      P.O. Box 862
      Tiburon, CA  94920
Send $35.00 --OR-- Two disks and a postpaid mailer.
**************************************************************************
```

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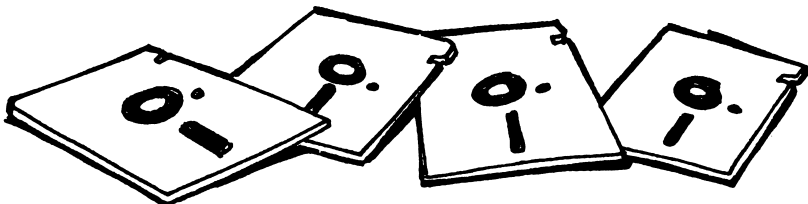
```
LEM       BAS   A MOON LANDER PROGRAM
LANDER    BAS   ANOTHER MOON LANDER PROGRAM
STARS     BAS   CHALLENGING PERMUTATION PUZZLE TO SOLVE
STRIKE9   BAS   DICE-ROLL NUMBERS GAME
STORY     BAS   CREATES FOUR STORIES FROM USER SUPPLIED WORDS
LOAN      BAS   LOAN AMORIZATION PROGRAM
TRAP      BAS   NUMBER GUESSING GAME
CHESS     BAS   PLAY CHESS WITH THE COMPUTER(basis for CHESS.EXE on SVCS4)
ICICLES   BAS   A RACE TO THE TOP OF THE SCREEN
BARGRAPH  BAS   CREATES BARGRAPHS
CHIEF     BAS   MATH GAME
KINGDOM   BAS   CAN YOU SURVIVE YOUR TERM AS KING?
KENO      BAS   NEVADA STYLE BINGO
23MATCH   BAS   THE MATCH GAME
SECRETNO  BAS   YOU TRY TO GUESS THE NUMBER
DESERT    BAS   TRY TO CROSS THE DESERT WITHOUT GETTING KILLED
ZAP-EM    BAS   SPACE SHOOT-EM ON THE MONOCHROME
GOLF      BAS   PLAY GOLF, PICK YOUR CLUB AND STROKE
BULLSEYE  BAS   SIMULATED DART GAME
DECIDE    BAS   HELPS DECIDE BETWEEN ALTERNATIVES
CAPTURE   BAS   LOGIC GAME, TRY TO CAPTURE THE ENEMY SPACE SHIP
MISSLE    BAS   EARTH UNDER ATTACK FROM ANOTHER PLANET
BANKER    BAS   CHECKING ACCOUNT MAINTENANCE, EXPENSE CATEGORIES
ADDRESS   BAS   ADDRESSES AND PHONE NUMBERS
```

```
SPEEDUP   COM   :SPEEDS UP DISK OPERATIONS; DO NOT USE WITH VISICALC.
SPEEDUP   BAS    SOURCE TO CREATE SPEEDUP.COM ON SYS DISK IN DRIVE A.
AUTOEXEC  BAT    SAMPLE AUTOEXEC TO LOAD SPEEDUP AND REQUEST DATE.
TWOSIDE   COM   :ALLOWS 2 DOUBLE-SIDED DISK DRIVES ADDRESSED A,B,C,D.
TWOSIDE   BAS    SOURCE FOR TWOSIDE.COM; CONTAINS SETUP INSTRUCTIONS.
HEAPSORT  BAS   HEAP SORT
QSORT     BAS   QUICK INTERNAL SORT FOR ARRAY - STRING OR NUMBERIC.
PRINT     BAS   PRINTS OR DISPLAYS ANY ASCII TEXT FILE.
BASICPRT  BAS   PRINTS BASIC PROGS WITH HILIGHTED REMS & PRINT CTRL.
MENU      BAS   :SIX PROGRAMS FROM DEALER DEMO A-DISK WHICH ARE NOT
IBMDIY    BAS    ON PC-DOS DISK.  AN AUTOEXEC.BAT CONTAINING "BASICA
IBMMC     BAS    MENU" SHOULD BE USED WITH THESE PROGRAMS. THEY ALSO
IBMCS     BAS    CALL OTHER PROGRAMS ON DOS DISK AND ON SVCSO22.
B         BAS+   SWITCHES DISPLAY TO MONOCHROME.
C         BAS+   SWITCHES DISPLAY TO COLOR.
LUNAR     BAS   GAME - APOLLO LUNAR LANDING.
PRDEMO    BAS   PRINTS ALL 12 MX80 PRINTER FONTS.
CHRSET    BAS   PRINTS ALL 244 PRINTABLE CHARS - 244 OUT OF 255.
TRANDUMP  BAS   HEX FILE DISPLAY PROGRAM.
CANNON    BAS   CANNON FIRING GAME - ELEV CONTROL AND SOUND EFFECTS.
NIM       BAS   GAME OF NIM.
START     BAS+  :COLOR DISPLAY DEMO CONSISTING OF 17 PROGRAMS AND ONE
GTEST     BAS+   DATA FILE.  REQUIRES COLOR FACILITIES AND BASICA.
PSTYLES   BAS+   ...
DISPLAY   BAS+   ...
SATURN    BAS+   PICTURE OF SATURN.
TESTSCRN  BAS+   ...
PLOTTER   BAS+   ...
GRAPH1    BAS+   YOU DRAW ON SCREEN WITH 8 CURSOR KEYS; OR LIGHT PEN.
WAITIN    BAS+   ...
HAPPYB    BAS+   ...
LOGOC     BAS+   IBM LOGO.
SCREENS     +    DATA FILE FOR GRAPH1.BAS.
MX80      BAS+   SELECTS FONTS.
PEOPLE    BAS+   GAME OF 20 QUESTIONS.  MAY NEED EMPTY PEOPLEF FILE.
SNOW1     BAS+   RANDOM PATTERNS.
SNOW2     BAS+   ...
SNOW3     BAS+   ...
PATTERNS  BAS+   MORE RANDOM PATTERNS.
DEFEND    BAS+   ANIMATED WAR GAME - USES JOY STICK CONTROLLERS.
```

```
FENCE     BAS    GAME - HIT SHIFTY PREY WITH BALL USING \ / PADDLES.
DEMO3     BAS+   :FROM DEALER DEMO B-DISK.  USE WITH MENU ON SVCS021.
LOGO40    BAS+    IBM LOGO ON 40 CHAR SCREEN.
GRAPHICS  BAS+    ...
MOUNTX    PIC+    PICTURES USED BY DEMO3.
WORM      PIC+    ...
COMPLEX1  PIC+    ...
WORM2     PIC+    ...
QUILT     PIC+    ...
EGGS      PIC+    ...
FLOWERS   BAS+    ...
BULLSEYE  BAS+   :TWO PROGRAMS USING CIRCLE STATEMENTS.
MEDBULL   BAS+    ...
PAINT     BAS+   PROGRAM WITH CIRCLE AND PAINT STATEMENTS.
ARKTRAV   BAS    MUSIC - A SHORT MELODY.
SIREN     BAS    WAILING SIREN THAT DOESN'T STOP UNTIL "CTRL BREAK".
LIFE      BAS    INPUT PATTERN IS CHAR STRING(S) - LAST ONE IS "DONE".
```
```
STARTREK BAS    :STARSHIP ENTERPRISE - SPACE WAR WITH SOUND EFFECTS.
STARTREK HOW     SCREENS OF INSTRUCTIONS - INVOKED BY BASIC PROGRAM.
STARTREK DUM     DATA FILE USED BY PROGRAM.
PDRAW    DOC    :COMPREHENSIVE DOCUMENTATION OF PDRAW PACKAGE.
PDRAW    BAS+   MAIN-LINE PROGRAM.
COLOR    BAS+   COLOR SUB-PROGRAM.
MONO     BAS+   MONOCHROME SUB-PRORAM.
COLOR    BAT+   BATS USED BY PDRAW...
RUNCOLOR BAT+    ...
SETCOLOR BAT+    ...
MONO     BAT+    ...
DEMO     PIC+   PICTURES USED BY PDRAW...
HELP1    PIC+    ...
HELP2    PIC+    ...
USASTATE PIC+    ...
USATEMP  PIC+    ...
USA      PIC+    ...
IBMSONG  BAS    IBM RALLY SONG - LYRICS & BOUNCING BALL - 80 SCREEN.
```
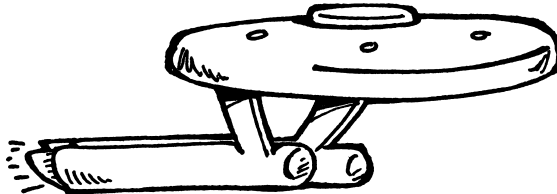
```
BASMENU   BAS   AUTOMATIC MENU FOR BASIC PROGRAMS.
METEOR    BAS   FAST-MOVING GAME USING CURSOR MOVEMENT KEYS.
YAHTZEE   BAS   YAHTZEE GAME ROLLS THE DICE & KEEPS SCORE.
COREFIX   BAS   BASIC PROGRAM TO INSPECT & PATCH STORAGE.
BIRDS     BAS   SOUND EFFECTS.
BLKLETER  BAS   GENERATE BLOCK LETTERS ON THE PRINTER.
SPSHIPS   BAS   SOUND EFFECTS.
TICKTOCK  BAS   SOUND EFFECTS.
FINANCE   BAS   LARGE PACKAGE OF FINANCIAL PROGRAMS.
SHELLSRT  BAS   SHELL-METZGER SORT WRITTEN IN BASIC.
SORT      BAS   ANOTHER SORT WRITTEN IN BASIC.
BARGRAPH  BAS   :PROGRAM TO PRODUCE BAR GRAPHS ON THE MONO DISPLAY,
BACKLOG   BAR    SAMPLE BARGRAPH INPUT.
FCST      BAR    ...
PLANACT   BAR    ...
QTR26     BAR    ...
S         BAR    ...
SS        BAR    ...
SSS       BAR    ...
SSSSS     BAR    ...
SSSSSS    BAR    ...
YR17      BAR    ...
YR20      BAR    ...
PDSOFTWR  DOC   :PACKAGE OF PUBLIC DOMAIN SOFTWARE.
ASYN-PGM  BAS    ASYNCHRONOUS COMMUNICATION PROGRAM CAN DOWNLOAD.
BKSPACE   BAS    PATCH FOR DOS-DISK COMM.BAS TO HANDLE BACKSPACES.
DWNLOAD   BAS    PATCH FOR DOS-DISK COMM.BAS TO DOWNLOAD FILES.
PRINTER   BAS    PATCH FOR DOS-DISK COMM.BAS TO TOGGLE PRINTER.
BRKEVEN   VC    VISICALC PROGRAM - BREAK-EVEN POINTS.
CONFIG20  VC    A PC CONFIGURATOR IN VISICALC.
COSINES   VC    VISICALC PROGRAM - CALCULATE TABLE OF COSINES.
FEDTAX    VC    VISICALC PROGRAM - FEDERAL INCOME TAX.
GRAPHS    VC    VISICALC PROGRAM - PLOTTING POINTS.
HOMEBDGT  VC    VISICALC PROGRAM - HOME BUDGET PROGRAM.
PCONFIG3  VC    ANOTHER PC CONFIGURATOR IN VISICALC.
PRTSETUP  VC    VISICALC PRINTER SETUP HINTS.
```

```
PCMAN     BAS+   COLOR GAME USING JOYSTICKS (UNTESTED).
PATHMAN   BAS+   COLOR GAME USING KEYPAD - NO JOYSTICKS NEEDED.
DRAW      EXE+  :BLOCK-READ A FILE DIRECTLY TO COLOR/GRAPHICS BUFFER.
DRAW      ASM+   ASSEMBLER SOURCE FOR DRAW.
SCREEN    EXE+  :SET COLOR/MONO/40/80/LOW/MED/HIGH RES.
SCREEN    ASM+   ASSEMBLER SOURCE FOR SCREEN.
MONO      EXE+  SET DISPLAY TO MONOCHROME.
COLOR     EXE+  SET DISPLAY TO COLOR.
COLORDEM  BAT+  :RUN COLOR DEMO - THIS IS AN IMPRESSIVE DEMO.
START     BAS+   ...
NEXTSHOW  BAS+   ...
FAMILYDA  Y  +   ...
BLASTOFF  BAS+   ROCKET BLASTS OFF.
ESSXFADE  BAS+   ...
FLYBY     BAS+   OBJECTS IN SPACE.
LANDSEQ   BAS+   LANDING.
WELCOME   BAS+   ...
ELEPHANT  BAS+   DANCING ELEPHANT.
BUTTRFLY  BAS+   BUTTERFLIES FLYING.
OTHDEMO   BAS+   OTHELLO DEMONSTRATION.
BLIMP     BAS+   BLIMP FLYING.
FINISH    BAS+   END OF DEMO.
ADVLAND   PIC+   ...
ELEPH     EXE+   ...
ELEPH     DAT+   ...
MCODE     %%%+   ...
MONSW     BAS+   ANOTHER COLOR/MONO PROGRAM. GOOD AS A SUBROUTINE.
PRTGRAF   BAS+   DRAW A POLYGON, OPTIONALLY PRINT WITH GRAFTRAX.
```

```
*************************************************************************
     SILICON VALLEY COMPUTER SOCIETY                      Disk No. 26
*************************************************************************
BREAKOUT BAS    GAME. Uses Cursor Keys to move paddle.
CHESS1   BAS    GAME. Multi-level skills. Slow.
CRAPS    BAS    GAME. Casino type, single player.
PC-TALK  BAS    :Communications program. Need Async Adapter, Modem.
PC-TALK  DOC     Extensive documentation for PC-TALK.
LPCTALK  BAS     Used with PC-TALK.OR SCREEN.
REMOVE   BAS     Used with Communications.  (PC-TALK)
MASTMIND BAS    GAME. Guess numbers instead of colored pegs.
SUPRTREK BAS    GAME. Another version for the "Trekkies."
STARTREK BAS    :GAME. Original on SVCS 23. Minor updates.
STARTREK HOW     Documentation used by STARTREK.BAS.
STARTREK DUM     Data          used by STARTREK.BAS.


*************************************************************************
     SILICON VALLEY COMPUTER SOCIETY                      Disk No. 27
*************************************************************************
MENU     BAS    Menu to execute programs on this diskette.
PCMAN    BAS    GAME. Pac-Man look alike for 80 col. display
SURVIVAL BAS    GAME. Can you survive a trip to the moon?
MOON     BAS    GAME. Enhanced version of SURVIVAL.
STARTREK BAS    GAME. Another STARTREK version with minor changes
STARTRK2 BAS     . documentation for thr STARTREK game.
STARTREK DUM     . overlay module for STARTREK.
JBREAK   BAS    GAME. Bounce the ball off of the wall.(Breakout)
BREAKOUT BAS    GAME. A more sophisticated version of Breakout.
METEOR   BAS    GAME. Enhanced version of game on SVCS24
FENCE    BAS    GAME. Enhanced version of game on SVCS22
PCINIT   BAS    Initialize a hi score file for PCMAN.

*************************************************************************
     SILICON VALLEY COMPUTER SOCIETY                      Disk No. 28
*************************************************************************
MENU     BAS    Menu to select programs for execution.
READING  BAS    GAME. Improve your reading speed.
MASTER   BAS    GAME. Mastermind. Guess the code.
MATH     BAS    GAME. Drill of simple math problems.
FRANK    BAS    GAME. HANGMAN by another name.
WORDS    BAS     . Data for FRANK
NIM      BAS    GAME. Ancient game of skill and strategy.
BACKGAM  BAS    GAME. Backgammon.
BLACK    BAS    GAME. Blackjack. For 1 or 2 players.
TRUCKER  BAS    GAME. Make your fortune in the trucking business.
IQBUILD  BAS    GAME. Sub-menu to run the IQ-Builder Series.
NUMBERS  BAS     . DATA 1 for numbers section of IQ-Builder Series.
NUM2     BAS    ..DATA 2 for              "
NUM3     BAS    ..DATA 3 for              "
ANALOG   BAS     . DATA 1 for analogy section of IQ-Builder Series.
ANALOG2  BAS    ..DATA 2 for              "
ANALOG3  BAS    ..DATA 3 for              "
ANALOG4  BAS    ..DATA 4 for              "
ANALOG5  BAS    ..DATA 5 for              "
ANALOG6  BAS    ..DATA 6 for              "
SYNONYM  BAS     . DATA 1 for synonym section of IQ-Builder Series.
SYNONYM2 BAS    ..DATA 2 for              "
ANTONYM  BAS     . DATA 1 for antonym section of IQ-Builder Series.
ANTONYM2 BAS    ..DATA 2 for              "
```

```
*************************************************************************
      SILICON VALLEY COMPUTER SOCIETY                    Disk No. 29
*************************************************************************
MENU       BAS   MENU PROGRAM FOR DISK SVCS029
ARCHIE     BAS   ARCHIE LA CUCHARACHA - GAME, BASIC TUTORIAL & FUN PROGRAM
ARCHIE     DOC   DOCUMENTATION FOR ARCHIE
PCS        DOC   PROGRAM CONTROL SYSTEM DESCRIPTION
CONTROL    BAS   RUNS THE PRIME PROGRAM ON A BASIC DISKETTE.
CONTROL    BAT   RETURNS CONTROL TO DRIVE "A"
AUTOEXEC   BAT   REQUESTS DATE & TIME AND GIVES CONTROL TO SYSTEM.BAT
SYSTEM     BAT   LOADS BASICA, RUNS TRANSFER.BAS, RUNS B:CONTROL.BAT
RUN        BAT   RUNS THE PROGRAM PASSED AS A PARAMETER
TRANSFER   BAS   DISPLAYS DISK SWAP MSG, WAITS FOR KEYSTROKE
MENU       PCS   SAMPLE MENU FILE FOR BASIC PROGRAMS
COVER      PCS   MERGEABLE COVER PAGE AND EXIT HIERARCHY
EXIT       PCS   MERGEABLE EXIT HIERARCHY
CONTROLB   PCS   COPY TO CONTROL.BAT ON BASIC PROGRAM DISKETTES
CONTROLD   PCS   COPY TO CONTROL.BAT ON DATA DISKETTES
CONTROLM   PCS   COPY TO CONTROL.BAT ON MACHINE LANGUAGE PROGRAM DISKETTES
RV-EDIT    BAS   FULL SCREEN EDITOR
RV-EDIT    DOC   FULL SCREEN EDITOR DOCUMENTATION

*************************************************************************
      SILICON VALLEY COMPUTER SOCIETY                    Disk No. 30
*************************************************************************
CHSONG     BAS    MUSIC. Christmas songs ('Tis the Season!).
WORM1      BAS    GAME. Watch him tunnel through the ground.
SCOPE      BAS+   GAME. Display symmetric random patterns.
DRAW       BAS+   GAME. Program to draw pictures on color screen.
HANGMAN    BAS+   GAME. Color version of hangman.
BLACKJCK   BAS    GAME. Upgraded to use color monitor if on.
OTHELLO    BAS    GAME. Upgraded to use color monitor if on.
YAHTZEE    BAS    GAME. Upgraded to use color monitor if on.
B-SIMPLE   BAS    UTILITY. Aid to create & structure BASIC programs.
CROSSREF   EXE    UTILITY. Cross-reference program for BASIC programs.
CROSSREF   SCR    :Documentation for CROSSREF (SCRIPT source)
MAIL       BAS    UTILITY. Mailing list program.
EDIT       BAT    UTILITY. Invoke RV-EDIT from DOS (see SVCS029)
BASMENU    BAS    AUTOMATIC MENU FOR BASIC PROGRAMS (see SVCS024)
CONTROL    BAS    Lets this diskette run under PCS

*************************************************************************
      SILICON VALLEY COMPUTER SOCIETY                    Disk No. 31
*************************************************************************
PCMAN      EXE   GAME. Text mode, any monitor, keeps HI 10 scores.
JOYSTICK   EXE   :Lets you use a joystick for PCMAN
JOYSTICK   DOC   :Explains joystick setup for PCMAN
PACGIRLA   EXE   GAME. Text mode, any monitor, variation on PAC* theme.
PCHEERS    BAS   SONG. Bonnie's Version of 12 Days of Christmas

*************************************************************************
      SILICON VALLEY COMPUTER SOCIETY                    Disk No. 32
*************************************************************************
PC-MAP     BAS   A utility to help you use PC-FILE (SVCS005)
XDIR33     EXE   Latest version of XDIR (Program to catalog your disks
XDIR33     DOC   :Documentation for above.
BMENU      BAS   Program to create menus for basic pgms. (Needs BASICA
BMENU      DOC   :Documentation for above.
BMENUD     BAS   :Same as BMENU except uses Disk Basic.
CHECKDIR   EXE   Check a disk against catalog to see if duplicates.
CHECKDIR   DOC   :Documentation for above.
LDIR       BAS   List Directory / FAT.
LDIRC      BAS   Input for BASIC COMPILER version of above.
```

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```
**************************************************************************
    SILICON VALLEY COMPUTER SOCIETY                        Disk No. 33
**************************************************************************
DRAW2     BAS+ Update to P-DRAW (graphics).
MOUNTAIN  BAS  Game.
STARWARS  BAS  PC adaptation of popular space game.
TAXRETRN  VC   VisiCalc template to use for your income taxes.
BOWLING   BAT  Batch file to start League Secretary Bowling Programs
BOWLING   DOC  :Documentation for League Secretary Bowling Programs.
BOWLFILE  FD   ......................................................
BOWLPRT1  EWF  :EASYWRITER format documentation for Bowling pgms.....
BOWLPRT2  EWF  :More documentation. Link with above.
CHANGE    BAS  ......................................................
CREATE    BAS  ......................................................
DETAIL    BAS  ............PROGRAMS...................................
FINAL     BAS  ......................................................
MENU      BAS  ................FOR.............(run me first)......
PRINT     BAS  ......................................................
RECAP     BAS  ..................LEAGUE..............................
RECORDD   BAS  ......................................................
RECORDP   BAS  ...................SECRETARY......................
SCHEDULE  BAS  ......................................................
SCORES    BAS  ......................BOWLING.....................
SORTFILE  BAS  ......................................................


**************************************************************************
    SILICON VALLEY COMPUTER SOCIETY                        Disk No. 34
**************************************************************************
RUBIK     BAS  GAME: Rubik's cube simulation
TOWERS    BAS  GAME: Towers of Hanoi
WUMPUS    BAS  GAME: Hunt the Wumpus in it's cave
JAMMER    BAS  GAME: "Head On" Variation
RACJAM    SCO  DATA for JAMMER game, scoring categories
GOBBLE    BAS  GAME: PAC MAN variation
TICTACTO  BAS  GAME: Tic-Tac-Toe
SONGS     BAS  SONG: Choose from several on "menu".
YESTER    BAS  SONG: Yesterday
EVRONWRD  BAS  SONG: Ever Onward
RANGERD   BAS  SONG: The William Tell Overture (Lone Ranger Theme)
PUFF      BAS  SONG: Puff the Magic Dragon
LITUPLIF  BAS  SONG: You Light Up My Life
MOON      BAS  GAME: Survival on the MOON.
NEWTREK   BAS  GAME: Another version of StarTrek.
NEWTREK   DOC        Documentation for above.
OPERATOR  BAS  GAME: Simulates S/370 VM Operator Console.
PACKMAN   EXE+ GAME: Excellent graphics version of PacMan.
PACKMAN   DOC        Documentation for above.


**************************************************************************
    SILICON VALLEY COMPUTER SOCIETY                        Disk No. 35
**************************************************************************
               HAM Radio Utilities:
GRCIRCLE  BAS  : Great circle calculation
ORBIT     BAS  : Orbit calculation
IMOD2     BAS  : Intermodulation distortion calculation
POLAR     BAS  : Polar co-ordinate transformation
QSL       BAS  : QSL sender
FINANCE   BAS  20 Miscellaneous financial programs.
FINANCE1  BAS  5 more financial programs.
IRA       BAS  IRA account calculations.
GROWTH    BAS  Growth rate and projections.
GROWTH1   BAS  Calculates compound growth.
DATABASE  BAS  Database manager.
REPORTS   BAS  Budget management report.
PRLIST    BAS  Miscellaneous printer routines.
KALCOL    BAS  Kaleidescope - mono/color.(Subroutine form)
```

```
**************************************************************************
   SILICON VALLEY COMPUTER SOCIETY                        Disk No. 36
**************************************************************************
INFO      BAT   Informational file for Book Indexing programs.
                . Describes how to use program(s).
START     BAT   :Start-up program : creates empty data file.
ENTER     BAT   :Begin index entries.
COMBINE   BAT   :Sort/merge new entries with any previous entries.
INDEX     BAT   :Format an index from the data.
INPUT     EXE   ........................................................
SORT      EXE   ........................................................
MERGE     EXE   ........................................................
BUILD     EXE   ........................................................
INPUT     PAS>  :PASCAL source code for the indicated program.
SORT      PAS   :                      "
MERGE     PAS   :                      "
BUILD     PAS   :                      "


**************************************************************************
   SILICON VALLEY COMPUTER SOCIETY                        Disk No. 37
**************************************************************************
NOISE     BAS   DEMO. Produces different cycle sounds.
LANDER    BAS   GAME. Fuel consumption.
CRASHER   BAS   GAME. Planet landing.
TREK      BAS+  GAME. Yet another StarTrek game (color).
FOILS     BAS   UTILITY. Produces foils from script-type file.
DATETIME  BAS   UTILITY. Easier way to set DOS date & time.
SETCOLOR  COM+  UTILITY. Sets background and border color to blue.
SETCOLOR  ASM+  :Assembler source code for SETCOLOR.
STARTUP   BAS+  Initial program to run for ZOOSORT
ZOOSORT   BAS+  Graphical demonstration of bubble sort.
ZOOTIME   BAS+  . A program is generated by you to sort animals
FLAG      BAS+  . by weight. Also some questions about what
MONTOCOL  BAS+  . sorting is good for are asked.
COLTOMON  BAS+  .    ONE OF THE BEST INSTRUCTIONAL/GRAPHIC
AUTHOR    BAS+  .    PROGRAMS ON THE CLUB DISKETTES.
AUTHOR2   BAS+  .
FLIP      MEM+  .
FLIPD     MEM+  .
GRAPHICS  COM+  .
        Also a total of 27 Binary files used in ZOOSORT program.
```
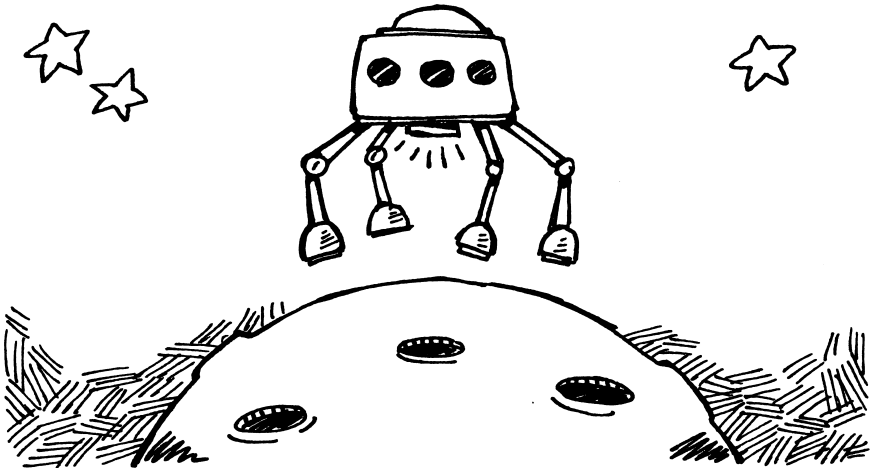

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```
*************************************************************************
    SILICON VALLEY COMPUTER SOCIETY                      Disk No. 38
*************************************************************************
CONTENTS TXT   Description of files on this disk
TABSET1  PAS   Sets tabs on Epson MX-100 printer
TABSET2  PAS   Simular to TABSET1 but treats printer as binary file
TIMM     PAS   Illustrates concept of Pascal unit (main program)
TIMI     PAS   Illustrates concept of Pascal unit (interface)
TIMU     PAS   Illustrates concept of Pascal unit (unit)
SCREEN   PAS   Short program to acesss specific memory addresses
PRINTER  PAS   Utility to print multiple files
PARSE    P     Part of PRINTER
INDEX    P     Part of PRINTER
DSNAME   P     Part of PRINTER
XREF     PAS   Cross reference utility
COPYFILE PAS   Program to show how files are defined, read and copied
DUMPFILE PAS   Produces hexadecimal and ASCII dump of a disk file
UNSQ     PAS   Unsqueezes files compressed by techniques such as Huffman
               encoding
PRETTY   PAS   Utility for listing Pascal programs in pretty format
PARTA    PAS   Part of PRETTY
PARTB    PAS   Part of PRETTY
PARTC    PAS   Part of PRETTY
GETDIR   PAS   Program to read disk directory
GETDIR   OBJ   Object module of GETDIR
GETSEC   ASM   Assembly language utility used by GETDIR
GETSEC   OBJ   Object module of GETSEC
GETDIR   EXE   Executable program to read disk directory
VIDEO    ASM   Pascal callable routine to preform BIOS video interrupts
PASCLG   BAT   Batch file to compile, link and go
PASCL    BAT   Batch file to compile and link
PASC     BAT   Batch file to compile only
FLUSH    BAT   Batch file to clean up Pascal compilation and test residue

*************************************************************************
    SILICON VALLEY COMPUTER SOCIETY                      Disk No. 39
*************************************************************************
ATTACK   BAS+  GAME. Destroy the Apple computer manufacturing plant
BLACKBOX BAS   GAME. A game of strategy.
CHR      BAS   Displays complete character set on screen
EQNSOLVE BAS   Solves n linear equations in n unknowns, n <= 10
GALLERY  BAS   GAME. Arcade game.
INVEN    BAS   48K inventory program
MATH     BAS   GAME. Addition, subtraction, mult. & div. problems
PERMUTE  BAS   Displays all possible permutations of a set of chars
ROMCHAR  BAS   Displays dot matrix characters from ROM patterns
SCRAMBLE BAS   GAME. Guess scrambled words in shortest time
SERPENT  BAS   GAME. Guide a serpent through obstacles
SURROUND BAS   GAME. Guide expanding character thru a maze
ZAP'EM   BAS+  Arcade game
CIAGAME  BAS   GAME. An adventure to recover the stolen ruby
SPINOUT  BAS+  GAME. High res version of breakout
SLOTMACH BAS   GAME.
WILLTELL BAS   MUSIC. An amazing musical selection
WILLTELL DAT   -- Data for WILLTELL.BAS
MENU     BAS   this is good ol' BASMENU, a handy BASIC menu program


*************************************************************************
    SILICON VALLEY COMPUTER SOCIETY          Double Sided   Disk No. 40
*************************************************************************
KERMIT   DOC   KERMIT Users Guide
KERMIT   PRO   KERMIT Protocal Manual

*************************************************************************
    SILICON VALLEY COMPUTER SOCIETY          Double Sided   Disk No. 41
*************************************************************************
KERMIT   ASM   Source for IBM-PC version of KERMIT
KERMIT   EXE    Executable IBM-PC KERMIT
```

```
DRAW      DOC   Documentation file for MDRAW and HDRAW
DRAW      CMT   Comment lines for HDRAW and MDRAW programs
MODROW    TXT   Additional informations on graphics programs
MDRAW     BAS   Medium resolution draw program
HDRAW     BAS   High resolution draw program
HELP1     PIK   Help picture for draw programs
HELP1     PIC   Help picture for draw programs
COLOR     EXE   Sets display to color from DOS
MONO      EXE   Sets display to monochrome from DOS
SCROLLK   BAS   Generates SCROLLK.COM [Softalk, May 1983]
SCROLLK   COM   Enables ScrollLock key to control output to screen
WS-DOS    BAS   Converts Wordstar files to DOS files and vice versa
SPOOLBAS  BAS   Allows spoolling to continue from DOS to BASIC
SPOOLER1  COM   Printer spooler for monochrome display card
SPOOLER2  COM   Printer spooler for color display card
SPOOLER   DOC   Documentation file for spooler programs
DISKRTN   EXE   Examine and modify disk directory
DISKRTN   DOC   Documentation for DISKRTN
FILTER    BAS   Removes control characters from downloaded files
FILTER    DOC   Documentation for FILTER program
DM        BAS   Sets up Dot Matrix printer under Wordstar
DMLQ      DOC   Documentation for DM and LQ
LQ        BAS   Sets up Letter Quality printer for use under Wordstar
LIST      EXE   Lists files to screen with  anykey' pause control
```

```
LIFE      EXE   Rabbit paced version of John Conway's famous Game of Life.
LIFE      ASM    Source code for LIFE.EXE.  TYPE for instructions.
LUNAR     BAS+  Pick a flat spot and try to land, not too hard!
BALL      BAS   Shoot pea into cup.  Simple text mode game.
ROD       BAS+  Draws every varying mosaic pattern.
DESIGN    BAS+  Nice graphics demo program.
DSKTST    BAS   Modification of Disk Drive Test, SVCS Vol 2 No 2 May, 1983
DRIVETST  BAS   Modification of Disk Drive Test, SVCS Vol 2 No 2 May, 1983
SETPRTR   EXE   Setup MX-80 printer from Menu Screen.
SETPRTR   C      Caprock Systems Small-c:pc source for SETPRTR.EXE
KEYLOC    EXE   Converts momentary keys to toggle keys. (Aids handicapped)
KEYLOC    ASM    Source code for KEYLOC.EXE
KEYLOC    DOC    Documentation for KEYLOC.EXE
MEMORY    COM   Sets memory size independent of system board switches.
MEMORY    DOC    Documentation for MEMORY.COM
MAIL1     BAS   Mail list program. Keeps sort indexes on four fields.
MAIL1     DOC    Documentation for MAIL1.BAS
ADD-LF    BAS   Adds linefeeds to files that contain only carriage returns
CONV      BAS   Converts COM/EXE to transmittable BASIC which will rewrite
                file.
DISPLAY   TXT   IBM Bulletin UU-12,  Faster screen writes.
DISPLAY   BAS    Program portion of IBM Bulletin UU-12
PEEKPOKE  TXT   Information on memory locations and their contents.
QD        EXE   QuadRAM 8 sector drive  0 to 320KB
QM        EXE   QuadRAM 8 sector multidrive  0 to 320KB
QDXT      EXE   QuadRAM 9 sector drive  0 to 360KB
QMXT      EXE   QuadRAM 9 sector multidrive  0 to 360KB
QSWAP     COM   QuadRAM printer swap, LPT1:/LPT2:
QSPOOL    COM   QuadRAM print spooler.
QUADRAM   DOC    Documentation for QuadRAM programs.
QUIKUP    COM   Fast pwrup with large memory, including >544KB.
QUIKUPQD  COM   QUIKUP compatible with Quadram QM, QDXT,QMXT.
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ALMOST FREE: USER SUPPORTED SOFTWARE

This story starts shortly after Andrew Fluegelman (who is now editor-in-chief of *PC World*) got his brand-new IBM PC computer. Fluegelman, a veteran of ten years in publishing, was collaborating with a co-author on a book. The two men wanted to exchange drafts by telephone. This involved two-way communication between their (different) computers using modems at each end.

Initially Fluegelman bought IBM's Asynchronous Communications Package to control the modem transmitting and receiving functions. Unfortunately, or so it seemed at the time, the result was more noteworthy for frustration than for the desired communication between computer users at their consoles.

Next step? How about writing a better program to do the job? Since Fluegelman was an experienced and savvy programmer, that was the course he chose. And the initial problems were followed by the proverbial happy ending: the first version of PC-TALK, a communications program for the IBM PC.

The next question which occurred to the author, in view of his publishing background, followed naturally. Since the new program seemed to do what he wanted done, and do it better than the commercial software that was currently available, how about marketing it to other computer users who might also find it suitable for their purposes?

He decided on a novel experiment. Instead of publishing a manual, providing a disk, working out a marketing and distribution plan, attempting to protect against copying by "pirates"—and as a result of incurring all those costs, having to charge a high price for the software—Fluegelman tried an entirely different approach.

He made his program available, at no cost, to anyone who wanted to use it. Copying was encouraged. Users were invited to copy the program and share it with others (but NOT sell it). The PC-Talk program could be obtained by anyone who sent a disk and postpaid mailer to The Headlands Press in Tiburon.

Or people could get copies from friends or from bulletin boards or through users' groups. Manual and instructions were included on the disk, in print-ready format. The printing process and the copying process were both made exceedingly simple for the user, via batch files on the disk.

The only prohibitions were against changing the program and then giving other people copies of the altered form (for obvious reasons: the changes might have introduced bugs) and against removing the opening message which appeared on the screen when the program was run. (The 1982 version of that message suggested that users who liked the program send $25. Since then the program has continued to evolve, with refinements and improvements added in updates which users can obtain.)

When you run PC-Talk III, the following message appears on the screen:

```
————————— F R E E W A R E —————————™

                User-Supported Software
_____
If you are using this program and finding it of value, your contribution
              ($35 suggested) will be appreciated.

                     === Freeware ===
                   Post Office Box 862
                   Tiburon, CA 94920

You are encouraged to copy and share this program with other users, on
the conditions that the program is not distributed in modified form, that
no fee or consideration is charged, and that this notice is not bypassed
or removed.
_____
              Copyright (c) 1983 The Headlands Press, Inc.
```

Originally, Fluegelman announced the availability of PC-Talk through notices on the Source and CompuServe bulletin board systems. The response to his message offering the program to anyone who sent a disk proved the soundness of the marketing concept.

Not only did the majority who requested PC-Talk make the suggested donation, but many users wrote letters with comments and suggestions for extensions and improvements to the program. The letters were overwhelmingly complimentary.

Since then, most of the people who use PC-Talk probably receive their copies from other users or through clubs. This makes it almost impossible to estimate how many people are using PC-Talk. The program has, however, appeared among the top ten in *Softalk* magazine's monthly software popularity survey.

The *PC Tech Journal* recommends PC-Talk III highly as an excellent, mature program, suitable for both personal and professional use.

PC-Talk III has also been reviewed very favorably in *PC* magazine (July 1983). Stephen Manes' comparison article was headlined, "In the battle for the Communications Belt, PC-Talk III, the West Coast 'People's Choice,' holds its own against Smartcom II, the 'Menu Kid' from Georgia." The conclusion the article comes to: "… no matter what modem you're using, you'd be smart to spar with PC-Talk III."

All-in-all, the experiment must be rated a resounding success. So if you need a communications program, try it. Odds are you'll like it.

More User-Supported Software

The same general approach has been adopted by numerous other programmers since then. Anyone who wishes can obtain a copy for leisurely trial and evaluation, FREE, by sending a formatted disk and a postage-paid, addressed return mailer to the author. (Two disks are required for a few programs.)

All documentation and relevant files are provided on the disk. When you receive the disk, you need to:

1) Start your machine with your normal system disk.

2) Check the directory of the disk you have received. Look for a file called "README", or a file with extension ".DOC" or ".LST" or some analogous name, indicating a text file which you can read by using the "TYPE" command in DOS, followed by the name of the file. (For more details on printing out manuals or the contents of a text file, see instructions in the chapter on club library disks.)

3) Copy the files that you need or use the program on a disk you have formatted with the system, so you will be able to run the programs by simply loading in your use disk. Keep the other as a backup.

More

The next program in this family to attain wide popularity was PC-FILE.

PC-FILE, by Jim Button, is a "database manager" program, competing against many expensive commercial heavyweights in the field of handling and storing information for convenient retrieval.

The most recent version, copyright 1984 (after many previous updates and enhancements), is PC-FILE III. Again, permission to copy is granted under the same conditions—no modification of program or documentation.

Button writes: "After you have had a chance to use and evaluate the program in your own environment, you are trusted to either forward a payment to the author, or to discontinue use of the program."

For users in the business environment who need a bill for company payment or for tax records, Button provides an actual invoice for the $45 requested payment.

On page 30 of his PC-FILE III™ USERS GUIDE, Button answers some "frequently asked questions" as follows:

Question: "What is your update policy?" Answer: "I'll notify all registered (contributing) users whenever a new version of PC-FILE III becomes available. The cost of an update will usually be $10 (to registered users)."

Question: "Do you have any other programs that you're distributing?" Answer: "Yes. I have an excellent communications program." (Also user-supported software—this specifies suggested contribution of $25.)

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Button also states that he is currently working on a spreadsheet program and a graphics program which will work with the PC-FILE III database, to be ready soon. After that he plans to develop a word processing program to round out this software family.

PC-WRITE

PC-WRITE, a word processing program by Bob Wallace of Seattle, was reviewed very favorably in the February 1984 issue of *PC* magazine. The reviewer concludes, in the last paragraph of a 3-page article, by saying that PC-Write has become his word processor of choice, with superb performance and possibilities for customization.

LADYBUG, an implementation of Logo graphics

A fairly new entry, in an entirely different sector of the application spectrum, "is still a baby," according to the author. David Smith originally wrote the material for his own children, and decided to distribute VERSION 0.9—PRELIMINARY in September 1983.

Children or adults can draw interesting and involved pictures on the screen by using the LADYBUG procedures and commands.

More and More to Come

The success of the concept has led other writers to decide to share their programs on the same basis. Enough such software is now available to make a descriptive catalog worthwhile.

Frank Canova (himself an author of user-supported software) has prepared a compilation of available programs, which he plans to update regularly.

In the following pages, we reprint the January 1984 revision of the catalog, with thanks to Frank Canova for the work which went into its compilation. He includes the authors' descriptions of what their programs do, as well as information about system requirements, how to get copies, and suggested contributions.

If you have a modem, note the instructions for telephoning to receive updates.

CATALOG OF
USER SUPPORTED SOFTWARE

===================== 01/02/84 revision ====================

This catalog is furnished by:

> Seaware Corporation
> P.O. Box 1656
> Delray Beach, FL 33444
> (305) 276-5072

This is a catalog of User Supported Software. It is supplied as a service to customers and potential customers. The latest revision of this catalog and further information about our own software (Extended Batch Language) is always available by calling the BAT-BBS at (305) 276-5072. (BAT-BBS is a combination voice/data phone line. 4 rings = voice. 2 rings/hangup/ redial = BAT-BBS modem connection.) In no way is this list an endorsement by Seaware Corporation of any product shown. Although every effort is made to be accurate, Seaware Corporation is not responsible for errors in this catalog, typographical or otherwise. Unless otherwise noted, all programs run on an IBM™ Personal Computer. Please note that software for ALL types of equipment is invited to be on this list.

If you wish to receive a program listed in this catalog, please communicate directly with the author or contact source listed below. Seaware Corp. does not have the program, nor will it handle your contributions (unless specifically indicated).

Freeware is a concept and trademark of Andrew Fluegelman (The Headlands Press, Inc., Box 862, Tiburon, Ca, 94920). Each package displays a notice asking for a voluntary contribution to be sent to the author. Andrew's Freeware package is PC-Talk, a communications program.

The Freeware concept is based on these principles:
—People need to try programs to see if they are useful.
—Software authors can be supported directly by users.
—Copying and networking of programs can be encouraged.

If you are the author of a user supported program, please leave a message on the BAT-BBS as to the details of your public offer or write to Seaware at the above address or by EMAIL on CompuServe 71426,204.

Permission is granted to copy and share this catalog provided the above notice is included and unaltered. Thanks for the many wonderful comments I have received so far... Frank Canova, President Seaware Corp.

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CATALOG SUMMARY
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COMMUNICATION:

PC-TALK III		by Headlands Press (Fluegelman)
PC-DIAL	ver 1.4	by Jim Button

DATABASE MANAGEMENT:

PC-FILE III	ver 1.0	by Jim Button
ABC-FILE		by DND Enterprises (David Valk)

EDITORS:

FRED	ver 1.21	by David N. Smith
PC-WRITE	ver 1.0	by Quicksoft (Bob Wallace)

UTILITIES:

EXTENDED BATCH LANGUAGE		
	ver 2.00b	by Seaware (Frank Canova)
ULTRA-ZAP	ver 2.00	by FreeSoft (Wat Buchanon)
ULTRA-FORMAT	ver 2.00	by FreeSoft (Wat Buchanon)
ULTRA-FILE	ver 2.00	by FreeSoft (Wat Buchanon)
DESK TOP MANAGER		by Micromputer Management
QSYS		by Dennis Lee

ANALYSIS PROGRAMS:

EPISTAT	ver 2.0	by Tracy L. Gustafson

LANGUAGES:

| LADYBUG | ver 0.9 | by David N. Smith |
| CHASM | ver 2.04 | by David Whitman |

GAMES:

| PC-CHESS | ver 1.1 | by Mike Carpino |

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PROGRAM ....: PC-TALK
LATEST REVISION ....: 3

SUGGESTED CONTRIBUTION: $35

CONTACT ....: The Headlands Press, Inc.
P.O. Box 862
Tiburon, CA 94920

AUTHOR ....: Andrew Fluegelman

SYSTEM REQUIREMENTS: 96k IBM Personal Computer (inter-preted) or 128k (to run compiled). An asynchronous communication adapter. A Hayes Smartmodem (recommended) or other modem (300 baud or 1200 baud). A printer (optional).

CONTRIBUTION PROVIDES: A diskette with source of the latest version.

DESCRIPTION: PC-TALK is a general purpose communication pro-gram which allows complete freedom in making connections to external computer equipment by using the asynchronous communication adapter. Its primary flexibility comes with its ability to control a Hayes Smart-modem. For the Hayes modem, a dialing directory is available. Options are also available to control baud rate, system parameters, screen "snap-shot" printing/storage, data transfer (ASCII, binary, pacing, and XMODEM modes), diskette directories, disk data previewing, and more.
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PROGRAM .... : PC-DIAL™

LATEST REVISION .... : 1.4

SUGGESTED CONTRIBUTION: $25

CONTACT .... : Jim Button
                          P.O. Box 5786
                          Bellevue, WA 98006
                          (206) 746-4296

AUTHOR .... : Jim Button
                           Source: CL2925
                           Compuserve: 71435,2012

SYSTEM REQUIREMENTS: PC-DIAL requires a 96K or larger IBM PC, one disk drive, and a serial I/O port with a Modem. You must also have a video monitor capable of displaying 80 characters per line.

CONTRIBUTION PROVIDES: Program and documentation on diskette. Registered users can upgrade to this version by sending $10.

DISKETTE ONLY .... : Send diskette with return postage & mailer or $6.

DESCRIPTION: PC-DIAL is a general purpose asynchronous communications program. It employs a simple and straightforward approach, with capabilities that surpass those of many of the more expensive communications programs on the market today.

With PC-DIAL you will be able to:
— Communicate at speeds up to 9600 baud (limited by the speed of your serial port and modem.)

— Exchange (send or receive) text files with other computers. While sending text files, you may dynamically send selected records from the file and skip past other records not to be sent.

— Exchange (send or receive) non-text (EXE or COM) files with other computers which support the "X-Modem" protocol.

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— Use modems which don't support Auto-dial.

— Use modems which do support Auto-dial. This includes not only the Hayes SmartModem, but also a variety of other modems which use other commands to AutoDial a phone number.

— Continuously redial a number until connection is established.

— Capture incoming data in a disk file.

— Set up your own "filters" to remove or change undesirable characters in the incoming data.

— Dynamically slow down the speed at which you transmit, so as not to overrun the computer at the other end.

— Dynamically alter your communications parameters, such as parity, speed, and number of data bits.

— Build automatic logon sequences of any length, to enable you to log on to a variety of remote computers without having to remember phone numbers, passwords and access commands.

— Change the colors of your display (if you have a color display) to suit your personal taste.

— Move back and forth between different directories on your hard disk (if you have DOS 2.0) for retrieving and sending data.

— Communicate properly with computers which use "XON/XOFF" characters.

In short, PC-DIAL is easy to use, easy to understand, powerful, and small in size.
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PROGRAM .... : PC-FILE III™
LATEST REVISION .... : 1.0

SUGGESTED CONTRIBUTION: $45

CONTACT .... : Jim Button
                          P.O. Box 5786
                          Bellevue, WA 98006
                          (206) 746-4296

AUTHOR .... : Jim Button
                          Source: CL2925
                          Compuserve: 71435,2012

SYSTEM REQUIREMENTS: PC-FILE III requires at least 320K
of disk storage, and a 96K or larger IBM-PC "compatible" computer with
DOS and a printer to print out documentation. Database sizes of up to
10,000 records are supported.

CONTRIBUTION PROVIDES: Program and documentation on
diskette. Registered users can upgrade to this version by sending $10.

DISKETTE ONLY .... : Send diskette with return postage
& mailer.

DESCRIPTION: PC-FILE III is a general purpose "Data Base Manager"
system designed for ease of use. Databases can be defined, added to, modi-
fied, deleted from, queried, and sorted for report generation.

You can use PC-FILE III for all kinds of tasks:
— Maintain mailing lists and print labels, 1-up or multi-up.

— Maintain many kinds of lists, such as price lists, telephone lists, personnel
   records, customer lists, name/address directories.

— Freely exchange data between PC-FILE III and many other programs,
   such as VisiCalc, Multiplan, 1-2-3, and MailMerge.

— Maintain "security protected" data. These databases are maintained in an encrypted form and cannot be viewed by persons not knowing the security key.

PC-FILE III allows rapid access to any record in the database, with a sophisticated search technique allowing comparison searches, generic searches, or soundex searches on any field in the record.

You can print reports from your database, selecting records on up to 10 different comparisons, with subtotals, and totals. Report columns can also be "calculated" based on information in other fields of the record.

You can rebuild your database at any time, adding, deleting or rearranging fields and changing field lengths.

But above all else, PC-FILE III is EASY! Most people can use it with no training or instructions.

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PROGRAM .... : ABC-FILE
LATEST REVISION .... : ?

SUGGESTED CONTRIBUTION: $30

CONTACT .... : DND Enterprises
                           6215 Quiet Water Pl.
                           Charlotte, N.C. 28214
                           704-393-0489

AUTHOR .... : David Valk

SYSTEM REQUIREMENTS: —IBMPC/XT with at least 1
                             disk drive
                           —Epson FX-80, MX-80 or equiv.
                           —Color or monochrome monitor
                           —128k available memory

CONTRIBUTION PROVIDES: Program and documentation on diskette. Registered users will be notified of all future releases and updates.

DISKETTE ONLY .... : Send formatted blank diskette with return postage and mailer.

DESCRIPTION: ABC-FILE is a User Friendly File Management System that offers USER DEFINED FIELDS (Name & Length), Automatic error checking of fields on Entry, and Automatic INDEXing of the Primary field.

Indexes may be built on any or all fields, by user selection. A Report generator is included to format reports to the console, the printer, or to print one of two available Label formats. Fields to report may be selected in any order and report width is monitored & error checked. An alternate Automatic function may be selected to format reports for you.

Reports may be sorted on any of the available Indexes, selection criteria may be entered to select on any field. Selection methods include, $=, <>, >$, $<$, KEYWORD, or NOT KEYWORD. The printing of Labels also takes advantage of the report selection methods, allowing printing to a particular ZIP or CITY etc.

Locating of records is available in two forms, one by record number, and two, the FIND function which utilizes a binary search to locate records on user entered criteria for any indexed field. Typical "Finds" require 1 to 1.5 seconds. Once found the Database may be paged forward or backward with one keypress, Records may be Modified, Deleted, or Recalled (Un-Delete).

Other features include Importing files from other programs, Packing the database, Changing the screen colors to taste, Sound on/off, Changing datafiles from within, Sorting in descending order, and Online HELP screens.
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PROGRAM .... : FRED (FRee EDitor)

.... : 1.21

SUGGESTED CONTRIBUTION: $20

CONTACT .... : David N. Smith
44 Ole Musket Lane
Danbury, CT 06810

AUTHOR .... : David N. Smith

SYSTEM REQUIREMENTS: IBMPC, 1 diskette drive, 96K
memory

DISKETTE ONLY .... : Send diskette with return postage
& mailer.

DESCRIPTION: FRED is a full screen editor for the IBM PC. It displays
files up to 1500 lines long and with lines up to 254 characters long on a
monochrome display or 80 column graphics display. The screen is a window
onto the file. The window can move up, down, left and right. Lines which
are longer than the screen are partly displayed. If you insert data, characters
seem to be lost off of the end of the line; they are not lost but are just no
longer displayed. Move the cursor off of the screen to the right and they will
reappear as the window moves.

If a file is too big to fit into memory, it complains politely; if memory nears
the limit while you are editing, FRED tells you and lets you continue editing
but won't let you add more lines. In general, it is forgiving; you can even
remove the diskette it is reading from or writing to without bombing it or
losing data in memory but I do not recommend it (nor guarantee it).

It updates the display buffer directly so that screen updates appear
instantaneous; it is fully possible to scroll through a file at typamatic speeds.

FRED is written in about 590 lines of compiled BASIC and about 30 lines
of assembler. Since its performance is horrid except when compiled, source
is not distributed.

FRED is similar to the IBM Personal Editor; most of its keys are the same and its approach to handling the screen is about the same. I use the Personal Editor; FRED was an experiment from some time ago which I had laid aside. Several months of reading the dialogs on the IBM PC Special Interest Group on CompuServe convinced me that there are many people out there who still use EDLIN and who will never pay $100 for an editor. Therefore I got FRED out and polished it up a bit to give away. I hope that people find it useful.

The documentation is somewhat sparse; there is no tutorial and little else but a list of keys. I suspect that most PC users won't have any trouble using it since most of the keys do the "right" thing.

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PROGRAM .... : PC-Write
LATEST REVISION .... : 1

SUGGESTED CONTRIBUTION: $75

CONTACT .... : Quicksoft
                          219 First N. #224
                          Seattle, WA 98109
                          (206) 282-0452

AUTHOR .... : Bob Wallace

SYSTEM REQUIREMENTS: ?

CONTRIBUTION PROVIDES: Registration provides additional services, such as source files, telephone support, a printed manual, and a free copy of the next updated version.

In addition, registered owners receive a commission ($25) when someone registers one of the owner's copies. This commission is not multi-level or "pyramidal", since only one person receives it. It's just a sales commission.

People who like PC-Write register and give copies to friends or business associates with IBM PCs. If one registers, they get a check in the mail, an extra bonus.

To register your copy, send the amount requested to Quicksoft, or call with your Visa/MasterCard number. We will need your old registration number so we can properly credit the owner. You will receive your new registration number over the phone or with your other materials.

DISKETTE ONLY: .... $ $10

DESCRIPTION: PC-Write is a word processor and text editor for the IBM Personal Computer. It helps you write and format books, reports, letters, programs, manuals, or other text.

PC-Write was developed for the IBM Personal Computer. It may not run on other computers, even those which claim to be "compatible" with the IBM PC. If you are trying to use PC-Write on another machine, you may be out of luck. Some, such as the Compaq, may be compatible enough.

The PC-Write diskette contains two programs: the editor and page printer. You use the editor to create your text, and the page printer to divide it into pages for printing.

If you have never used a computer or an editing program, welcome to word processing! The manual includes a tutorial section to help you get started. It also avoids the use of technical jargon as much as possible.

If you have used other editing programs, especially full screen editors, you will find PC-Write easy to pick up. You will also find it small, fast, and responsive.

PC-Write includes many features:

— Insert, replace, and delete text anywhere you want.

— Search for a piece text and replace it with other text.

— Move and copy blocks of text from one place to another.

— Set margins and tabs, reformat and justify paragraphs.

— Print your text in pages with headers and footers.

— Split screen mode lets you edit two files at once.

— Search and replace use "wild card" match characters.

— Very fast operation lets you edit efficiently.

— Convenient transpose, change case, and bookmark keys.

— You can set any Control key to be any other key.
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PROGRAM ....: Extended Batch Language
LATEST REVISION ....: 2.00b

SUGGESTED CONTRIBUTION: $30 (suggested contribution for public use; $30 license fee required for business use)

CONTACT ....: Seaware Corp.
                          P.O. Box 1656
                          Delray Beach, FL 33444
                          (305) 276-5072

AUTHOR ....: Frank Canova

SYSTEM REQUIREMENTS: 64k IBM Personal Computer and PC-DOS (any version) and any type of diskette or hard disk. There are no other system requirements.

CONTRIBUTION PROVIDES: A diskette with the program, demonstration files, and samples. A 70 page hardcopy manual with examples, tips, and descriptions. A password and user ID to the BAT-BBS, a hot-line for help, tips, swapping programs with other users, free updates, and other services such as this catalog.

DISKETTE ONLY ....: $5 for diskette and postage/handling.

DESCRIPTION: Extended Batch Language is a command programming language. It is a high level language that can be used as a direct replacement or in conjunction with DOS batch files. It can operate with IBM DOS versions 1.0, 1.1, 2.0 or 2.1. Compared with standard DOS batch files, BAT has superior control structures, string handling, and user interfaces. It also has tracing facilities, and is easy to learn and use. Many aspects of the language are like BASIC. Users of VM/370 will also find it similar to EXECs. The effect of using BAT is to put "covers" on the programs and system that it controls. A friendly, easy to use interface is easily created.

Extended Batch Language has more power and enhanced capabilities than either DOS 1.1 or DOS 2.1. This program uses these capabilities to solve common problems for......

The system programmer—who needs to do long sequences of tasks between linker, compilers, debuggers, and editors. He can now create an intelligent link between these programs. For instance, he may wish to do a link depending on whether the previous compile was successful. He can also respond automatically from a keyboard "stack" into various utilities.

The secretary—who has several types of tasks to perform (word processing, accounting packages, etc.) and requires a simple way of changing from one type of task to another with a menu, perhaps with optional help text.

The student—who wishes to go from one game to another without having to learn the system commands required to make each available.

Testers—who wish to automate long, boring tests and procedures on the personal computer. An excellent tool for a manufacturing line.

With Extended Batch Language, you can have:

—Better control of messages to the screen

—Accept responses from the user and create responses to programs

—String handling operations (substring, length, etc.)

—Arithmetic expressions and assignments within batch variables

—Comparisons and program return codes

—Search for files or tell if they exist

—Complete freedom to mix DOS and BAT commands within the same control file
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PROGRAM ....: ULTRA-ZAP
　　　　　　　　　　　　　　ULTRA-FORMAT
　　　　　　　　　　　　　　ULTRA-FILE

LATEST REVISION ....: 2.00

SUGGESTED CONTRIBUTION: $40 (includes $10 commission every
　　　　　　　　　　　　　　time someone registers a copy with
　　　　　　　　　　　　　　your serial #)
　　　　　　　　　　　　　　$30 (full registration but no commis-
　　　　　　　　　　　　　　sion eligibility)
　　　　　　　　　　　　　　No contribution expected or accepted
　　　　　　　　　　　　　　before evaluation of the package.

CONTACT ....: The Freesoft Company
　　　　　　　　　　　　　　P.O. Box 27608
　　　　　　　　　　　　　　St. Louis, MO 63146

AUTHOR ....: Wat Buchanon

SYSTEM REQUIREMENTS:　　To use them, you'll need an IBM-PC
with at least 64K RAM and one single or double-sided disk drive and an 80
column monitor. Revision 2.00 supports PC-DOS versions 1.10, 2.00,
and 2.10.

CONTRIBUTION PROVIDES:　　Receive next FREESOFT product
with full registration with commission eligibility at no cost, one year sub-
scription to THE ZAPPER newsletter, full program support, and newest
versions sent automatically.

DISKETTE ONLY ....: Send 1 double-sided or 2 single-sided
diskettes formatted at 8 sectors/track (DOS 1.1 style) and receive programs
and documentation. Must provide self-addressed, postage paid, return
mailer.

DESCRIPTION: There is now available a three volume set of IBM-PC
utilities that do everything the NORTON UTILITIES do and much, much
more. To get them, send one formatted double-sided diskette or 2 formatted
single-sided diskettes, and a self-addressed, POSTAGE-PAID return
mailer to the address above.

The package includes:

- Ultra-Zap: Program for displaying/modifying disk sectors and file sectors, copying disk sectors, searching for byte or character sequences in disk or file sectors, filling or zeroing disk sectors, and interrogating diskettes to display their protection techniques. This program can work on any disk sector, regardless of protection, etc.

- Ultra-Format: Can format standard or copy-protected disk tracks, also can repair files containing "flaky" sectors by placing a fresh format on a track without erasing prior data.

- Ultra-File: Program for displaying all directory information about a disk file, assigning or removing SYSTEM or HIDDEN status to a file, building files from scratch, resurrecting accidentally erased files, and selectively killing files from a menu (FAST!).

All in all, it is an extremely powerful package that makes life much easier for you and your IBM-PC.
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PROGRAM ....: DESK-TOP MANAGER
LATEST REVISION ....: ?

SUGGESTED CONTRIBUTION: $25

CONTACT ....: Microcomputer Management
                         45 Drum Hill Road
                         Concord, MA 01742

AUTHOR ....: ?

SYSTEM REQUIREMENTS: ?

CONTRIBUTION PROVIDES: ?

DISKETTE ONLY ....: Free programs if you send two
formatted double sided disks and a prepaid mailer.

DESCRIPTION: It is a desk top aid for executives. Amongst many other things, it contains macro and menu-writing for 1-2-3. All choices are user-modifiable.

((more details will be available at later date))

DT is being marketed under the FREEWARE™ concept. To get your copy, send TWO FORMATTED DOUBLE SIDED DISKS and a PREPAID MAILER, and we'll return DT. If you like it, we ask for a $25 donation. Or, send the $25.00 and we'll supply the disks and postage.

> Microcomputer Management
> 45 Drum Hill Road
> Concord, MA 01742

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PROGRAM .... : QSYS
LATEST REVISION .... : ?

SUGGESTED CONTRIBUTION: $35

CONTACT .... : Dennis Lee
                          5617 Murdoch
                          St. Louis, MO 63109
                          CompuServe: 70376,452

AUTHOR .... : Dennis Lee

SYSTEM REQUIREMENTS: DOS 2.0, 128K Memory, Color/ Graphics Monitor Adapter, 80 Column Video Monitor (B&W or Color), 2 Double-Sided/Double-Density Diskette Drives or a Winchester Drive and 1 Double-Sided/Double-Density Diskette Drive.

CONTRIBUTION PROVIDES: Dennis will send you a diskette of his very own with all of the QSYS system programs, documentation file and the Installation Aid. In addition, I'll keep your name on file and offer you upgraded versions at a substantially lower price as they become available.

DISKETTE ONLY . . . . : Send a double-sided diskette with a postage-paid diskette mailer and Dennis will copy the QSYS programs, documentation and Installation Aid and return the diskette to you—FREE!

DESCRIPTION: QSYS is a set of programs designed to help you integrate your existing program library into a menu-driven system supporting multiple users who need not have a working knowledge of DOS, while providing a measure of protection from unauthorized program, file or DOS command usage. QSYS also includes an Appointment Calendar–Message System with a concurrent time-keeper which can signal you of a pending message while the system is running another program.

HERE ARE A FEW OF THE QSYS SYSTEM FEATURES:

—MENU DRIVEN BATCH FILE CREATION
Your programs or batch files from the SYSTEM MENU or command line and DOS commands can be sent to a ' JOBQ ' for execution as a batch file under DOS.

—BATCH FILE EDITING CAPABILITIES
Entries in the JOBQ can be deleted or the sequence of execution can be changed before the JOBQ is released for execution.

—FULL DOS 2.0 BATCH FILE COMMAND IMPLEMENTATION
The JOBQ can execute another batch file with automatic return to complete JOBQ execution. The DOS Command Processor can be called from the JOBQ with automatic return upon termination.

—AUTOMATIC PROMPTS FOR NECESSARY RESOURCES
Batch file commands are automatically included in the JOBQ to prompt for necessary diskettes and retry a failing load operation.

—SECURITY SYSTEM
A user defined Password entry is required for access to most system functions. A user may be restricted from executing selected programs from the SYSTEM MENU or from entering commands on the command line.

— APPOINTMENT CALENDAR–MESSAGE SYSTEM
Visual notification of a pending message is concurrent with other system tasks. A full screen CLOCK/CALENDAR with audible notification of a pending message when the system is inactive.

— SYSTEM SUPPORT
A complete documentation file is included. Comprehensive error trapping routines in all system programs with automatic recovery whenever possible. An INSTALLATION AID is also included providing easy installation of a complex system with minimal knowledge of DOS.
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PROGRAM .... : EPISTAT
LATEST REVISION .... : 2.0

SUGGESTED CONTRIBUTION: $25

CONTACT .... : Tracy L. Gustafson, M.D.
                            1705 Gattis School Road
                            Round Rock, TX 78664

AUTHOR .... : Tracy L. Gustafson, M.D.

SYSTEM REQUIREMENTS
           MINIMUM   OPTIMAL
    IBM PC with 64K RAM   IBM PC with 96K RAM
    One 160K disk drive   Two disk drives
    Color/graphics adapter   Color graphics adapter
    Monochrome monitor   Hi-res color monitor
    BASICA   BASICA
                                  IBM or Epson printer
                                    with graphics

CONTRIBUTION PROVIDES: Program and documentation on diskette.

DISKETTE ONLY .... : Free programs if you send diskette.

DESCRIPTION: EPISTAT is a collection of programs written in BASICA for statistical analysis of small to medium-sized data samples (< 1000 observations per sample and < 28 data samples per file). It includes programs to ENTER, APPEND, and EDIT data, as well as perform several kinds of data TRANSFORMATIONS. The datafiles can be PRINTED, GRAPHED, or SAVED to disk. The 21 programs in EPISTAT can also perform 34 common statistical tests or functions.

The programs are intended to be as self-explanatory and user-friendly as possible. All questions can be answered with a number, a "Y" for yes, or an "N" for no. A thorough study of this guide is not necessary before using the programs. On the other hand, neither the programs nor this manual purport to TEACH the proper use or interpretation of statistics. Rather, some familiarity with the kinds of data required and the underlying assumptions appropriate to each statistical test is assumed.

One will note that some of the programs emphasize epidemiologic and medical applications. Despite the wording of various program questions or statements, these tests also apply to many other types of data. For further explanations of tests, refer to:

1. Colton, Theodore. *Statistics in Medicine.* Little, Brown and Co. Boston, 1974.
2. Fleiss, Joseph. *Statistical Methods for Rates and Proportions.* John Wiley and Sons. New York, 1973.
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PROGRAM .... : LADYBUG
LATEST REVISION .... : 0.9

SUGGESTED CONTRIBUTION: $35

CONTACT .... : David N. Smith
                            44 Ole Musket Lane
                            Danbury, CT 06810

AUTHOR .... : David N. Smith
                            CompuServe: 73145,153.

SYSTEM REQUIREMENTS:

— 128K of memory.

— One single sided disk drive. (But two, or a double sided are recommended.)

— A graphics adaptor.

— A graphics display of any kind. (Color is supported only on a color display; 80 column editing is supported only on a high resolution monitor.)

— DOS 1.1 or 2.0

— An IBM PC.

DISKETTE ONLY . . . . : Free, send a diskette and a self addressed returnable mailer to above address.

DESCRIPTION: LadyBug is a graphics language based on LOGO Turtle Graphics. It contains most of the graphics commands, procedure making commands, and control commands from the Apple II[1] implementation of LOGO done by Terrapin, Inc. This version is described in the book LOGO FOR THE APPLE II, by Harold Abelson, published by McGraw-Hill in 1982. It is very similar to other versions for the Apple II, Texas Instruments, and TRS-80[2] computers.

LadyBug is a version of LOGO patterned after the Apple II implementation developed by Terrapin, Inc. In general it has:

— All of the graphics commands.

— All of the mathematical computations.

— All of the control commands.

In addition it has:

— A large library of procedures adapted from a variety of sources.

— Painting of areas.

— Clipping of drawings (as well as wraparound).

— A fast full screen editor.

— Support for using both displays if both are present.

— Sounds—PLAY statement like Basic.

The major features missing are:

— List manipulation.

— Variable numbers of parameters to primitives.

— Saving screen images.

LadyBug is distributed as compiled Basic; source is NOT distributed nor is it available.

==
PROGRAM .... : CHASM (Cheap Assembler)
LATEST REVISION .... : 2.04

SUGGESTED CONTRIBUTION: $20

CONTACT .... : David Whitman
                          2 North Park St., Apartment L
                          Hanover, NH 03755
                          (603) 643-2115

AUTHOR .... : David Whitman

SYSTEM REQUIREMENTS:

— 64K of memory

— One single sided disk drive. (But two, or a double sided are recommended).

—DOS 1.1 or 2.0.

—An IBM PC.

DISKETTE ONLY ....: Free, send a diskette and a self addressed returnable mailer to above address.

DESCRIPTION:
I.   Why Chasm?
     Why go to the trouble to write an assembler, when one already exists? The IBM Macro Assembler is a very powerful software tool available off the shelf. It supports features such as macros, definition of multiple segments, and linking to external procedures.

     Unfortunately, all of this power doesn't fit into a 64K machine, and even when using the small subset version, 64K users are limited by memory to only very small programs. The macro assembler is also very complex, hard to understand, and costs a hundred bucks.

     Even though the price of memory keeps dropping, I suspect that the majority of the IBM PC's out there have no more than 64K installed. Also, I suspect that most end-user assembly language programmers are like myself, and are not interested in writing huge, complicated programs in assembler. I want to write short subroutines to call from BASIC, small patches to existing assembler programs (such as DOS), and perhaps some games. For such uses, I think the combination of the Macro Assembler and a tub full of extra memory represents an incredible overkill. Chasm is, I hope, a more reasonable compromise between power and accessibility (both in cost and complexity).

II. What can Chasm do?

     Chasm takes a text file, consisting of mnemonics, user-defined symbols, numbers, and pseudo-ops, and produces a file of corresponding machine language for the 8088 processor. Chasm allows you to define labels for branching, rather than requiring you to figure out offsets or addresses to jump to. If allows you to represent with a name any constants you want to use, making your programs easier to

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understand. Most importantly, it translates mnemonics to their machine language equivalents freeing you from the task of hard translation.

III.   What WON'T it do?

In the interest of simplicity, Chasm has a number of restrictions:
1.   Statement syntax is not quite as free as in the macro assembler.
2.   The number of pseudo-ops is severely cut down from the macro assembler.
3.   Macros are not supported. (Note that the IBM assembler doesn't support macros in systems smaller than 96K).
4.   Expressions (such as BUFFER — 2) are not supported, at least in version 1.0.
5.   Multiple segment definitions are not allowed, at least in version 1.0. Chasm assumes that your entire program fits in one segment, that the cs, ds, and es registers all point to the same segment, and that the ss register points to a valid stack area.
6.   External linking is not supported, at least in version 1.0.

Contributing users are entitled to all upgrades free of charge, and their names are added to my mailing list to be notified of significant improvements. I hope folks find CHASM useful.
==
PROGRAM ....: PC-CHESS
LATEST REVISION ....: 1.1

SUGGESTED CONTRIBUTION: $15

CONTACT ....: Mike Carpino
                          595 Kiersted Ave.
                          Kingston, NY 12401

AUTHOR ....: Mike Carpino

SYSTEM REQUIREMENTS: 64K IBM Personal Computer.
Graphics card/display.
    OPTIONALLY SUPPORTED: —Game adapter with joysticks
                          —Printer

CONTRIBUTION PROVIDES: Program and documentation on diskette.

NOTE: Distribution may be on a single sided diskette with compressed files that require the user to perform installation setup,

OR,

Ready to execute files on a double sided diskette

Specify desired format when request for PC-CHESS is made

DISKETTE ONLY . . . . :   Send appropriate diskette (single/double sided) with return postage & mailer or $6 to cover diskette and handling.

DESCRIPTION: PC-CHESS is a graphics board game with the following features:

— THREE MODES OF PLAY
  1. Player vs Computer
  2. Player vs Player, i.e., two player game
  3. Demonstration mode, i.e., computer makes all moves.

— Four difficulty levels of play selectable at any time during the game.

— Provision to save up to 26 games per diskette.

— Detection of all invalid moves.

— En passant, castling, pawn promotion.

— Ability to set up any chess situation.

— Move history to optional printer.

— Selectable keyboard or joystick for player moves.

— Choice of black/white pieces and option to exchange any time during game.

— Draw and stalemate recognition.

Note: PC-CHESS is distributed as compiled BASIC.
==

COMPUTER TO COMPUTER

COMPUTER-TO-COMPUTER

More and more people are realizing the advantages of being able to transmit information directly between computers. Such computer-to-computer transmissions involve two different transfer mechanisms, MODEMS and NETWORKING.

MODEMS are used to send and receive computer information over telephone lines. This type of communication is far from new, but is now growing so fast that it's becoming difficult just to keep up with the flood of telecommunications advertisements which show up in newspapers and magazines every day. You may have seen ads for some of the following:

- Major banks are offering "Home Banking", and invite you "to be one of the first to complete your routine banking with a personal computer ... bringing you more control over the funds you manage ... seven days a week"

- Stocks and bonds: A number of brokers offer the option of making your own transactions at home, directly from your computer to the exchange, without having to go through an intermediary.

- Information services: This is one of the biggest applications, and has been in use for some years. Several commercial systems offer subscribers access to all kinds of information (Dow Jones stock quotations, analysis programs, other investment services are some of the important applications where the user can get immediate information at home, by computer.)

- Shopping by computer: This is one of the newer applications, where the increase in the number of computer users is beginning to interest companies in offering this capability.

These represent some of the current commercial uses of MODEM communication. In addition there are many non-commercial "public access" electronic bulletin board systems where users can communicate and cooperate, sharing experiences, programs, or any kind of information of mutual interest. In this chapter we will primarily be discussing MODEMS and how to use them for remote communication through telephone lines.

NETWORKING, on the other hand, involves computer communication of quite a different nature. Here we are talking about independent computers or computer systems which are linked directly, through cables, and can share resources like printers, or can exchange information at very rapid rates, compared to the relatively slow transmission through telephone lines.

For readers who are interested in learning a little more about how both kinds of communication work, what is involved in each, and what some of the technical terms mean, see Appendix B: ASYNCHRONOUS COMMUNICATION. In Appendix B, Mark Guzzi, who has spent some months networking over 50 IBM PCs for the University of Santa Clara, discusses both these types of computer communication.

Telecommunication: What Equipment Do You Need?

In addition to your PC or PC*jr* you need a telephone line (of course) and a device which will turn your computer signals into a form which can be transmitted over the line. This special device is called a MODEM, a word coined from the description of what is done at each end: a MODEM is a MOdulator-DEModulator. At the other end of the phone line there must be another modem and computer if conversations are to take place.

Modems come in many types and price ranges. The first modems developed were the "acoustic" units. With an acoustic modem, you use your telephone handset to place your call, then put the phone into a specially shaped receptacle on the modem, which makes a snug fit with both the mouthpiece and earpiece. If you already have one of these and are familiar with it, you can use it to communicate. But don't buy one. The more modern "direct-connect" modems have all sorts of advantages, and are the only type you should consider buying.

The "direct-connect" in the description means that your modem plugs directly into a telephone wall jack. (So you do need a plug-in phone. This is not usually a problem, since most modern telephones are connected that way.)

You won't even have to unplug your telephone when you want to use your modem, if you buy an inexpensive "two-in-one" modular adapter which allows two lines (one for the telephone and one for the modem) to be

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plugged, in parallel, into a single wall jack. (A "parallel" connection does not mean that you can conduct two separate conversations at once. If your computer is "talking" via modem, your phone is busy. But it does mean that you don't have to connect and disconnect equipment.) You can obtain such adapters at phone or electronic stores.
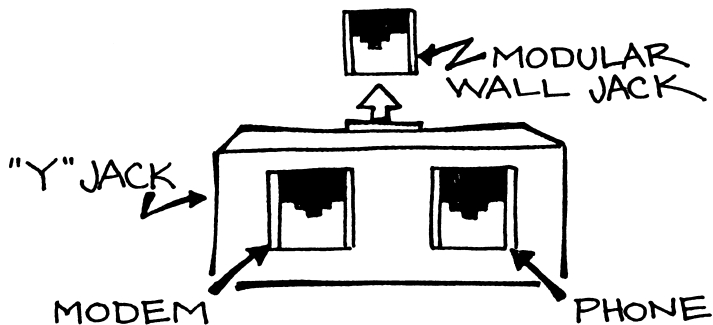
Which Modem and What Features Do You Want?

In the last few years, the Hayes "Smartmodem" has become a sort of industry standard. It consists of a relatively small box which sits on the table near your computer. It has a built-in speaker. The presence of the speaker may not seem important, but it can be quite useful to distinguish, as soon as you place your call, between busy signals, wrong or changed or disconnected numbers, and simple no-answers, instead of just seeing a message on your computer screen that says "No carrier".
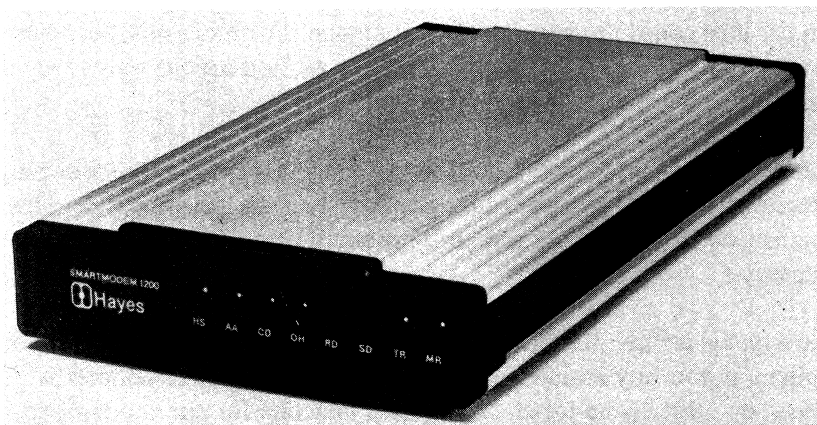
Other manufacturers may offer many of the same features as Hayes, however, and more brands are coming on the market all the time. An example of recent developments in modem technology is the "internal" modem (as opposed to the separate box). An "internal modem" is installed as an expansion card inside your computer unit. For example, IBM supplies an internal modem as an option for the PC*jr,* and many other manufacturers are also beginning to introduce internal modems. Major advantage— compactness. Possible disadvantage—you can no longer easily move the modem to use it with some other computer.

If you're in the market for a modem, next you need to decide what transmission speed ("baud rate") you want. You will find a more detailed explanation of baud rates in Appendix B, but you can figure that transmitting this page, for example, would take about 1 minute through the phone lines at 300 baud, but only 15 seconds at 1200 baud.

On the other hand, the higher the speed, the higher the price of the modem, in general. A 300-baud modem will probably cost less than half as much as its 1200-baud equivalent.

What are the advantages of the higher speed data transmission? The main advantage which people mention is lower phone bills, if you make a lot of long-distance modem calls and transfer large quantities of data. Otherwise, you'll probably be perfectly satisfied to start with the cheaper 300-baud modem.

You may also find that the savings with the higher speed modem aren't quite as impressive as the rate comparison might suggest. Many of the subscription services, for example, charge higher fees for connect-time to users who are communicating at higher speed, while some services will not transmit faster than 300 baud. Also, you will probably spend a fair percentage of the telephone hookup time typing messages or responding to questions, where you can't even keep up with 300-baud transmission.

A caveat is in order here. The foregoing statements are true currently, but the history of developments in this area suggests that as time goes on, the higher speeds will become standard. The real aficionados of telecommunications like higher speed modems.

So it depends on how much you're going to use your modem and for what purposes. You will find that computer magazines regularly publish comparative reviews and charts of features of different modems. Look at them. Talk to people in your user group. And don't spend too much money for speed if you're just starting out. After all, you can always trade up.

What Software Do You Need?

Some modems, like the Hayes 1200 baud "Smartmodem", include software as part of the package. If the modem you choose comes with software, the question is moot.

Otherwise, why not start with a program you can try out, at home and at leisure, FREE? In other words, try PC-TALK or one of the other user-supported software programs described in this book.

Now What—How Do You Get Started?

Unfortunately, when you start reading the instructions in preparation for your first modem call, like the rest of us, you will probably feel confused. Seventy pages of manual to read; a whole glossary of unfamiliar terms like full or half-duplex, pulse and touch-tone dialing, communications para-meters—you'll wonder whether the whole process was worth while.

Telecommunication is really not as complicated as it seems at first glance. You don't have to know what all the terms mean in order to make a typical call to a bulletin board system. All you need is enough information so that you can make the telephone connection successfully. From then on, the system you're calling will give you all the instruction you need to continue the "conversation." The dialed system acts like a good host, with helpful information for the guest who calls. (See Appendix A for a transcript of a call to an IBM PC bulletin board.)

Nevertheless, the easiest way to get started would probably be to attend a meeting of a Telecommunication Special Interest Group of your computer club. Talking to someone who has been there before you is helpful in any new endeavor. If that's not practical, warm up with a modem call which is relatively simple and inexpensive. Look for an IBM bulletin board number (see the list on page 124 at the end of this section) that would not involve long-distance toll charges. If you can't find one, try one of the public access message system numbers that's a nearby call. A list is on page 129 at the end of this chapter.

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How to Make That First Call

If you have a "base station" for a cordless phone near your computer, unplug the power cord when you use your modem to avoid interference. If the cordless phone is near the computer, turn its power off.

A good communications software program will automatically set most of the "parameters" which are needed for making a call to a bulletin board system. There are only a few pieces of information which you will need to supply.

1) What kind of phone service do you have, "touch-tone" or "pulse-dialing?" If you have a rotary dial on your handset, you're probably using pulse dialing. If you have a push-button phone where you hear musical tones, it's probably touch-tone. In any case, you can find out from the telephone company what kind of service you have.

2) What baud rate will you be using? This depends on your modem and also on what speed the system you are calling is prepared to handle. 300 baud would be a safe statement in any case (modems work perfectly well at lower speeds than their maximum).

3) What phone number are you calling?

4) What parity? Here's the only part that sounds complicated. You don't have to know what this means to make your call; you just have to put appropriate numbers in. (See Appendix B for an explanation of parity checking, if you're interested.) Your communications program will have an entry which requests parameters. For most IBM PC bulletin boards enter N-8-1. For many other systems, E-7-1 is appropriate. (And for some calls, it doesn't matter. The computer at the other end will adjust to whatever parameters you use.)

Using PC-TALK as an example, here's what you do. When you call the program, you will see a command summary on the screen which instructs you to press Alt-D (Hold down the "Alt" key while you press "D") for a "Dialing Directory." Do it.

Also turn on your modem. (PC-Talk reminds you about that too.)

Then you'll see on your screen something that looks like the following:

=== DIALING DIRECTORY   1 === Modem dialing command = ATDT
                                    Long distance service +# =
                                                    - # =

Name	Phone #	Comm Param	Echo	Mesg	Strip	Pace
1 ------	- --- --- ---	300-E-7-1	N	N	N	N
2 ------	- --- --- ---	300-E-7-1	N	N	N	N
3 ------	- --- --- ---	300-E-7-1	N	N	N	N
4 ------	- --- --- ---	300-E-7-1	N	N	N	N
5 ------	- --- --- ---	300-E-7-1	N	N	N	N
6 ------	- --- --- ---	300-E-7-1	N	N	N	N
7 ------	- --- --- ---	300-E-7-1	N	N	N	N
8 ------	- --- --- ---	300-E-7-1	N	N	N	N
9 ------	- --- --- ---	300-E-7-1	N	N	N	N
10 ------	- --- --- ---	300-E-7-1	N	N	N	N
11 ------	- --- --- ---	300-E-7-1	N	N	N	N
12 ------	- --- --- ---	300-E-7-1	N	N	N	N
13 ------	- --- --- ---	300-E-7-1	N	N	N	N
14 ------	- --- --- ---	300-E-7-1	N	N	N	N
15 ------	- --- --- ---	300-E-7-1	N	N	N	N

Dial entry #:   ¦ or ... Enter: R to revise or add to directory
                                 M for manual dialing
                        F / B to page through directory
                              X to exit to terminal

The "default conditions" that are set automatically call for touch-tone dialing, 300 baud and even parity. If you have pulse dialing you will need to change the "Modem dialing command" to ATDP. If you are calling an IBM PC bulletin board, change E-7-1 to N-8-1. Both of these are done by entering R to revise, after which the program will ask what changes you want to make. As it goes through its list of questions, you simply press the ENTER key for anything you don't want to change.

As an example, suppose you want to call the DESOTO PC bulletin board. You could put its name and phone number in entry 1. Change the E-7-1 to N-8-1, and leave everything else as it was.

You'll be shown the new directory and asked if it's O.K. If you answer affirmatively, then you'll be ready to dial. You type in a "1" and enter, and the dialing starts.

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If the line isn't busy, the next thing that should happen is that the word "CONNECT" shows up on your screen. Press the carriage return and your "host" will start sending you messages telling you what to do next.

In Appendix A you will find an almost-complete transcript of a call made in January 1984 to an IBM PC bulletin board. Only the password supplied and the program requested and received by phone are not included. Read it and you'll have an idea of what to expect.

And remember—everyone feels just as confused the first time. So hook up your modem, using the adapter you bought for the wall jack. Get your software manual out where it's handy, and get started. If your call is going to be long distance, try the first contact when night or weekend rates are in effect.

You won't stay a novice for long. Try a call. Soon you'll like it.

IBM PC Bulletin Boards

Following is a partial listing of the IBM PC bulletin boards on-line in the United States and Canada. The list is updated as we receive information about new bulletin boards.

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201/783-6976
Source: ST7057
NY PC Users Group
SYSOP: Donald David
24 hrs, 300/1200

202/362-2707
Washington, D.C.
SYSOP: Mike Todd
24 hrs, novice special interest group, 300

203/289-6321
East Hartford, Connecticut
SYSOP: Scott Maentz
6 p.m. to 9 a.m. Mon to Sat, all day Sun, download & upload, messages, 300/1200

203/521-1991
Hartford, Connecticut
SYSOP: John O'Boyle
10 p.m. to 5:30 p.m. Mon to Fri, evenings Sat & Sun, download & upload, messages, 300/1200
(Passwd = IBMPC)

203/966-8869
New Canaan, Connecticut
SYSOP: Whit Wynat
24 hrs, download & upload, messages, 300

213/371-8825
Culver City, California
SYSOP: Marc Schoenberg
24 hrs, download & upload, messages, 300/1200

213/390-3239
Source: TCG147
Santa Monica, California
SYSOP: Marc Schoenberg
24 hrs, download & upload, 10M disk, 300/1200

213/390-4182
Santa Monica, California
SYSOP: Marc Schoenberg
24 hrs, download & upload, messages, 300/1200

213/649-1489
Culver City, California
SYSOP: George Peck
24 hrs, download & upload, messages, 300/1200

214/223-0983
Dallas/Ft. Worth, Texas
SYSOP: Mark Collard
24 hrs, download & upload, messages, 300/1200

215/439-5696
Allentown, Pennsylvania
SYSOP: Glenn Wesley
24 hrs, download & upload, messages, 300/1200

219/255-8803
South Bend, Indiana
SYSOP: Rich Granbeck
24 hrs, download & upload
  (Xmodem), messages,
  300/1200

301/251-6293
Gaithersburg, Maryland
SYSOP: Larry Jordan
24 hrs, communications info
  (Xmodem), messages,
  300/1200
(Passwd = IBMPC)

301/371-6271
Frederick, Maryland
SYSOP: Gary Horwith
18 hrs, download & upload
  (Xmodem), messages, 300

301/424-5817
Potomac, Maryland
SYSOP: Doug Thompson
24 hrs, upload newspaper
  articles, 300/1200

301/460-0538
Bethesda, Maryland
SYSOP: Ramona Landberg
24 hrs, download & upload,
  300/1200
(Passwd = IBMPC)

301/948-9143
Gaithersburg, Maryland
SYSOP: Jim Frye
24 hrs, local buying info,
  download & upload
  (Xmodem), 300

301/949-8848
Rockville, Maryland
SYSOP: Rich Schinnell
24 hrs, download & upload,
  300/1200
(Passwd = IBMPC)

303/690-4566
Denver, Colorado
SYSOP: Chris Carson
24 hrs, download & upload

303/973-9338
Denver, Colorado
SYSOP: Oscar Barlow
7 a.m. to 11 p.m., download
  & upload, messages,
  300/1200

312/267-2066
Chicago, Illinois
SYSOP: Dave Jeschke
24 hrs, messages, 300/1200
(Passwd = IBMPC)

312/376-7598
Chicago, Illinois
SYSOP: Pete Coniceak
24 hrs, download & upload,
  messages, 300

312/396-1022
Chicago, Illinois
SYSOP: Tom Speaker
7 p.m. to 9 a.m. Mon to Sat, 7
  p.m. Sat to 9 a.m. Mon,
  download & upload,
  messages, 300/1200

312/882-4227
Chicago, Illinois
SYSOP: Gene Plantz
24 hrs, download & upload,
  messages, 300/1200

312/944-4847
Chicago, Illinois
SYSOP: Bob Dew
24 hrs, download & upload,
 messages, 300/1200

319/332-7648
Quad Cities PC Users Group
Bettendorf, Iowa
SYSOP: Jeff Machusak
24 hrs, download & upload,
 messages, 300/1200

319/363-3314
Cedar Rapids, Iowa
SYSOP: Ben Blackstock
24 hrs, download & upload,
 messages, 300/1200

404/252-9438
Atlanta, Georgia
SYSOP: Rod Roark
24 hrs, download & upload,
 messages

404/634-5731
Atlanta, Georgia
SYSOP: Randy Bullard
24 hrs, download & upload,
 messages, 300/1200

404/926-8411
Atlanta, Georgia
SYSOP: Ken Shackelford
10 p.m. Mon to 3 p.m. Fri, 10
 p.m. Fri to noon Sat, down-
 load & upload, messages,
 300

415/481-0252
San Lorenzo, California
SYSOP: Terry Taylor
24 hrs, download & upload
 (Xmodem), messages, 300

415/845-9462
Berkeley, California
SYSOP: John Carmichael
24 hrs, 300
(Passwd = GUEST)

415/861-5733
San Francisco, California
SYSOP: Harry Logan
24 hrs, download & upload,
 messages, 300/1200

415/937-0156
Walnut Creek, California
SYSOP: Wes Meier
24 hrs, messages (Xmodem),
 300/1200

416/499-7023
Toronto, Ontario
SYSOP: Doug Peel
24 hrs, download & upload,
 messages, 300/1200
(Passwd = IBMPC)

513/874-9609
Cincinnati, Ohio
SYSOP: John Harrington
24 hrs, download & upload,
 messages, 300/1200

516/944-6712
Source: ST6368
Long Island, New York
24 hrs, download & upload,
 messages, 300

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602/742-5187
Tucson, Arizona
SYSOP: Bill Crider
6 p.m. to 10 a.m. Mon to Sat,
2 p.m. to midnight Sat, all
day Sun, download & up-
load, messages, 300/1200

608/262-4939
Madison, Wisconsin
PC Users Group
SYSOP: Read Gilgen
5 p.m. to 8 a.m. weekdays,
5 p.m. Fri to 8 a.m. Mon,
download & upload, mes-
sages, 300

617/353-9312
Boston Computer Society
SYSOP: Brian Hess
5:30 p.m. to 9 a.m. Mon to
Fri, all day Sat & Sun,
download & upload,
messages, 300

701/293-5973
Fargo, North Dakota
SYSOP: Loren Jones
24 hrs, download & upload,
messages, 300/1200

703/425-7229
Springfield, Virginia
SYSOP: Bob Blackwell
24 hrs, download & upload,
300/1200
(Passwd = IBMPC)

703/522-4513
Vienna, Virginia
SYSOP: Paul McKnight
24 hrs, download & upload,
300
(Passwd = IBMPC)

703/560-7803
Vienna, Virginia
ABBS with IBM PC
Conference
24 hrs, download & upload,
messages, 300

703/560-0979
Annandale, Virginia
SYSOP: Wes Merchant
Download, messages,
bulletins, 300

703/680-5220
Dale City, Virginia
Dale City Info Exchange
SYSOP: Tim Mullins
24 hrs, news, new product
reviews—all PCs, 300

703/978-9592
Fairfax, Virginia
SYSOP: Don Withrow
24 hrs, download & upload,
tips, 300/1200
(Passwd = IBMPC)

704/365-4311
Charlotte, North Carolina
SYSOP: Charles McCurry
24 hrs, download & upload,
messages

714/631-4021
Orange County, California
24 hrs, download & upload,
messages, 300/1200

714/637-2094
Orange County, California
24 hrs, download & upload,
messages, 300/1200

716/836-6964
Buffalo, New York
SYSOP: Bob Taylor
9 p.m. to 9 a.m. Tu, W, Th,
    F; 6 p.m. Sat to 9 a.m. Tu;
    download & upload,
    messages, 300

803/548-0900
Fort Mill, South Carolina
SYSOP: Bill Taylor
24 hrs, download & up-
load, 300/1200

806/353-7484
Amarillo, Texas
SYSOP: Dorn Stickle
6 p.m. to 8 a.m. Mon to Sat,
    all day Sun, download &
    upload (Xmodem),
    messages, 300

913/841-6424
Lawrence, Kansas
SYSOP: Bruce Anderson
24 hrs, download & upload
    (Xmodem), messages, 300

914/221-0774
Hopewell Junction, New York
SYSOP: John Giberson
24 hrs, download & upload,
    messages, sports/ham radio
    news, 300/1200

914/297-0665
Poughkeepsie, NY
SYSOP: Ray Hyder
24 hrs, download & upload,
    messages, games, 300/1200

918/664-8737
Tulsa, Oklahoma
SYSOP: Lynn Long
24 hrs, "C" special interest
    group, download & upload,
    300/1200

919/847-4625
Raleigh, North Carolina
SYSOP: Randy Ray
Download & upload,
    messages, 300/1200
(Passwd = IBMPC)

800/848-8199
CompuServe
24 hrs, download & upload,
    messages
Subscribers only

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************************************************************
*        PUBLIC ACCESS MESSAGE (and file transfer) SYSTEMS      *
*               (P.A.M.S.) last updated 02/23/84               *
*                                                              *
*      Compliments of Peoples' Message System, Santee CA.      *
*                  ( 6 1 9 )   5 6 1 - 7 2 7 7                  *
*              Compiled and maintained by Bill Blue            *
*             (with a lot of help from his friends)            *
*                                                              *
*              Current filesize is 43,200 bytes.               *
*                                                              *
************************************************************
```

-> Listed systems hours of operation:

    *   denotes mostly 24-hour 7-day operation

    +   denotes 8-12 hour DAYTIME operation ONLY

    -   denotes 8-12 hour NIGHTTIME operation ONLY

-> New listings or changes:

    !   denotes a new system, a new number to an existing
       system or new list entry

-> All systems listed support Bell 103a 300 bits per second

    #   also supports VADIC (3400 series) 1200 Bps.

    &   also supports Bell 212A 1200 Bps.

    %   also supports BAUDOT operation (usually 45.5 Bps.)

-> System categories:

    #1   denotes original or "home" system of that type

    dd. denotes game oriented messages or game playing

    dl. download/upload capabilities, a program exchange system

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ml. mail/information exchange only

rb. denotes call, let ring once and call back

rl. religious orientation

we. weekends only

-> Regular updates of this list may be found on:

CompuServe MAUG XA4, The Source PUBLIC 112, and most
participating independent PMS systems.

-> Please help keep this list accurate. Send VERIFIED
additions, deletions or corrections to me at:

System or Net	Send to:
Compuserve	70315,1305
P.dBMS #1	Bill Blue
PMS - Santee	sysop
Telemail	wblue
The Source	TCB117
uucp	...sdchema!bang!bblue

IMPORTANT NOTE! List updates must be sent in the same general
format as shown here. ALL relevant info must be included -
system software type, system name, city, state, area code,
phone number, hours of operation and category. If only phone
numbers have changed, always reference the old phone number.
Submissions without the necessary AND COMPLETE information
will NOT be used.

-> List now begins in alpha-numeric order by type:

ABBS Akron Digital Group, Akron, OH.........(216) 745 7855‡

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ABBS Analog, Port Coquitlam, BC, CN..........(604) 941 0041%
ABBS Apple Crate I, Seattle, WA.............!(206) 872 6789
ABBS Byte Shop, Ft. Lauderdale, FL..........(305) 486 2983-
ABBS Byte Shop, Miami, FL...................(305) 261 3639-
ABBS CODE, Glen Ellyn, IL...................(312) 882 2926%
ABBS Colortron Computer, Racine, WI.........(414) 637 9990%
ABBS Compumart, Ottawa, Ontario, CN.........(613) 725 2243
ABBS Computer Room, Kalamazoo, MI...........(616) 382 0101
ABBS Gamemaster, Chicago, IL................(312) 475 4884%
ABBS Image Base, Long Beach, CA............!(213) 597 0064%
ABBS Ketchikan, AK..........................(907) 225 6789
ABBS LINX, Lincoln, NE......................(402) 476 1177%dl.
ABBS New York, NY...........................(516) 473 1005%
ABBS New York, NY...........................(212) 877 7703%
ABBS Nessy Game System, Itasca, IL..........(312) 773 3308%
ABBS Nessy Flynn's BBS, Crystal Lake, IL.....(815) 455 2406
ABBS Omaha, NE..............................(402) 339 7809
ABBS Pacific Palisades, Los Angeles, CA......(213) 459 6400
ABBS Peoria, IL.............................(309) 692 6502
ABBS Phoenix, AZ............................(602) 898 0891
ABBS Pirates Cove, Long Island, NY..........(516) 698 4008
ABBS Rogers Park, Chicago, IL...............(312) 973 2227
ABBS Software Sorcery, Herndon, VA..........&(703) 471 0610%
ABBS South of Market, San Francisco, CA......(415) 469 8111
ABBS The Pulse, Dallas, TX..................(214) 631 7747%
ABBS Teledunjon III, Dallas, TX.............(214) 960 7654%dd.
ABBS Turnersville, NJ.......................(609) 228 1149
ABBS Vancouver, BC, CN......................(604) 437 7001
ABBS Vermont, Essex Junction, VT............(802) 879 4981%
ABBS West Palm Beach, FL....................(305) 848 3802

ACS Arlington Heights, IL...................#1(312) 392 2403
ACS Chicago, IL.............................(312) 445 1130
```

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A-C-C-E-S-S Annapolis, MD...................(301) 267 7666%
A-C-C-E-S-S Phoenix, AZ..................&(602) 957 4428%
A-C-C-E-S-S Call-A-Lawyer, Phoenix, AZ.......(602) 275 6644
A-C-C-E-S-S Scottsdale, AZ..................(602) 998 9411%


AE PRO Jolly Roger, Houston, TX.............!(713) 468 0174%


AMIS APEX, Houston, TX.....................!(713) 471 7117%
AMIS A.F.A.C. BBS, Riverside, CA............!(714) 781 8774%
AMIS A.R.C.A.D.E. Sterling Heights, MI.......(313) 978 8087%
AMIS Clarendon Hills, IL....................(312) 789 3610%
AMIS GRAFEX Cupertino, CA...................(408) 253 5216
AMIS G.R.A.S.S. Grand Rapids, MI.............(616) 241 1971%
AMIS Hart City BBS, Elkhart, IN............!(219) 262 3980%
AMIS IBBBS San Jose, CA.....................(408) 298 6930
AMIS Jolly Roger BBS, Park Ridge, NJ........!(201) 391 5519
AMIS M.A.C.E. Detroit, MI.................,.#1(313) 589 0996%
AMIS Manhattan Message Manager, New York, NY!(212) 879 5182
AMIS T.A.B.B.S. Sunnyvale, CA...............(408) 942 6975


ARMUDIC Computer Age, Baltimore, MD.........(301) 587 2132


BBS IBM Hostcomm Atlanta, GA................(404) 252 4146
BBS IBM Hostcomm Fairfax, VA.<pw=IBMPC>......(703) 978 9592%
BBS IBM Hostcomm Fairfax, VA................(703) 385 8384%
BBS IBM Hostcomm Potomac, MD...............!(301) 424 5817%
BBS IBM Hostcomm Raleigh, NC.<pw=IBMPC>.....!(919) 847 4625%
BBS IBM Hostcomm Rockville, MD..............(301) 949 8848%
BBS IBM Hostcomm Springfield, VA............(703) 425 7229%
BBS IBM Hostcomm Springfield, VA...........!(703) 425 6308-
BBS IBM Hostcomm Houston, TX................(713) 890 0310%
BBS IBM Hostcomm Toronto, Ont., CN.<pw=IBMPC>(416) 499 7023%
BBS IBM Hostcomm Vienna, VA.<pw=IBMPC>......!(703) 522 4513%
BBS IBM PC Annandale, VA....................(703) 560 0979%
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BBS IBM PC Atlanta, GA.....................(404) 928 3005
BBS IBM PC Atlanta, GA.....................(404) 252 9438*
BBS IBM PC Berkeley, CA.<pw=Guest>.........!(415) 845 9462*
BBS IBM PC Comp. Res. Ctr., Santa Monica, CA!(213) 829 1487
BBS IBM PC Comp. Res. Ctr., Santa Monica, CA!(213) 828 1331-
BBS IBM PC Culver City, CA.................!(213) 371 8825*
BBS IBM PC Culver City, CA................&!(213) 410 0714*
BBS IBM PC East Hartford, CT...............!(203) 289 6321-
BBS IBM PC Niles, IL.......................(312) 991 8887*
BBS IBM PC Poughkeepsie, NY................!(914) 297 0665*dd.
BBS IBM PC San Fernando Valley, CA.........!(213) 368 5801*
BBS IBM PC Santa Monica, CA................!(213) 390 4182*
BBS IBM PC Seattle, WA.....................!(206) 367 7949-dd.
BBS IBM PC Seattle, WA.....................!(206) 522 1340*dd.
BBS IBM PC Seattle, WA.....................!(206) 883 4403-dd.
BBS IBM PC SIG, San Diego, CA..............(619) 268 0437*
BBS IBM PC Tulsa Computer Soc., Tulsa, OK...!(918) 446 5219*
BBS IBM PC Tulsa Info. Exchange, Tulsa, OK..!(918) 438 3363*
BBS IBM PC Vienna, VA......................(703) 560 7803*
BBS IBM PC Woodbridge, VA..................!(703) 590 9613*

BULLET-80 Boston, MA.....................&(617) 266 7789*
BULLET-80 Chesterland, OH..................(216) 729 2769
BULLET-80 Danbury, CT....................#!(203) 744 4644
BULLET-80 El Paso, TX......................(915) 565 9903*
BULLET-80 Fayetteville, GA.................(404) 461 9686
BULLET-80 Hattiesburg, MS..................(601) 264 2361*
BULLET-80 Orange County, Anaheim, CA.......(714) 952 2110
BULLET-80 Seymour, CT......................(203) 888 7952
BULLET-80 Springfield, IL..................(217) 529 1113
BULLET-80 Waterford, MI....................(313) 628 4350*
BULLET-80 Pirate Place, Newport Beach, CA....(714) 644 7942

CBBS AMRAD, Washington, DC..................(703) 734 1387*
CBBS Aurora Computer Peripherals, Aurora, CO.(312) 897 9037*
CBBS Boston, MA............................(617) 646 3610*
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CBBS Cedar Rapids, IA........................(319) 364 0811%
CBBS Chicago, IL.........................#1(312) 545 8086%
CBBS Heath Store, Honolulu, HI.............!&(808) 487 8755
CBBS Lambda, Berkeley, CA...................(415) 658 2919
CBBS Lawrence General Hospital, Boston, MA...(617) 683 2119
CBBS LICA LIMBS, Long Island, NY............(516) 561 6590%
CBBS London, England..(European standard)..(044) 1 399 2136
CBBS Long Island, NY.........................(516) 334 3134%
CBBS MAUDE Milwaukee, WI....................%&(414) 241 8364%
                              Also: %&(312) 876 0974%
CBBS MicroStar, Worcester, MA...............(617) 752 7284
CBBS NW, Portland, OR........................(503) 646 5510%
CBBS PACC, Pittsburgh, PA...................(412) 822 7176%
CBBS Prince George, B.C., CN................(604) 562 9515
CBBS Proxima, Berkeley, CA..................(415) 357 1130
CBBS RAMS, Rochester, NY....................(716) 244 9531
CBBS Rosemont, MN...........................(612) 423 5016
CBBS SabaHomline, San Diego, CA..........%&!(619) 692 1961%
CBBS St. Petersburg, FL.....................(813) 866 9945%
CBBS Strictly Software, Honolulu, HI........(808) 944 0562
CBBS TSS, Tucson, AZ........................(602) 574 0327%


COMNET-80 Akron, OH........................&(216) 645 0827%
COMNET-80 Las Vegas, NV....................&(702) 870 9986
COMNET-80 Mt. Clemens, MI..................&(313) 465 9531
COMNET-80 North Wales, PA...................(215) 855 3809
COMNET-80 Riverside, CA....................&(714) 359 3189
COMNET-80 Riverside, CA....................&(714) 877 2253
COMNET-80 Wichita Falls, TX.................(817) 767 5847


CONNECTION-80 Centereach, NY...............(516) 588 5836
CONNECTION-80 Fremont, CA..................(415) 651 4147%
CONNECTION-80 JACS, Jacksonville, FL.......(904) 353 5227%
CONNECTION-80 Lansing, MI..................(517) 339 3367
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CONNECTION-80 Laval BELE, Laval, Quebec, CN..(514) 622 1274*
CONNECTION-80 Manhattan, NY.................(212) 991 1664
CONNECTION-80 Orlando, FL...................(305) 644 8327*
CONNECTION-80 Peterborough, NH..............(603) 924 7920
CONNECTION-80 Waco, TX....................!(817) 754 1568
CONNECTION-80 Woodhaven, NY.................(212) 441 3755*


CONFERENCE-TREE Santa Cruz, CA..............(408) 475 7101
CONFERENCE-TREE Computerland, Honolulu, HI...(808) 487 2001*
CONFERENCE-TREE Cookville, TN...............(615) 528 5039*
CONFERENCE-TREE Flagship, Rockaway, NJ.......(201) 627 5151*
CONFERENCE-TREE Hayward, CA.................(415) 538 3580
CONFERENCE-TREE Kelp Bed, Los Angeles, CA....(213) 372 4800
CONFERENCE-TREE Minneapolis, MN.............(612) 854 9691
CONFERENCE-TREE Palo Alto, CA..............!(415) 948 1474
CONFERENCE TREE Phoenix, AZ.................(602) 931 1829*
CONFERENCE-TREE San Francisco, CA.........#1(415) 861 6489
CONFERENCE-TREE Santa Monica, CA............(213) 394 1505
CONFERENCE-TREE Sausalito, CA...............(415) 332 8115
CONFERENCE-TREE Tacoma, WA..................(206) 759 0615*


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DIAL-YOUR-MATCH #4.........................(213) 783 2305
DIAL-YOUR-MATCH #8, San Francisco, CA.......(415) 467 2588
DIAL-YOUR-MATCH #11, Carlsbad, CA..........(619) 434 4600*
DIAL-YOUR-MATCH #12, Houston, TX...........(713) 556 1531*
DIAL-YOUR-MATCH #14........................(201) 272 3686
DIAL-YOUR-MATCH #16........................(206) 256 6624
DIAL-YOUR-MATCH #17........................(415) 991 4911
DIAL-YOUR-MATCH #18........................(617) 334 6369
DIAL-YOUR-MATCH #20........................(919) 362 0676
DIAL-YOUR-MATCH #21, Freehold, NJ..........(201) 462 0435
DIAL-YOUR-MATCH #22........................(213) 990 6830
DIAL-YOUR-MATCH #37, Flint, MI.............(313) 736 1398
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DIAL-YOUR-MATCH #38, Austin, TX..............(512) 451 8747
DIAL-YOUR-MATCH #39, Chicago, IL..............(312) 243 1046
DIAL-YOUR-MATCH #40, Dallas, TX..............!(214) 987 3547
DIAL-YOUR-MATCH #77, Houston, TX.............!(713) 981 4062


FORUM-80 Augusta, GA.........................(803) 279 5392
FORUM-80 Cleveland, OH.....................&!(216) 943 2388
FORUM-80 El Paso, TX.........................(915) 755 1000%
FORUM-80 Ft. Lauderdale, FL..................(305) 772 4444%
FORUM-80 Hull, England.................(011) 44 482 859169
FORUM-80 Kansas City, MO...................&(816) 931 9316
FORUM-80 Las Vegas, NV......................(702) 362 3609%
FORUM-80 Linden, NJ.........................(201) 486 2956%
FORUM-80 Medford, OR........................(503) 535 6883%
FORUM-80 Medical, Memphis, TN...............(901) 276 8196%
FORUM-80 Monmouth, Brielle, NJ..............(201) 974 1196%
FORUM-80 Montgomery, AL.....................(205) 272 5069
FORUM-80 Prince William County, VA..........(703) 670 5881%
FORUM-80 San Mateo, CA....................&(415) 348 2139
FORUM-80 Seattle, WA........................(206) 723 3282
FORUM-80 Westford, MA.......................(617) 692 3973
FORUM-80 Wichita, KS......................&(316) 682 2113%


GABBS Armadillo Media, Houston, TX...........(713) 444 7098%
GABBS Food for Thought, Omaha, NE...........(402) 551 4618%
GABBS San Diego, CA.........................!(619) 578 3743%
GABBS The Great Apple, Houston, TX.........#1(713) 455 9502%
GABBS Vox Populi, Houston, TX...............(713) 772 6096%


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GREENE MACHINE Riverside, CA.. .............(714) 354 8004
GREENE MACHINE Chicago, IL..................(312) 622 4442
GREENE MACHINE Sunnymead, CA................(714) 924 2229%
GREENE MACHINE Yuma, AZ...................&(602) 726 7533%
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HBBS Heath/Zenith, Grand Rapids, MI........&!(616) 538 1041
HBBS MOG-UR, Granada Hills, CA.............&(213) 366 1238%


MCMS C.A.M.S. Chicago, IL.................#1&(312) 927 1020%
MCMS Goliath, Minneapolis, MN...............(612) 753 3002
MCMS J.A.M.S. Lockport, IL..................(815) 838 1020%
MCMS P.C.M.S. Wheaton, IL.................&(312) 462 7560%
MCMS WACO Hot Line, Schaumburg, IL..<pvt>....(312) 351 4374%
MCMS Word Exchange, Springfield, IL..........(217) 753 4309%


NET-WORKS ABC, Kansas City, MO..............(816) 483 2526
NET-WORKS Adventure's Inn, Lake Forest, IL...(312) 295 7284%
NET-WORKS AGS, Augusta, GA..................(404) 733 3461%
NET-WORKS Alamo City, TX.............,.......!(512) 442 1116
NET-WORKS Apple Astronomy, Houston, TX......!(713) 526 5671%
NET-WORKS Apple Gumbo, Shreveport, LA........(318) 861 1012%
NET-WORKS Apple Juice, Orien, IL............(312) 685 9573
NET-WORKS Apple Net, Chicago, IL............(312) 963 5384
NET-WORKS Apple-Technical, Chicago, IL.......(312) 935 3091
NET-WORKS Armadillo, Grand Forks, ND........(701) 746 4959
NET-WORKS Assembly Line, Louisville, KY......(502) 459 5531-
NET-WORKS Baud-ville, Louisville, KY.........(502) 423 0695-
NET-WORKS Big Apple, Miami, FL..............(305) 948 8000
NET-WORKS Briar-Net, Houston, TX............(713) 782 5706%
NET-WORKS Brooklyn, NY......................(212) 410 0949
NET-WORKS C.A.M.S., Decatur, IL.............(217) 875 7114-
NET-WORKS Charleston, WV....................(304) 345 6502%
NET-WORKS Chipmunk, Hinsdale, IL............(312) 323 3741%
NET-WORKS Coin Games, Los Angeles, CA.......(213) 336 5535
NET-WORKS Computer Market, Honolulu, HI......(808) 524 6668-
NET-WORKS Computer World, Los Angeles, CA....(213) 859 0894%
NET-WORKS Crystal Dimension, Houston, TX....!(713) 497 2175
NET-WORKS Daily Net, Houston, TX............!(713) 493 6118%
NET-WORKS DOC Board, Houston, TX............!(713) 471 4131%
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NET-WORKS Eclectic Computer Sys., Dallas, TX.(214) 239 5842
NET-WORKS Fantasy Voyage, Houston, TX.......!(714) 333 1845-
NET-WORKS Forth Dimension, St. Louis, MO.....(314) 532 4652
NET-WORKS Great White North, St. Louis, MO..!(314) 849 3171
NET-WORKS Hawaii Connection, Honolulu, HI...!(808) 456 8689*
NET-WORKS Health BBS, Ames, IA..............!(515) 233 5254*
NET-WORKS Honolulu, HI.......................(808) 524 6652
NET-WORKS Livingston, NJ.....................(201) 994 9620*
NET-WORKS MAGIE, Galesburg, IL...............(309) 343 3799*
                               Also: (309) 563 9543*
NET-WORKS Magnetic Fantasies, Los Angeles, CA(213) 388 5198
NET-WORKS Memory Lane, Honolulu, HI.........!(808) 526 0719*
NET-WORKS MicroBBS, Chelmsford, MA...........(617) 889 4330
NET-WORKS Mines of Moria, Houston, TX........(713) 871 8577*
NET-WORKS N A G S, Alton, IL.................(618) 466 9497
NET-WORKS Pearl City Network, Honolulu, HI..!(808) 456 3745*
NET-WORKS Pirate's Harbor, Boston, MA........(617) 720 3600
NET-WORKS Pirate's Lodge, New City, NY.......(914) 634 1268
NET-WORKS Portsmouth, NH.....................(603) 436 3461
NET-WORKS RJNET, Warnville, IL...............(312) 393 4755
NET-WORKS Softworx, West Los Angeles, CA.....(213) 473 2754
NET-WORKS Space Voyage, Houston, TX.........!(713) 568 6595-
NET-WORKS The Dark Realm, Houston, TX........(713) 333 2309*
NET-WORKS The Digital Dimension, Houston, TX!(713) 497 4633-
NET-WORKS The Dragon's Lair NW, San Jose, CA.(408) 996 7464
NET-WORKS The Inner Realm, Houston, TX......!(713) 583 2002*
NET-WORKS The Shadow World, Houston, TX......(713) 777 8608*
NET-WORKS The Silver Tongue, St. Joseph, MO..(816) 232 3153
NET-WORKS The System, Houston, TX............(713) 785 7996-
NET-WORKS The Weekender, Houston, TX.........(713) 492 8700*
NET-WORKS Toronto, Ontario, CN...............(416) 445 6696*
NET-WORKS Warlock's Castle St., Louis, MO....(618) 345 6638
NET-WORKS Zachary*Net, Houston, TX...........(713) 933 7353*
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PMS - Ed Tech, San Diego, CA................(619) 265 3428
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RBBS IBM PC Computer Society, Boston, MA.....(617) 353 9312-
RBBS IBM PCmodem Chicago, IL................&(312) 882 4227%dl.
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RBBS IBM PC Dallas, TX......................!(214) 223 0983%
RBBS IBM PC Enid, OK........................!(405) 237 0558%
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RBBS IBM PC Gaithersburg, MD.................!(301) 948 9143%
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RBBS IBM PC Madison, WI......................(608) 262 4939%
RBBS IBM PC Pittsburgh, PA...................!(412) 963 0248%
RBBS IBM PC Place, Houston, TX...............!(713) 488 7179%
RBBS IBM PC New Caanan, CT...................!(203) 966 8869%
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RBBS IBM PC Orange County, CA................!(714) 637 2094%
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RCP/M CBBS ANAHUG, Anaheim, CA...............(714) 774 7860%
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RCP/M CBBS Frog Hollow, Vancouver, BC, CN....(604) 937 0906%
RCP/M CBBS MICOM, Melbourne, VIC, Australia...61 3 762 5088%
RCP/M CBBS N.O.C. Comp. Club, Orange, CA.....(714) 633 5240
RCP/M CBBS Pasadena, CA......................(213) 799 1632%
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RCP/M CUG-NOTE, Denver, CO...................(303) 781 4937%
RCP/M CUG-NODE, PA State College, PA.........(814) 238 4857%
RCP/M Dave McCrady, Edmonton, Alberta, CN..$&(403) 454 6093%
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RCP/M MV-HUG, Mission Viejo, CA.............!(714) 495 9384-
RCP/M Mississauga HUG, Toronto, Ont., CN...$&(416) 232 2644%
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RCP/M North Chicago, Chicago, IL............(312) 937 5639
RCP/M Olympia, WA...........................(206) 357 7400%
RCP/M Oxgate College Station, TX............(409) 845 0509%
RCP/M Oxgate 001, Saratoga, CA............$&(408) 354 5934%
RCP/M Oxgate 007, Grafton, VA...............(804) 898 7493%
RCP/M Programmers Anonymous, Gorham, ME.....&(207) 839 2337%
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RCP/M RBBS AIMS, Hinsdale, IL................(312) 789 0499%
RCP/M RBBS Allentown, PA.....................(215) 398 3937%
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RCP/M RBBS AlphaNet, Lawrence, KA...........(913) 843 4259-
RCP/M RBBS Arvada Elect.,Colorado Spngs, CO..(303) 598 4662%
RCP/M RBBS Baton Rouge, LA.................!(504) 273 3116%
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RCP/M RBBS BHEC, Baltimore, MD.............(301) 661 2175%
RCP/M RBBS Cincinnati, OH..................(513) 489 0149-
RCP/M RBBS Computron, Edmonton, Alberta, CN..(403) 482 6854%
RCP/M RBBS Cranford, NJ....................(201) 272 1874%
RCP/M RBBS DataTech 001, San Carlos, CA..#1&(415) 595 0541%
RCP/M RBBS DataTech 007, San Jose, CA........(408) 238 9621%
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RCP/M RBBS El Paso, TX.....................&(915) 598 1668%
RCP/M RBBS EPSON, Braintree, MA.<pw=Epson>...(617) 848 8281
RCP/M RBBS EPSON, Bristol, PA.<pw=Epson>.....(215) 788 5614
RCP/M RBBS EPSON, Dallas, TX.<pw=Epsonstc)...(214) 659 0387
RCP/M RBBS EPSON, Placentia, CA.<pw=Amber>...(714) 632 8332
RCP/M RBBS EPSON, San Francisco, CA.<Epson>..(415) 589 5062
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RCP/M RBBS Helena Valley, Helena, MT........(406) 443 2768+
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RCP/M RBBS IBM-PC, Orlando, FL.............$&(305) 830 4340%
RCP/M RBBS JUG, Jacksonville, FL...........$(904) 725 4995%
RCP/M RBBS Lakewood, Denver, CO............(303) 985 1108%
RCP/M RBBS Laurel, MD......................(301) 953 3753%
RCP/M RBBS Marin County, CA................(415) 383 0473%
RCP/M RBBS NACS/UAH, Huntsville, AL.........(205) 895 6749%rb.
RCP/M RBBS Napa Valley, CA.................(707) 257 6502%
RCP/M RBBS Ocean, NJ.......................&(201) 775 8705
RCP/M RBBS Orlando, FL.....................$&(305) 671 2330%
RCP/M RBBS OvatioNet, Lexington, KY.........!(606) 273 8634-
RCP/M RBBS Pasadena, CA....................$(213) 577 9947%
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RCP/M RBBS Paul Bogdanovich, NJ..............(201) 747 7301
RCP/M RBBS Pegasus, Houston, TX..............(713) 999 1205%
RCP/M RBBS Pickerington, OH..................(614) 837 3269
RCP/M RBBS Piconet, Mt. View, CA.............(415) 965 4097
RCP/M RBBS Rutgers, New Brunswick, NJ.......(201) 932 3879%
RCP/M RBBS San Diego, CA...................$&(619) 273 4354%
RCP/M RBBS SDCS HEC#04, La Mesa, CA.........(619) 461 5117%
RCP/M RBBS SDCS San Diego, CA...............(619) 236 0742%
RCP/M RBBS San Jose Oxgate, San Jose, CA.....(408) 287 5901%
RCP/M RBBS Southfield, MI....................(313) 559 5326%
RCP/M RBBS Tampa, FL..........................(813) 831 7276
RCP/M RBBS Woodstock, NY....................&(914) 679 8734%
RCP/M RBBS Yelm, Olympia, WA................(206) 458 3086 rb.
RCP/M Rich & Famous, San Francisco, CA.......(415) 552 9968%
RCP/M Satsuma, Houston, TX................&!(713) 469 8893%
RCP/M Simi Valley, CA........................(805) 527 2219-
RCP/M SJBBS Bearsville, NY..................(914) 679 6559%rb.
RCP/M SJBBS Johnson City, NY................(607) 797 6416-
RCP/M Software Tools, Sydney, Australia......61 02 997 1018%
RCP/M Sunnyvale, CA..........................(408) 730 8733-
RCP/M Superbrain, Lexington, MA............$&(617) 862 0781%
RCP/M System One, Toronto, CN..............&(416) 231 9538%
RCP/M System Two, Toronto, CN..............&(416) 231 1262%
RCP/M Technical, Thousand Oaks, CA..........&(805) 492 5472%
RCP/M The C-Line, NJ.........................(201) 625 1797-
RCP/M W. Carrolton, Dayton, OH..............(513) 435 5201%

Remote Northstar NASA, Greenbelt, MD.........(301) 344 9156
Remote Northstar, Santa Barbara, CA..........(805) 964 4115
Remote Northstar, Virginia Beach, VA.........(804) 340 5246

SOBBS Poor Man's BBS, Houston, TX............(713) 453 7931%
SOBBS R.A.M.S., Houston, TX.................!(713) 859 4409%
SOBBS Test Mode, Houston, TX...............!(713) 660 9252

ST80-PBB Monroe Camera Shop, Monroe, NY......(914) 782 7605-
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TCBBS Astrocom, New York, NY...............#1(212) 799 4649%


T-NET Central Processing Unit, Plymouth, MI..(313) 547 7903%
T-NET Delta Connection, Lawrenceville, NJ....(609) 896 2436%
T-NET Special Corp, W.Bloomfield, MI.........(313) 855 6321%
T-NET Twilight Phone, Warren, MI...........#1(313) 775 1649%


TBBS Aurora, CO.............................#1(303) 690 4566
TBBS Austin, TX.............................#1(512) 385 1102%
TBBS Beer City, Milwaukee, WI...............&(414) 355 8839%
TBBS Canopus, Milwaukee, WI..................(414) 281 0545%
TBBS Freelancin' Alvin, Houston, TX.........&(713) 331 2599%
TBBS Freelancin', Houston, TX...............&(713) 488 2003%
TBBS Hawkins, TX............................&(214) 769 3036%
TBBS J.L. Christian, Houston, TX............!(713) 721 0888%rl.
TBBS Noah's Ark, Fremont, CA.................(415) 490 8083%
TBBS Pizza-Net, Orlando, FL..................(305) 645 5543%
TBBS Shreveport, LA..........................(318) 635 8660%
TBBS Tulsa, OK...............................(918) 749 0059%


TRADE-80 Albany, GA..........................(912) 439 7440%
TRADE-80 Ft. Lauderdale, FL................#1(305) 525 1192
TRADE-80 Omaha, NE...........................(402) 292 6184
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MISCELLANEOUS OR UNKNOWN SYSTEM TYPES

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Access-80, Tampa, FL.........................(813) 884 1506%
ACOM, Houston, TX...........................!(713) 530 0164
Aphrodite-E, Patterson, NJ...................(201) 831 1042
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Applecrackers, Columbus, OH..................(614) 475 9791%
ARBB Seattle, WA.............................(206) 546 6239
Atari BBS, Virginia Beach, VA...............!(804) 491 1437%
Aviators Bulletin Board, Sacramento, CA......(916) 393 4459
BBS Apollo, Phoenix, AZ......................(602) 246 1432%
BBS Apple Net ][, Susana Knolls, CA.........!(808) 522 4211
BBS Atari AMIS, Kansas City, MO..............(816) 587 9543%
BBS Bit Bucket, Portland, OR................!(503) 761 6345%
BBS B.R., Los Angeles, CA....................(213) 394 5950%
BBS Coco, Miami, FL.........................!(305) 681 8490
BBS Coco, Santa Barbara, CA.................!(805) 687 9400
BBS Coco, Lynchburg, VA.....................!(804) 525 0312
BBS Colornet, Providence, RI...............$(401) 521 2626-
BBS Commodore The Grapevine, Santa Ana, CA..!(714) 838 7345%
BBS Commodore, San Juan, PR..................(809) 781 0350-
BBS Gandalf #2, Heightstown, NJ..............(609) 448 8244
BBS Heathkit Store, Warwick, RI..............(401) 738 5152-
BBS Homestead, FL............................(305) 246 1111
BBS Jim's Tree, El Cajon, CA................!(619) 562 9759%
BBS MCUA PSEUDONYM, Houston, TX............&!(713) 865 8111%
BBS Victoria BC, CN.........................!(604) 382 2024+
BBS 16 Santa Rosa, CA........................(707) 527 5908-
BBS SUE Milwaukee, WI........................(414) 645 6849-
BBS The BULL, Toronto, Ontario, CN...........(416) 423 3265
BBS 80 DALTRUG, Dallas, TX...................(214) 289 1386%
BBS Syslink, Providence, RI..................(401) 272 1138%
BBS Woodworks, Winston-Salem, NC...........!&(919) 723 5275%dd.
Big Top Games System, Milwaukee, WI.........(414) 259 9475
Bird House, San Jose, CA.....................(408) 267 7399
Blax 80 BBS, Phoenix, AZ.....................(602) 952 1382%
BSBB Tampa, FL...............................(813) 885 6187
Capital City BBS, Albany, NY.................(518) 346 3596%
Cass-80 Hickory Hills, IL....................(312) 598 4861
C-HUG Bulletin Board, Fairfax, VA............(703) 360 3812%
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C.M.M.S. Chicago, IL.........................(312) 957 3924%
Cohoes Forum, Cohoes, NY.....................(518) 393 2467
COLOUR-80, Highlands, TX...................!(713) 426 7070%
COLOUR-80, Orange Park, FL..................(904) 264 0335%
Commodore Communications CBM, St. Louis, MO.!(314) 867 6950
Commodore Video King, Skokie, IL.............(312) 674 6502
Compuque-80, Houston, TX................#1&(713) 444 7041 dl.
Compuque-80 #2, Galveston, TX..............!(409) 265 5296
Compuque-80 #3, Houston, TX................!(713) 353 0361 dl.
Computers for Christ, Ontario, CA............(714) 983 9923%
Creepy Corridors, Phoenix, AZ................(602) 956 5021-
CVBBS #1, San Diego, CA......................(619) 691 8367%
CVBBS #2, San Diego, CA......................(619) 278 9114
Cyruss Dimensions, Houston, TX.............!(713) 376 6382
DATAbase (DABBS), New York, NY.............!(212) 772 7167
Diamond III, Phoenix, AZ.....................(602) 890 0972%
Dimension-80 Orange, CA......................(714) 974 9788
Download-80 Mojo's, Forest Knolls, CA.......&(415) 488 9145%
Dragon's Lair, Long Beach, CA..............!(213) 595 9346%dd.
Drummer, San Francisco, CA..................(415) 552 7671
EMC-80 St. Louis, MO.........................(314) 645 1047
Experimental-80 Kansas City, MO.............(913) 676 3613
FBBS #1, Purdue, IN........................&$(317) 494 6643%
GBBSII Apple PI, Bloomfield, CO.............(303) 469 7541%
GBBSII Aurora-Net, Denver, CO...............(303) 343 8401%
GBBSII Eamon, Sullivan, CO.................$(303) 750 3783-
GBBSII Off The Wall, Boulder, CO............(303) 443 3367%
GBBSII Sullivan, CO.........................(303) 693 1064-
Genesys, Phoenix, AZ........................(602) 967 4529%
Golden Coco, Houston, TX...................!(713) 941 1542%
Grape Line BBS, Napa Valley, CA.............(707) 538 9124%
H&S Microsystems, Burnaby, B.C..............(604) 430 4145-
HBBS, Victoria BC, CN......................!(604) 384 4711
Hermes-80 Allentown, PA.....................(215) 434 3998
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HEX Silver Spring, MD.......................(301) 593 7033%
INFOEX-80 Akron, OH.........................(216) 724 2125%
INFOEX-80 Tulsa, OK.........................(918) 838 8698%
INFOEX-80 West Palm Beach, FL...............(305) 683 6044%
Irvine Line, Irvine, CA.....................(714) 551 4336
JCTS Redmond, WA............................(206) 883 0403%
K-Net Users Group, Lexington, KY............!(606) 276 1957
Knight-Line, Nashville, TN..................!(615) 297 6037%
L.A. Interchange, Los Angeles, CA...........(213) 631 3186%
LBBS Friends of Lisp, San Francisco, CA.....!(415) 333 5663%
Lethbridge Gaming system, Lethbridge, AB.....(403) 320 6923
Living BBS, Education SIG, San Francisco, CA.(415) 565 3037
Mages Inn, Omaha, NE........................(402) 734 4748%
Mags BBS, Lacey, WA.........................!(206) 491 4143
Magus, Herndon VA...........................(703) 471 0611%
Mail Board-82 Seattle, WA...................(206) 527 0897%
Masspet BBS, East Taunton, MA...............(617) 824 4878-
MBBS, Mission, BC, CN.......................(604) 462 8633-
Micro-Com, Cincinnati, OH...................(513) 671 2753
Micro-Com, Louisville, OH...................(216) 875 4582%
Micro-Dial, Montreal, Quebec, CN............!(514) 487 2792
Micro-Dimension, Houston, TX................!(713) 448 6283-
Micro-80 West Palm Beach, FL................(305) 686 3695-
Micro Informer, Tampa, FL...................(813) 875 3331
Microsystems, Phoenix, AZ...................(602) 938 4508%
Midwest, St. Louis, MO......................(314) 227 4312
Mini-Bin Seattle, WA........................(206) 762 5141%
MMMMMM#1, Santa Monica, CA..................(213) 390 3239-
MMMMMM#2, New York, NY......................(212) 541 5975-
MMMMMM#3, Marina del Rey, CA................(213) 452 6111-
MMMMMM#4, Lawndale, CA......................(213) 821 2257-
Motherboard, San Leandro, CA................(415) 352 8442
MOUSE-NET, Galveston, TX....................!(409) 744 5095%
MRC BBS, Mountain View, CA..................(415) 968 1093
NASA Activities TTY, Houston, TX............!(713) 483 4115
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NBBS Norfolk, VA.............................(804) 444 3392
Nibble One, Schenectady, NY..................(518) 370 8343
N.O.C.C.C, Orange, CA......................!(714) 961 1135
Novation CO., Los Angeles, CA.<pw=CAT>.......(213) 881 6880
NWLAIBMPCUB, Shreveport, LA..................(318) 688 7078
NWWCUB Edmunds, Seattle, WA..................(206) 743 6021
OCTUB Orange County, Garden Grove, CA........(714) 530 8226
Omega, Phoenix, AZ...........................(602) 952 2018-
Oracle North Hollywood, CA...................(213) 980 5643
Orange County Dta Exchange, Garden Grove, CA.(714) 537 7913
OS-9 6809 BBS, Palatine, IL..................(312) 397 8308
PBBS Arc-Net, Little Rock, AR................(501) 372 0576%
PBBS Co-operative Comp Svc, Palatine, IL.....(312) 359 9450%
PHOTO-80, Haledon, NJ........................(201) 790 6795
(?) Queens, NY...............................(212) 896 0519
RAINBOARD CoCo Connection 2, Houston, TX....!(713) 772 7327-
RAINBOARD Cracked CoCo, Houston, TX.........!(713) 772 2090-
RBBS Grand Illusion, Houston, TX............!(713) 568 2035%
RBBS The Meeting Place, Omaha, NE...........&(402) 734 6959%dl.
RBBS Upland, CA..............................(714) 981 3787%dl.
RIBBS Houston, TX............................(713) 497 5433%
RI Tandy Users Group, Cranston, RI...........(401) 944 4689%
RS-CPM Clarksville, MI.......................(616) 693 2648
Satyricon, Burnaby, BC, CN...................(604) 438 2468%
Seacomm-80, Seattle, WA.....................(206) 763 8879%
SIGNON, Reno, NV.<pw=FREE>...................(702) 826 7234
                            Also: %(702) 826 7277
SISTER, Staten Island, NY....................(212) 442 3874%
SoftNet-80, Vista, CA......................!(619) 758 9057%
Star City BBS, Roanoke, VA.................!(703) 342 1800%
Steve's BBS/Game Palace, Shawnee Mission, KS.(913) 648 5301%
Sunrise Omega-80, Oakland, CA................(415) 452 0350
Switchboard, Alexandria, VA..................(703) 765 2161%
System/80 San Leandro, CA....................(415) 782 4402
Talk-80 ROBB, Portsmouth, VA...............!(804) 393 2925
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TCUG BBS, Washington, DC.....................(703) 836 0384%
Tech-Link, Forest Glen, MD...................(301) 565 9051%
Telcom I/II, Arlington, TX.................!(817) 265 8220%
Telcom 7, New Fairfield, CT.................(203) 746 5763%
Tele-Master Message System, Utica, NY.......!(315) 733 3199%
Telemessage-80, Atlanta, GA.................(404) 962 0616
The Computer Exchange, Waterford, MI........!(313) 623 1089&
The Garden of Eden, Phoenix, AZ.............(602) 991 0144%
The Interface, Los Angeles, CA..............(213) 477 4605
The Software Bank, Northridge, CA...........(213) 701 7670
Toledo Apple Users BBS, Toledo, OH..........(419) 537 9777%
TVG Systems, Burnaby, BC, CN................(604) 738 1640%
VERGA 80, Santa Ana, CA.....................(714) 547 6220
Voyager, Phoenix, AZ........................(602) 247 6034
Voyeur, San Antonio, TX.....................!(512) 657 5286
Vic-20 Online, Houston, TX..................(713) 944 6597%
Visiboard, Wellesley, MA....................(617) 235 5082
WAPABBS, Charlotte, NC......................(704) 373 7966%
Westside Download, Detroit, MI..............(313) 348 4479
XIO, Houston, TX............................(713) 495 1422-
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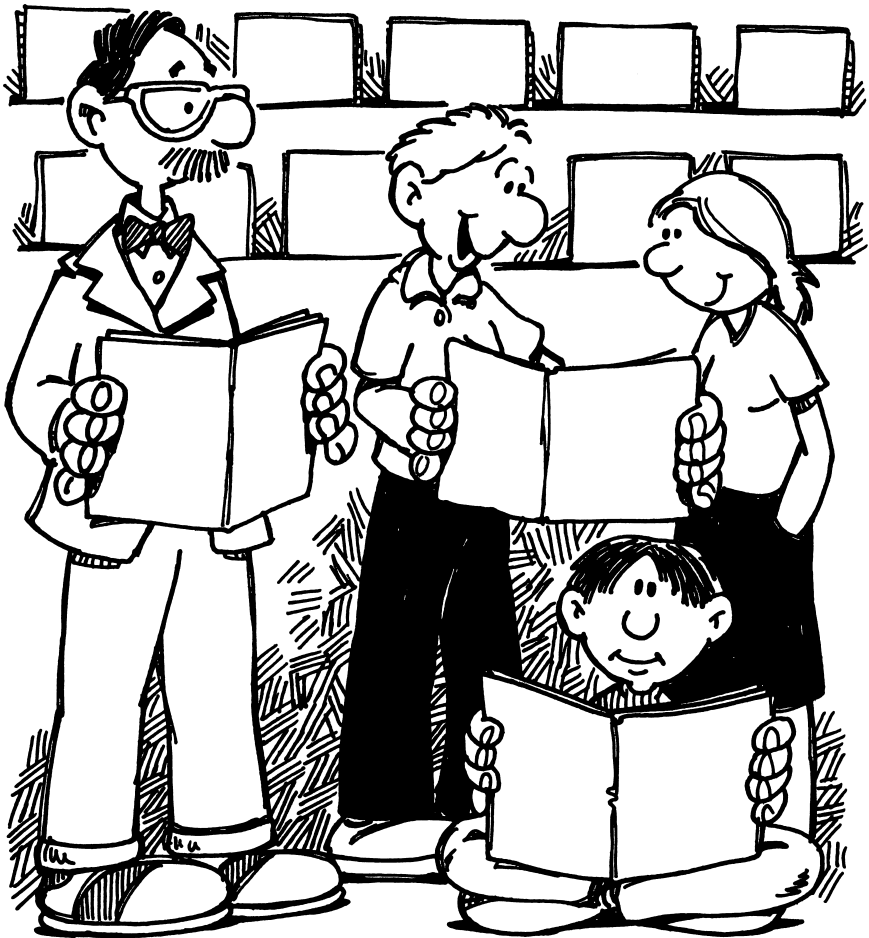
MAGAZINES

In addition to the users' group publications, several major commercially published magazines are written specifically for the IBM PC family of microcomputers. (Two years ago that group included only the PC itself, but the family has already expanded to several other compatible machines!)

If you are at all interested in programming, *Softalk* is one of the most useful all-around PC magazines. It publishes a variety of clearly-written and useful introductory articles and information on various aspects of the PC family of machines. Furthermore, *Softalk* offers a FREE one-year trial subscription to anyone who owns an IBM Personal Computer. This represents an expression of the publisher's confidence that once you try the magazine, you'll like it well enough to renew at the regular rates when your free year is up.

To get your free subscription to *Softalk,* simply cut out the postage-paid card at the back of this book, fill it in, and mail it. (Although the card, printed here by permission of *Softalk* magazine, does not specifically mention PC*jr*, *Softalk* advises us that owners of PC*jr* computers will also be entitled to receive free one-year subscriptions.)

PEANUT is a brand-new magazine published specifically for PC*jr* users, with a first issue in April 1984. *PEANUT* magazine is offering readers of this book who are interested in the PC*jr* a FREE trial subscription to their journal. (See back of the book for the card to fill out for your free *PEANUT* subscription.)

Other major magazines which restrict themselves to the PC include *PC World, PC Age* and *PC.* The largest of these, in sheer bulk and number of pages, is *PC,* which was published monthly through 1983, but is now switching to every other week. (This change may, for a while at least, make *PC* easier to lift than the December 1983 issue, which ran about 800 pages and weighed more than three and a half pounds!)

The publishers of *PC* have several additional entries in their stable of periodicals devoted to the IBM PC family. The *PC Tech Journal,* for example, appeals to more technically-oriented users, while new introductions announced for 1984 include a magazine called *PCjr* and a tabloid directed toward the multi-unit business market, *PC Week.*

Many other publications which are not written exclusively for the PC include a great deal of material directly applicable to the IBM PC computers. Some of the larger magazines which publish software articles as well as reviews include *Byte, 80 Micro, Personal Computing, Creative Computing, Compute!, Popular Computing, Basic Computing, Desktop Computing,* and *Microcomputing.*

The continuing boom in personal computer use has meant that new periodicals continue to proliferate. As a result of the larger and larger volume of magazines and articles, it becomes a problem simply to find out what you might want to read. An interesting new monthly attempts to address this need.

INFOSCAN is published by SYNCOM, a diskette manufacturer, and its specialty is to offer a "Readers' Guide" to computer articles. Each month, *INFOSCAN* supplies a subject index to material published in other periodicals.

At the end of 1983, *INFOSCAN* was indexing articles from some two dozen of the most popular computer magazines. Response during the first 6 months of publication was so favorable that *INFOSCAN* plans to double the number of publications indexed, in addition to providing publisher and subscription information for the magazines involved.

At the end of this chapter we reprint information from the index pages of the February - March 1984 issue of *INFOSCAN.* This will give some idea of the type of articles you might find in the various computer magazines.

(See the last page of this book for a cut-out mailing card which will entitle you to a FREE two-month trial subscription to *INFOSCAN.*)

Some Comments

Which of the many periodicals will you find most useful? Or at all useful? That depends on your interests and current level of computer sophistication (which will increase with time).

The following are some personal observations which may serve as a rough guide:

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SOFTALK

For almost any PC user, *Softalk* is an excellent starting point, as an all-around source of well-written articles on varied topics. It has several regular departments which deal with different languages and with the computer's operating system.

Letters from readers, and the well-written editorial responses to reader questions provide valuable information which often applies to your problems.

Softalk also regularly prints useful listings of programs short enough for readers to copy for their own use by actually typing in the complete program. The quality of the articles is evidenced by the large number of programs from *Softalk* which have been incorporated into club library disks.

Sometimes the magazine prints longer articles containing complete listings of fairly involved programs. In such cases, on several occasions they have offered readers the option of obtaining the program on disk, at a total cost of $8, including postage and handling.

Recommendation: if you are a PC owner and are not already a subscriber, fill out the card at the back of this book to get a year of *Softalk* free!

PEANUT

PEANUT, for PC*jr* users, had not yet published its first issue at the time we went to press, but it would certainly seem worth while for PC*jr* users or potential users to take advantage of the free offer and try *PEANUT.*

PC WORLD

PC World has produced a consistently good magazine. Look through a copy and see if it meets some of your needs. In addition to articles, reviews of commercial software, and many pages of advertisements, it has several informative regular departments. "Club News" lists active PC Users' Groups, with addresses and contact persons, while "BBS Watch" performs the same service in regard to information about PC Electronic Bulletin Boards you can reach by telephone. "Star-Dot-Star" (★.★) provides a valuable exchange of reader-to-reader information tidbits.

PC TECH JOURNAL

As you learn more and more about your machine, you may grow interested in some of the technical aspects. At that point you might want to glance at the articles in the *PC Tech Journal.* Look at a copy in the library for starters. See if it appeals to you.

AND THEN

To get an idea of what you might find in some of the other journals, look at *INFOSCAN's* index, then do a bit of library browsing.

Finally—don't forget the users' group monthly newsletters, which come with your club membership. They might be the most valuable of all the publications.

INFOSCAN™ is a cumulative subject index to periodicals of interest to owners and users of micro-computers. It is published monthly by SYNCOM® Division of Schwan's Sales Enterprises, Inc., 1000 SYNCOM® Drive, Mitchell, SD 57301. INFOSCAN™ is a trademark of SYNCOM®.

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  Professional business
  graphics (Review)
A+, February 1984
• Little Lisa meets big oil:
  Testing the Lisa in the
  business community
BYTE, February 1984
• Calculating overhead costs
  by computer
• Savvy (Review)
Business Computing,
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• Business PC use
• Beating the tax burden:
  Prepare it on a PC
• Commodities trading
  begins at the source
• PCs up pace and
  productivity at OMB
• Buy direct from IBM and
  save
• Market forces skew
  software strategies
Digital Review, March
1984
• Blueprint for success:
  Architectural firm (Case
  study)
• Model software: TK!Solver
  helps create and
  manipulate scientific and
  business models (Review)
80 MICRO, March 1984

• Account for yourself
  (Model 100)
Family Computing,
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• Typesetting by modem:
  Home Business
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• A father-son repair team
  sets up shop in the
  Rockies: Home Business
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  billing packages: The
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  Partner (Review)
• CPAids' Tax Planner
  package: A nearly perfect
  aid for CPAs (Review)

• MoneyTrack accounting
  package (Review)
• Keeping track of work in
  progress
• Streamline your inventory
  procedures
• IBM's PC provides the
  cure
• Records managers face
  the technology explosion
Link-Up,
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• Information utilities for
  business people: The
  Business Link
LIST, February 1984
• Knowledgeman: MIS
  system
• General Ledger (Review)

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  (Review)
• How to Choose Your Small
  Business Computer
  (Book review)
• Tax deductions and credits
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• How I got a 189% return
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  investment
• Surviving the adolescence
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  doubled profits
• Personal computers: A
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  information centers
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1984
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  the Apple: Part 2 of the
  author's computer-aided-
  design tutorial
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• The Nibble Investor and
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  Track purchase and sale
  commissions
PC World, March 1984
• Brokerage firms go on line:
  Investors log on for instant
  information
Personal Computing,
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• Transportables let you take
  it all with you
• Environment software:
  Opening new windows on
  your work

- Why Japanese computers aren't selling in America
- Landlord: Property management package (Review)

Personal Software, February 1984
- Blue Chip: Portfolio program

Popular Computing, March 1984
- Business software for the Model 100

Portable Computer, February 1984
- Portables on the road: A firsthand report on how a TRS-80 Model 100 is used by a traveling salesman

RUN, February 1984
- A cure for the ailing doctor's office

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- Choosing a system, databases, books, Lisa: Mind Your Business

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- A manufacturing system for the PC: Manufacturing software within reach of smaller companies for the first time
- Tax Preparer, by Howard Soft: Micro Finance

Software, February 1984
- Construction profits (Job costs)

The Color Computer Magazine, February 1984

- Mail List

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A+, February 1984
- The everything box: Plug your Apple into the whole world

BYTE, February 1984
- IBM/Apple communication: Sending text files between Apples and IBM PCs

Business Computing, February 1984
- Business—only network now on line

Computers & Electronics, February 1984
- Videotex and you

Computer User, February 1984
- Two bulletin board systems you can install

Digital Review, March 1984
- The (still?) missing link: Third-party PRO and Rainbow networks
- Clear to send: Five comm packages (Review)
- A dialogue with Dialog

80 MICRO, March 1984
- Intelliterm (Review)
- Transfer: Now two micros can share Profile files (Review)
- Trend Analysis: Watching the stock market (Review)

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- The world is your oyster

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- Telex from your terminal
- Unix: Operating system of the future?
- Does your business need an electronic mail system?: Data Communications

K Power, February 1984
- A networking guide: Reach out and access someone
- Konnect with the K-Net: A K-Power network hooked up by modem
- How to hook up your own bulletin board: Dr. Kursor's Klinic

Link-Up, December/January 1984
- Dialog—the know-it-all utility: Information retrieval company
- Bulletin boards: Online

Link-Up, February 1984
- Online information: The business of 1984
- Online news—United Press International: Read all about it as it's happening
- Online weather: Access the latest reports
- Online sports: Sports scores, stats and more

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- Online legislature:
  Watching the government
- Online encyclopedias:
  Accessed with a few
  keystrokes
- Online newsletters—
  NewsNet: 'Sample' a few
  copies before you decide
  to subscribe
- Online advertising:
  Advertising will soon be
  appearing on your
  computer screen

Microkids, March 1984
- Exploring electronic mail

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- DataCapture IIe: Data-
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- TellStar

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March 1984
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  and Sourcemail

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  contact

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  Telecommunications is
  affordable

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  broader view (Part 4)

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  Dialing for the Fun of It
- Telecommunications terms,
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  World

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  Comm Lines

Software, February 1984
- When the chips are down:
  Speech activated modem
  for inventory control
- Shopping executive style:
  With an on-line service

APPLICATIONS—
DATABASE/FILE
MANAGEMENT

A+, February 1984
- How to dBASE II: Part IV
  in a tutorial series on
  dBASE II

BYTE, February 1984
- Knowledgeman: Database
  and spreadsheet in one
  package

Business Computing,
February 1984
- The database primer
  (Part 2)
- ResQ: A mid-range file
  manager (Review)

COMPUTE!'s GAZETTE,
March 1984

  The data base as a home
  information center
- Data Manager for the
  Commodore 64 (Review)
- The Indexer: VICreations
  (VIC-20/64)

Computer User, February
1984
- A data base management
  system for
  non-programmers
- How to define computer
  data: Starting Point

CP/M Review,
January/February 1984
- Online databases

Family Computing,
February 1984
- A data-base reunion: Data-
  base-management
  programs can have
  endless applications

Microcomputing, February
1984
- Solving a pfs mystery:
  What's New, Big Blue?

Microsystems, February
1984
- It's a database, it's an
  editor, it's a language—it's
  dBASE II

Nibble, February 1984
- Quickfile II: A review of
  Apple's new DBMS for
  the IIe

Personal Computing,
February 1984
- Power-Base (Review)

Personal Software,
February 1984
• The Manager
Popular Computing,
March 1984
• Statistics made easy: Micro
Data Analyzer
• Metafile: Integrated
data-management
RUN, February 1984
• Database Deluxe: This file
handler for the C-64 or
Vic-20 will store, categorize
and sort your data
• The straight A program:
Keep track of numerical
data
Software, February 1984
• DataFax: You don't have to
think like a computer to
use a DBMS

APPLICATIONS —
EDUCATION

Analog Computing,
January 1984
• Griffin's Lair (Educational
programs review)
A+, February 1984
• Special machines for
special children: Teach
handicapped pupils
COMPUTE!, February 1984
• Potentials and limitations:
Learning With Computers
• Special education
applications: Micros With
The Handicapped

• The World Inside The
Computer: Computing to
read
COMPUTE!'s GAZETTE,
March 1984
• Tree Tutor for Tots
• Guess America! For 64
Computer User, February
1984
• Easing hands-on
computer time for teachers
• The ultimate teacher's
assistant
• The CAI journey
• Students key in on the
computer revolution
• Polynomial functions: A
different view
• Computers: Power tools for
education

• PCs go to college:
Computer Classroom
Digital Review, March
1984
• Knowledge is power:
Computer courses
80 MICRO, March 1984
• Learning & Teaching
Programming: An
incomplete guide to
TRS-80 Basic (Review)
Family Computing,
February 1984
• Home-School Connection
Family Computing, March
1984
• Learning to type is the first
step to computer literacy:
Home-School Connection

Hi-Res, January 1984
• The family place: Pre-
school and early learning
programs
• Kids and the Atari (Part 1 of
a series): A few lessons for
beginners
HOT CoCo, March 1984
• Generic foreign-language
aid
Link-Up,
December/January 1984
• Online learning: Online
learning is a reality
Microcomputing, February
1984
• Smarter than the average
Atari: Atari 400 — an
intelligent graphics
interface
Microkids, March 1984
• Beat the SAT...maybe:
Your trusty computer can
now help you prepare for
the SAT
Nibble, February 1984
• Flashcard: Take the
drudgery out of math drill:
Education Corner
Personal Computing,
February 1984
• Toward a more thoughtful
use of computers in
education
Personal Computer Age,
December 1983
• The future of education is
tied to the computer:
Computers in Education

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Personal Software,
February 1984
• CATLAB: A program designed to teach genetics
• Gertrude's Puzzles: Turns analytical thinking into child's play
• Math Maze
• Speed Reading: Improve rusty reading skills
• MasterType: This program blends touch-typing drills with arcade-style action

Popular Computing,
March 1984
• Educational Computing: What exactly is 'computer literacy'?
• Do-it-yourself learning games

Sextant, Winter 1984
• Kids & computers: Herbert is my best friend

APPLICATIONS— GRAPHICS

Analog Computing,
January 1984
• Fine scrolling (Part 3)

A+, February 1984
• Tablets for IIs
• The Graphic Solution: Animation system and graphics editor

BYTE, February 1984
• Five original graphics

Basic Computing,
February 1984

• In the chips: High-speed graphics (Models I/III/4)

COMPUTE!, February 1984
• Commodore 3-D Drawing Master (VIC, 64, Apple)

Computer User, February 1984
• 65025: PEEK the magic number (Model 100)

80 MICRO, March 1984
• Character sketching: The Model III's special characters
• A piece of the pie: Draw pie charts (Models I, III)

enter, February 1984
• Pixel perfect
• Graphic details
• The 'Cats' meow: Computers for special effects

HOT CoCo, March 1984
• Colormania (Part 2): Use high-speed graphics via machine-language subroutines
• Video Van Gogh: Draw and store screen graphics
• Exquisite screen scroll: Speed up Basic hi-res graphics scrolling

K Power, February 1984
• Programs: Symphony in 3D is the latest in electronic meditation (Apple, Atari, TRS-80 CC, IBM PC)

Macworld, Premier Issue
• MacPaint: The electronic easel: The Mac's versatile graphics program
• SimpleSketch
• Macworld gallery: An exhibition of Macintosh graphics

Microkids, March 1984
• Secrets of the computer artist

Nibble, February 1984
• Hi-Res character drawing: Graphics Workshop
• Fancy Hi-Res picture loading: End the woes of Hi-Res picture loading

Personal Computing,
February 1984
• HP 7475A graphics plotter (Review)

Personal Computer Age,
December 1983
• Hewlett-Packard's new Model 7475A Plotter

Popular Computing,
March 1984
• The Graphics Kit: A programming aid for Timex/Sinclair
• Computer-aided design on the IBM PC: Microcad

RUN, February 1984
• C-64 graphics galore: Which program best utilizes your Commodore's graphic potential?

• Shortcut to color: Use this simple Color Setter program
• Spriten up!: Takes the tedium out of programming sprite graphics

- Create a VICasso: Design your own custom characters

Softalk, February 1984
- Budge's graphic's zone; HLine: The Graphics Page

Software, February 1984
- A $100,000 dilemma…a $9,000 resolution (Computer aided design)

APPLICATIONS — HOUSEHOLD

Analog Computing, January 1984
- Magic Storybook (Review)

COMPUTE!'s GAZETTE, March 1984
- The electronic castle: Managing your home with your computer
- Computing for families: Computer show and tell

Family Computing, March 1984
- The computer: A new tool for the garden
- Soup's on-line

HOT CoCo, March 1984
Dental/medical bill balancer:

Keep track of your medical and dental expenses

Personal Software, February 1984
- Wills: Protect your assets with Wills

Sextant, Winter 1984
- Tracking home finances with the Home Finance System

The Color Computer Magazine, February 1984
- Rx management

APPLICATIONS — MISCELLANEOUS APPLICATIONS

A+, February 1984
- Nations shape their futures with Apples: Apples help Third World nations make crucial population-control decisions
- High-tech muscle tone: Apple helps you go from fat to fit
- Floating to success

Computer User, February 1984

- Biorhythms and your CoCo

CP/M Review, January/February 1984
- Turn your Kaypro into a TRS-80: UniForm, a multipurpose translator (Review)

80 MICRO, March 1984
- Math-Analyzer-Paks (Review)

Family Computing, February 1984
- 64 inches of courage
- Winter programs: Create a personal Valentine: Go skiing down a treacherous course (ADAM, Apple, Atari, Commodore 64 and VIC-20, IBM, TI, Timex, and TRS-80 computers)

HOT CoCo, March 1984
- Colorful cryptology (Part 7): Use nonalphabetic techniques to produce secret text

Interface Age, February 1984
- Tax Decisions software: It takes the dread out of April 15 (Review)
- HowardSoft's Tax Preparer (Review)

Nibble, February 1984
- Nibble Garage: Scheduling car care is a snap with this Applesoft program

Sextant, Winter 1984
- Heath/Zenith users in uniform: A couple of the Heath/Zenith users in the armed forces

Softalk IBM, February 1984
- The PC provides patient care

APPLICATIONS — MUSIC/SPEECH/ SOUND

Analog Computing, January 1984
- Music Synthesizer

A+, February 1984
- Back talk and lip service: Voice recognition and speech synthesis for the Apple
- Breaking the sound barrier: alphaSyntauri digital sound synthesizer

COMPUTE!'s GAZETTE,
March 1984
• COMvoice: Voice
synthesizer for the VIC-20
(Review)
Hi-Res, January 1984
• Music theory drills
Microkids, March 1984
• The sound and the fury
(TRS-80, I/III/4)
Personal Computer Age,
December 1983
• Scoring music on your PC
Personal Software,
February 1984
• Music Construction Set
SoftSide, February 1984
• Computers and musical
expression: A conversation
with Paul Lansky and Steve
Birchall
• Compact discs: The dawn
of audio's golden age
• Computers, lasers, music,
and theatre: A
conversation with Paul
Earls and Steve Birchall
• The digital sound: Making
music with Soundchaser

**APPLICATIONS—
RECREATION/
ENTERTAINMENT**

Analog Computing,
January 1984
• Rally Speedway (Review)
• Star Trek Simulator
(Review)
• Eagles (Review)
• Knights and Chalices
• Bricklayer's Nightmare
A+, February 1984
• Reviews of Lady Tut, Minit
Man, and Zaxxon: That's
Entertainment
BYTE, February 1984
• Deciphering word games:
Solve cryptograms and
anagrams
Basic Computing,
February 1984
• Plus1: A generate-the-
longest-path game
(Models I/III/4)
• Magic Squares: A graphic
remember-the-pattern
game (Models I/III/4)
• The Castle: A pocket
fantasy adventure (PC-1)

• Never Say Die: A strategy
game where you must get
the right total to win
(Models I/III/4)
• Mental Madness: What do
the figures really say?
(Models I/III/4)
• Your computer can learn:
Play LASTX and see the
computer get 'smarter'
(Models I/III/4)
• Advance to go: Compute
the odds for the grand old
game of Monopoly
(Models I/II/III/4/12/16/Color
Computer)
• Bridge-80: Become a Life
Master (Models I/III/4)
COMPUTE!, February 1984
• What makes a good
game?: The many things
software designers have to
consider when they're
creating a game
• The future of electronic
games: Programmers
outline their ideas
• Circus (VIC, 64, Atari,
TI-99/4A)
• Quatrainment (VIC, 64,
TI-99/4A, Apple, IBM PC,
Color Computer)
• Gotcha! (VIC, 64, Atari)
COMPUTE!'s GAZETTE,
March 1984
• Cut-Off!: All-machine-
language game for
Commodore and VIC-20
• Trenchfire (VIC-20/64)
• Poker (vic-20/64)
• Purple Turtles (Review)
• Seafox for the VIC-20
(Review)
• Sea Route to India: A
historical simulation for the
64
Computer User, February
1984
• Snow Command: The
game playing algorithms:
Personal Arcade
80 MICRO, March 1984
• TRS-nuke: Your TRS-80
becomes a nuclear power
plant (Model I)
• Bugs from outer space,
part 1 (Models I, III)
• A new pair of shoes: A
craps game
enter, February 1984

- The game makers: A video game grows from idea to arcade

Family Computing, February 1984
- Puzzle: True Love
- Reader-written program
- Don Bluth and interactive animation: Games

Family Computing, March 1984
- She just keeps scrolling along: The ups and downs of game design

Hi-Res, January 1984
- Number Maze

HOT CoCo, March 1984
- Possum Run
- Wordsearch: Create your own wordsearch puzzles for hours of fun
- Mission: Mars: Here's a lunar-lander-type game for Color Basic and MC-10 users

K Power, February 1984
- Hacker heaven: Programs for ADAM, Atari, Apple, Commodore 64 and VIC-20, IBM, TI, Timex, and TRS-80
- Puzzle power: Translate or improve our Word Twister puzzle and get a chance to win a Timex color 2068
- Strategy: 12 tips for tackling Archon

LIST, February 1984
- This thing tells the truth about your tennis game

Microcomputing, February 1984
- Amazing game, how sweet the sound: The magical game of mazes

Microkids, March 1984
- Mastering Dragon's Lair
- Type Attack: More than just a game

Nibble, February 1984
- Safecracker: Beat the cops!
- Speed Maze: Arcade action on the Lo-Res screen

PC World, March 1984
- For Game Gourmets: Beneath Apple Manor, Frogger, and Gridstar (Review)

Personal Computer Age, December 1983
- Flight Simulator: Three viewpoints

Personal Software, February 1984
- Millionaire: A realistic, entertaining simulation of stock-market trading
- Spare Change
- Murder By The Dozen
- Witness: Detective-story interactive fiction from Infocom

Popular Computing, March 1984
- Survivor: A multiplayer game
- Murder on the Zinderneuf: Mystery thriller

RUN, February 1984
- Speedy Mosquito: Speedy little mosquitoes are your prey in this fast-paced game for the C-64
- Sure-shootin' gallery: Step right up and take aim with this VIC-20 game
- Iron hand or VIC-20?: Expand your kingdom while forestalling grain drain

The Color Computer Magazine, February 1984
- Sorcerer's Puzzles

APPLICATIONS — SPREADSHEETS

A+, February 1984
- Advanced uses of VisiCalc: How to create VisiCalc spreadsheets

Basic Computing, February 1984
- Exploring VisiCalc: Date computations (Models I/II/III/4/12/ 16)

Business Computing, February 1984
- A look at SuperCalc (Review)
- Spreadsheets — keeping a mini-ledger

CP/M Review, January/February 1984
- The Financial Planner

Digital Review, March 1984
- Assuming the Lotus position: 1-2-3 (Review)

Macworld, Premier Issue
- Multiplan meets the Mac: The Macintosh teams up with Microsoft's venerable spreadsheet program
- Investing with Multiplan: Constructing a simple stock portfolio valuation worksheet

PC World, March 1984
- SuperCalc3: Are superior graphics and easy data management enough? (Review)
- /X marks the macro: Automate spreadsheet functions with 1-2-3's advanced macro capabilities

SoftSide, February 1984
- Calc/Side: Forecasting future earnings

Softalk IBM, February 1984
- Portfolio analysis: The Spreadsheet Guru

Software, February 1984
- A CPM model for project planning

APPLICATIONS — WORD PROCESSING/ REPORT GENERATION

A+, February 1984
- The Apple cast of characters: Unlimited choice of fonts
- Questions about how to enter control characters into Apple Writer II: Rescue Squad

BYTE, February 1984
- The word-processing maze
- Evaluating word-processing programs

Basic Computing, February 1984
- BASIC bits: Answers to readers' questions about Scripsit, SuperScripsit and printers (Models I/III/4)

Computer User, February 1984
- Move up from Scripsit to WordStar

80 MICRO, March 1984
- The return of Hinrichs' word processor (Models I, III)

Interface Age, February 1984
- Quark's Word Juggler: First rate word processing (Review)
- Punctuation + Style: An effective grammar detective (Review)
- Multi-Tools Expert Systems: Worksheets without the work (Review)

LIST, February 1984
- PFS:Write (Review)
- Superwriter (Review)
- Practical WordStar Uses (Book review)

Macworld, Premier Issue
- Word processing's new look: The capabilities of MacWrite
- Tips for Mac writers: Twenty-five word processing hints to help you use MacWrite more efficiently

Microcomputing, February 1984
- Easy script word-counting: PET-pourri
- You ain't writin' too good?: Oasis Systems' Punctuation & Style

Microsystems, February 1984
- Using WordStar to create Mailmerge – compatible dBASE II files

PC World, March 1984
- The almost-perfect library: Perfect Software enters the integrated package race (Review)
- Not-so-identical twins: Mince – The Final Word and Perfect Writer compared

Personal Software, February 1984
- MegaWriter: Simple word processor
- The Speller: A new spelling checker
- HomeWord

Softalk IBM, February 1984
- Punctuation + Style, StarIndex, and updates: The Processed Word

Software, February 1984
- Speeding up WordStar, and other personal preference adjustments

from screen door springs and dominoes
• Fast backwards: Reverse Polish notation (Model 100)

Family Computing, February 1984

• Better safe than sorry: A description of insurance policies to protect your new addition to the household

Family Computing, March 1984
• Users' groups: Strength in numbers
• Rendezvous with a robot
• How to build a computer carrel

HOT CoCo, March 1984
• Convert TRS-80 Model I/III programs to the CoCo: The Basic Beat

Interface Age, February 1984
• Learning micros at Club Med: Computer Training

K Power, February 1984
• Pirates & raiders: The computer-abuser subculture
• For dogs only: Woof Ware (Humor)
• One teen's inside look at a software company: Scrolling in Dough
• 'Whiz kids': Networking goes prime time

Link-Up, December/January 1984
• Link-Up interview: A modest interview with Ward Christensen

LIST, February 1984
• Top computer vendors in Europe

Macworld, Premier Issue
• Polishing the Mac: Microsoft's Bill Gates discusses the development of the Macintosh
• Macware news: Announcements of the latest developments in Macintosh hardware and software
• The making of the Macintosh: Reminiscences of the people who created the Mac

Microcomputing, February 1984

• What do you mean 'compatible'?: Mini-course in compatibility

Microkids, March 1984
• How to do it your way: Five myths that may be stifling your creative ingenuity
• Here come the robots!
• How to create your own secret codes
• The Vid kid: News & views
• How to choose a computer camp

PC World, March 1984
• Open doors: New products and organizations help the disabled communicate and work

Personal Computing, February 1984
• Making the computing process your own: People in Computing
• Getting started

Personal Computer Age, December 1983
• Sell your software: The market is still good if you follow the rules
• Output from the crystal ball: Industry looks at the future of microcomputing
• Clubs

Personal Software, February 1984
• Computer literacy: Is it worth the effort?

Popular Computing, March 1984
• Advanced Technology: Research into biochips
• Computers in science fiction
• IBM PCjr: Will it sell?
• Documentation comes of age: New approaches are making those formidable manuals more user-friendly

Portable Computer, February 1984
• Portable software: Special software for today's systems plus: How to publish your programs

SoftSide, February 1984
• Financial Operating System: The $10,000,000 formula

- Newcomp: Music, poetry, imagery

Softalk, February 1984
- Exec Human Systems Dynamics: A quieter revolution: Computers are changing the way we work, play, learn, think, and perform statistical analysis
- The amazing, automated MacFactory: The most sophisticated factory in America
- Newspeak: Double and triplethinking about the computer revolution
- Storytalk: 'Misplaced Friends', part 1 (Fiction)

Softalk IBM, February 1984
- Softalk/IBM's software poll

The Color Computer Magazine, February 1984
- Getting published
- Download 'SIG': Color SIG, by its Sysop

HARDWARE — BOARDS/PROCESS CONTROLLERS

A+, February 1984
- Apples go industrial: An array of interface cards

BYTE, February 1984
- Build the Circuit Cellar Term-Mite ST smart terminal (Part 2): Programming and use
- The Micro-Sci Gameport III for the Apple III
- The Videx Ultraterm
- A low-cost, low write-voltage EEPROM (Review)
- Foot Control: A foot-operated Control key
- Bubbles on the S-100 bus (Part 2): The software: MDOS and CP/M on a bubble-memory board

Computers & Electronics, February 1984
- Analog sensors: The Electronics Scientist

80 MICRO, March 1984
- In one port and out the other: (Model 4)
- The forgotten interface: The III's parallel I/O bus
- Getting loaded

Popular Computing, March 1984

- Quadlink: Run Apple software on your IBM PC
- Customizing your IBM PC

Softalk IBM, February 1984
- Tale of the ports: The PC has a limited number of input/output ports
- Xenix, graphics boards, and multiplexing: Boards and Buses

The Color Computer Magazine, February 1984
- Atari joystick adapter

HARDWARE — HARD COPY

BYTE, February 1984
- The art of benchmarking printers

Computers & Electronics, February 1984
- Jet set printers

Computer User, February 1984
- The Dynax DX-15: An affordable daisy wheel printer
- Quality printing at a reasonable price

Digital Review, March 1984
- Extra or excess?: Diablo's extended-character printer

80 MICRO, March 1984
- Parallel driving: Use SuperScripsit with any printer (Models I, III)
- Sneak a PEEK, invoke a POKE: Speed up PRINT graphics (Model III)
- Brother Compactronic 60 (Review)

Macworld, Premier Issue
- Apple's Imagewriter printer: What you see is what you get with the Imagewriter

Microcomputing, February 1984
- The waiting is over: Practical Peripherals' Microbuffer

Nibble, February 1984
- The Screenwriter II, Apple and Epson trio: The power of Screenwriter teams up with the Epson to give you keystroke printer control

PC World, March 1984

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- Good impressions: Letter quality printers are becoming affordable: Four LQPs compared (Review)

Sextant, Winter 1984
- Letter-quality printing on a dot-matrix budget
- More than just a pretty typeface: Take a look at M.P.I.'s 99G

Softalk, February 1984
- Hardtalk: Where is the program that can...: A look at printers and word processing programs

Softalk IBM, February 1984
- The intelligent printer (Part 4): The Printed Word

HARDWARE— INPUT/OUTPUT DEVICES

BYTE, February 1984
- Apple disk emulators: Axion, Legend, Pion, and Synetix (Review)

Macworld, Premier Issue
- A mouse in the hand: Meet the electronic device that communicates your commands to the Mac

Personal Computing, February 1984
- The wide world of alternative input devices

HARDWARE— MASS STORAGE

COMPUTE!'s GAZETTE, March 1984
- Getting started with a disk drive (Part 5): Questions and answers

Computers & Electronics, February 1984
- Disks and drives
- Multi-megabyte minifloppies

80 MICRO, March 1984
- Thanks for the memory (Model 100)
- TRSDUM: Save cassette programs to disk (Review)

Microkids, March 1984
- Inside your disk drive: Input for advanced users

Microsystems, February 1984
- CP/M disk parameter tables

PC World, March 1984
- Direct to disk: Disk magazines are changing the way people receive computer information (Review)

RUN, February 1984
- Mystery of the black box revealed: The 1541 disk drive

Sextant, Winter 1984
- Adding 16K memory to the '89 — a low-budget alternative

HARDWARE— MICROCOMPUTERS

Analog Computing, January 1984
- Inside the new Atari 600XL

BYTE, February 1984
- The Apple Macintosh computer
- The IBM CS-9000 lab computer
- Apple announces the Lisa 2 (Review)

COMPUTE!'s GAZETTE, March 1984
- The inner world of computers (Part 5): Small is beautiful

Computers & Electronics, February 1984
- Adam arrives
- A first peek at the Sharp PC-5000
- An 8-bit computer gets a new operating system: Epson's QX-10

Computer User, February 1984
- Building the super micro: Upgrade your Model III
- An apples and oranges situation? (Hardware review)

CP/M Review, January/February 1984
- Good things come in small packages: Personal Micro Computer's MicroMate (Review)

- NEC Advanced Personal Computer

80 MICRO, March 1984
- The Model 4P: Love at first sight
- The Model 4P (Review)

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• Give the Osborne a break
(key): Improve your
Osborne's value
Microsystems, February
1984
• Ways to keep your cool
Personal Computer Age,
December 1983
• More about IEEE-488: The
general purpose interface
bus (Part 2)
Portable Computer,
February 1984
• A close look at CMOS:
These innovative chips are
changing the nature of
computer design

HARDWARE—
MONITORS

Microsystems, February
1984
• Display Manager

HARDWARE—
REPAIR/
MAINTENANCE/
SECURITY

Computers & Electronics,
February 1984
• Use your TRS-80 Color
Computer as a storage
oscilloscope

LEGAL/REGULATORY

Nibble, February 1984
• Software rental
Popular Computing,
March 1984
• Small-Business
Computing: The renting of
major software packages
has set off a round of legal
skirmishes
Portable Computer,
February 1984
• Passports for portables:
Export regulations
Softalk, February 1984
• Is the software industry
ripe for representation?

SYSTEMS SOFTWARE—
OPERATING SYSTEMS
& UTILITIES

Analog Computing,
January 1984
• Disk users: Don't let this happen

• BASIC cassette Recovery
BYTE, February 1984
• ProDOS: A new operating
system for Apple II
• Writing device drives for
MS-DOS 2.0 using Tandon
TM100-4 drives
Basic Computing,
February 1984
• Sorted TRSDOS 2.0
Directory: A needed
enhancement written in
FORTRAN (Model ii)
• Full-function Model 100
disassembler (Model 100)
• MC-10 utilities: Program
renumber and screen
dump (MC-10)
COMPUTE!, February 1984
• 64Key and VICKey
• Dr. Video 64
COMPUTE!'s GAZETTE,
March 1984
• MLX: Machine language
entry program for
Commodore 64 and
VIC-20
• The Automatic Proofreader
(VIC-20/ 64)
Computer User, February
1984
• Easy menus
• A disk zapper for the CoCo
Digital Review, March
1984
• Freedom of choice: RT-II
80 MICRO, March 1984
• MS-DOS:Tandy's
powerhouse operating
system (Model 2000)
• Using data files, part 2:
Random-access files
(Models I, II, III)
• Wipe out: delete Model
100 files with a single
keystroke
HOT CoCo, March 1984
• What's disk?: Learn how
your CoCo stores
information on a disk
• Give your disk drive a one-
track mind
• Build a better error trap
• K-Bug: List your Basic
programs byte by byte
Macworld, Premier Issue
• The 64K treasure chest:
The Macintosh Toolbox
Microcomputing, February
1984
• A utility you can't refuse:

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Analyzes your Microsoft Basic program and prints a detailed report of its variables

Microsystems, February 1984
- Datestamp your dBASE II
- RSX: The Resident System Extension in CP/M Plus
- Deblocking in CP/M 2.2
- Microsystems Reviews: AUTODEX: Satisfy all your indexing needs
- Banish gremlins from your interfaces: Use various CP/M-based software in combination

Nibble, February 1984
- Applesoft Expander: Enhance the power of Applesoft with these machine language utilities
- Custom Catalog: Make DOS display the symbols and file names you want to see
- Greeter Maker: EXEC your greetings! Or BRUN them!

- 80 column magic for the Apple IIe: Double your catalog, double your fun
- Amper-Catalog
- Noboot: Crash-proof your DOS-less data disks
- Eleven free sectors: Steal back the eleven sectors DOS claims

PC World, March 1984
- Changing keys: Use DOS 2.00 to redefine the PC keyboard

Personal Computing, February 1984
- VisiOn (Review)

Personal Computer Age, December 1983
- PC DOS and other problems

Sextant, Winter 1984
- A new CP/M for the '89

The Color Computer Magazine, February 1984
- Disk secrets
- View Utility: Using mis-matched graphics modes

SYSTEMS SOFTWARE — SOFTWARE DEVELOPMENT & LANGUAGES

Analog Computing, January 1984
- Transporting programs to the 5200
- Alternative keyboard handler
- BASIC Training
- Assembly language tutorial: Boot Camp

A+, February 1984
- Beagle BASIC: NEWBASIC on Apple II, II Plus, or IIe (Review)

BYTE, February 1984
- Benchmarking FORTRAN compilers
- Inside a compiler: Notes on optimization and code generation

Basic Computing, February 1984
- Basically BASIC: Reading your data and some short but useful programs (For all models)

COMPUTE!, February 1984
- Program forms: The Beginner's Page
- Machine Language: ML Factors, part 2
- INSIGHT: Atari: A 'new' kind of screen editor
- Foreign languages: Programming The TI
- Speedy BASIC for VIC and 64
- Commodore files for beginners, part 4

COMPUTE!'s GAZETTE, March 1984
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- Dynamic SAVE for VIC and 64
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- UCSD Pascal: An update: Pascal from Begin to End
- Peeking, Poking, and stalling: The BASIC Solution

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- Dissecting your ROM
- Color computing for kids: Arrays and dimension statements

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POTPOURRI OF PROGRAMS

A POTPOURRI OF PROGRAMS

In this chapter we print a selection of short sample programs which you can adapt to your purposes or use as they stand. All will run on any of the machines in the PC family, PC*jr*, PC or PC-XT.

In order to minimize the typing labor required before you can try them, the programs are listed without the usual quota of remarks. Instead, we discuss the programs, and you can add your own descriptive comments, as REM statements, before you SAVE the programs.

The programs are printed as they would look on a screen set for 40 columns (WIDTH 40). This provides at least a partial check on whether you have copied the listings exactly as shown. (That can be important.) In BASIC, you type the statement number first, then continue without pressing the ENTER key (⬅——), even if you come to the right end of the screen. Only when going to the next numbered statement line do you ENTER.

First a couple of short compositions which show that if you can read music, you can write it for your PC. (PC*jr* can do an even better job, because it has more capabilities. You can play chords, control volume, and add other fancy touches which aren't included in these samples.)

The music programs require advanced basic (BASICA). If you're using PC*jr* you'll need the BASIC cartridge. Now just go ahead. Type the first program. Then RUN and listen.
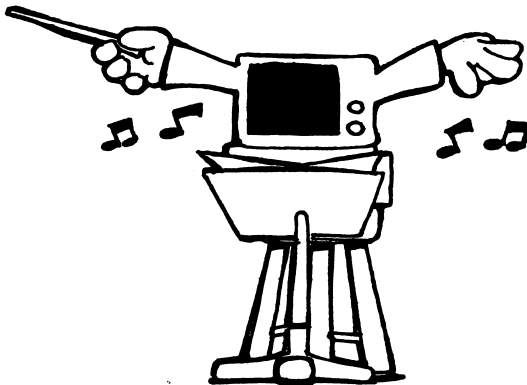
MOUNTAIN

SHE'LL BE COMIN' ROUND THE MOUNTAIN

1.	She'll	be	com	in'	'round	the	moun - tain	when	she
2. (	She'll	be)	driv -	in'	six	white	hors - es	when	she
3. (	Oh,	we'll)	all	—	go	to	meet her	when	she
4. (	Oh,	we'll)	kill	the	old	red	roost - er	when	she

```
10 CLS:PRINT "She'll be comin' round the
   mountain"

20 M1$="mft200o3mnL4"

30 M2$="deggg.g8edo2bo3d"

40 M3$="ml g1mngp4gabbb.b8"

50 M4$="o4do3bagml a1mnap4o4dc"

60 M5$="o3bbb.b8agggeee.e8"

70 M6$="agf#eddgp8a8baef#"

80 M7$="ml g1mngp4"

90 MOUNTAIN$=M1$+M2$+M3$+M4$+M5$+M6$+M7$

100 PLAY MOUNTAIN$: PLAY MOUNTAIN$+"deml
    g1mngp4"
```

If it doesn't sound right, check your typing. You can listen to part of the music at a time after you've run the program and the OK prompt is back on the screen by typing PLAY M2$ followed by the ENTER key, for the beginning. PLAY M3$ (or M4$ etc.) will give the following sections. (M1$, in line 20, does not play any notes. It sets the tempo, octave and other starting conditions.)

Line 100 is the one which actually plays the music, with the statement "PLAY MOUNTAIN$". The repeated PLAY instruction gives a second verse, and the last few notes provide the closing. (If you think once around the mountain is plenty, take out the repeat.)

Here's another composition to try:


```
110 CLS:  PRINT "Daring Young Man on the
Flying Trapeze"

120 T1$="mf t200 o3 mn 14"

130 T2$="ddgabbb o4 c o3 eea2.df#g"

140 T3$="abaaged2ddgabbb o4 c o3 eea2dd"

150 T4$="f#gabag1 p4"

160 T5$="e8f#8gf#egf#eebbb2e8f#8"

170 T6$="gf#egf#e o2 b1 p4 o3 e8f#8"

180 T7$="gf#egf#eebbb2b8b8bbbbbbb2. "

190 T8$="o4 d1. mn o3"

200 TRAPEZE$=T1$+T2$+T3$+T4$+T5$+T6$+T7$

210 PLAY TRAPEZE$: PLAY T8$+TRAPEZE$
```

The second ditty also runs twice around, with T8$ providing the bridge between stanzas. Notice that this program is typed with spaces in the music directions. They're not necessary, but were put in to make it easier to distinguish the instructions which are not musical notes. In line 120, "t200" sets the tempo at the beginning of the song. "o3" calls for the appropriate piano octave (middle C). "mn" indicates music normal, neither staccato nor legato. "L4" specifies that except where a different number is used, all notes are assumed to be quarter notes.

It makes no difference at all whether you use capital letters or lower case when you type the music "strings" (computerese for non-numeric material). Lower-case was used here to make it easier to distinguish between letters and numbers.

For more about all this, look in your manual under the PLAY pages. Try typing in some other songs. One thing to remember: Since no string is permitted to be more than 255 characters long in BASIC, you will need separate strings and PLAY statements if you write a longer piece of music.

If you have a PC*jr*, experiment with the additional capabilities it offers. Add chords; vary the loudness of the music. (You can play it through an outside speaker system instead of using the computer's small built-in speaker.)

You Can Be a Computer Artist

Next is a program which draws designs on your screen. For this you need graphics. All PC*jr* models can do graphics, but if you have a monochrome PC, without a graphics adapter, skip this program.

DESIGN

You may be surprised at the number of very different designs you can get just by making slight variations in the numbers you enter when you run this. We show some examples printed by using IBM'S GRAPHICS program and the dot-matrix printer. If you want to print your computer drawings, you will have to run a graphics printing routine first (IBM's DOS 2.0 or 2.1 disks include one called GRAPHICS.COM).
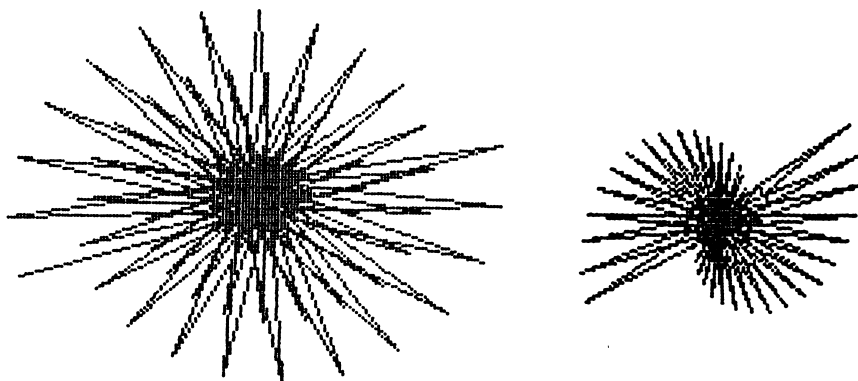
First try some designs where you put in 0 or just press ENTER when the program asks for GROW. The computer will take either of these as a 0 increase in the length of the side. Try 80 for SIDE and 90 for ANGLE the first time. (You probably will not be surprised by what you get.) Then try 120 for the angle. Or 72. (What do you think you'll get if you enter 45 for the angle?)

Then try the same sort of thing with some larger angles. See what happens with 144, or 150 or 175.

Then you might try some non-zero numbers for GROW. How about 2 for SIDE and 3 for GROW, for starters, to see what happens? (By the way, you can use positive or negative numbers on any of the entries. The results will be different. So try some negative numbers too.)

If you want to speed up the drawing, change line 140. Use a smaller number than 8, which gives you a delay of about 8/18 of a second. (See your manual under SOUND to see how this works.)

You can enhance this program quite a bit. Add color. (If you have a PC*jr*, change line 110. Start with CLEAR ... 32768: SCREEN 5: instead of SCREEN 1:—then you will have a choice of 16 colors in your drawings.)

When the program stops drawing, you have a choice. You can press R to resume. Or you can use the PrtSc key (if you have RUN the GRAPHICS program and have an appropriate printer) for a copy on paper. Or you can press any other key to end that drawing.

```
10 WIDTH 40: KEY OFF: CLS:PRINT "This pr
ogram needs BASICA and graphics.":PRINT
"It draws designs.": PRINT: PRINT "To st
op drawing, press any key": PRINT: PRINT
 "To resume drawing same design, press R
": PRINT

30 PRINT "You will be asked to enter:" :
PRINT: PRINT "SIDE (try a number less th
an 100)"    "ANGLE (in degrees)"    "GROW
(to change side while drawing)": PRINT:
PRINT "Try some numbers."

110 LOCATE 24: INPUT;"SIDE";SIDE:   INPUT
;"    ANGLE";ANGLE: INPUT"    GROW";GROW

120 SCREEN 1: CLS: SCALE=1.1163: X=160+S
CALE*.5*SIDE: Y=100+45/ANGLE*SIDE: PSET(
X,Y)

130 ANGLE=ANGLE*3.14159/180: ANGLEINC=AN
GLE

140 SIDE=SIDE+GROW: X=X+SIDE*SCALE*COS(A
NGLE): Y=Y-SIDE*SIN(ANGLE):LINE-(X,Y): A
NGLE=ANGLE+ANGLEINC: PLAY"mf": SOUND 300
00,8: SOUND 30000,1

150 X$=INKEY$: IF X$=""THEN 140

160 X$=INPUT$(1): IF X$="R" OR X$="r"THE
N 140 ELSE LOCATE 24: PRINT "Another (y
for yes) ?";: X$=INPUT$(1): A=ASC(X$+" "
): IF A=89 OR A=121 THEN CLS: GOTO 110

170 SCREEN 0: KEY ON: END
```

This program was originally written for children, but the designs were intriguing enough to prompt many other graphics enhancements and additions. The program is still growing, but in its present incarnation it's too long to serve as an example.

Utility Programs

Next we look at a few short "utility" routines, which are designed to be used in connection with other programs.

For example, I use KEYSPROG to assign new values to some of the function keys in a way that suits my needs while writing programs better than the function key definitions provided when BASIC is called ("default conditions").

KEYSPROG

KEYSPROG is a modest self-effacing program. When RUN, it does its job, and then gets out of the way so you can start to program. Keys 1 through 5 are essentially unchanged from the way they come up in BASIC, but 6 through 10 have been given different meanings. You might find some other assignments more convenient for your purposes. The program is included to show how you can get whatever you want (up to 15 characters, counting spaces) printed with one keystroke.

```
10 REM KEYSPROG changes function keys
20 KEY 1,"List "
30 KEY 2,"Run"+CHR$(13)
40 KEY 3,"Load"+CHR$(34)
50 KEY 4,"Save"+CHR$(34)
60 KEY 5,"Cont"+CHR$(13)
70 KEY 6,"System"+CHR$(13)
80 KEY 7,"Files"+CHR$(13)
90 KEY 8,"Return "
100 KEY 9,"GoSub "
110 KEY 10,"CHR$("
120 KEY ON: NEW
```

KEYSLETR

When you're writing letters, it would be convenient to type frequently-used words or phrases by simply pressing one function key. (After all, you are no longer limited by what a typewriter can do.) For example, consider the following:

```
10 REM ** This is just a sample. You can
   put your name, address, or phone number
   on function keys for letter-writing.

20 KEY 5,"Get More from": KEY 6," your I
BM PC ": KEY 7,"-- or PCjr and"

30 KEY 8," Save Money.   ": KEY 9," Yours
   truly, "

40 KEY 10,"   Ada Booth"
```

To see how it works, type in lines 20, 30, and 40. Then RUN. Then, in succession, press function keys 5, 6, 7, 8, 9, and 10.

We don't suggest that you copy these particular phrases! Use your own. The only limitation is that you can't have more than 15 characters, counting spaces, per key.
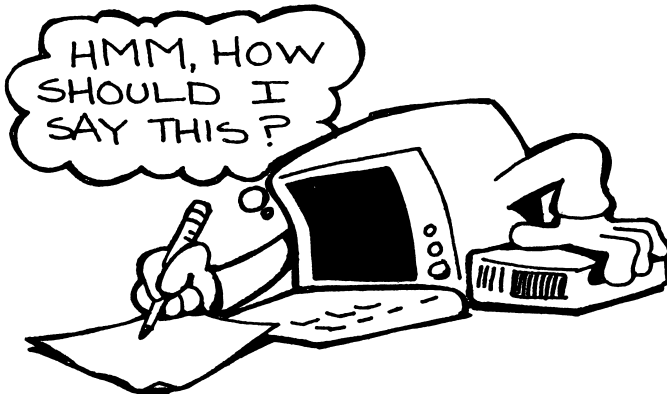
DAYOWEEK

Following is a short routine which can be used as it stands, to find what day of the week corresponds to any date. People are often interested in learning what day of the week their birthday will fall on in some future year, or on what day of the week they were born.

The working part of this program can be incorporated as a subroutine into a program where it is important to check day of week.

```
230 CLS: PRINT "You will be asked for MO
NTH, DAY, YEAR - in numeric form" "
DON'T abbreviate the YEAR":PRINT

235 INPUT;"No. of MONTH ";MO: INPUT;"  D
AY ";DAY: INPUT;"   YEAR ";YR

240 FC=365*YR+DAY+31*(MO-1)

245 IF MO<=2 THEN DFAC=FC+INT((YR-1)/4)-
INT(.75*(((YR-1)/100)+1))ELSE DFAC=FC-IN
T(.4*MO+2.3)+INT(YR/4)-INT(.75*(INT(YR/1
00)+1))

250 DWK=DFAC+FIX(-DFAC/7)*7
                    ┌─1 sp.    ┌─3 sp.     ┌─3 sp.
255 DW$="SATURDAY▽SUNDAY ▽  MONDAY ▽  TUES
DAY △ WEDNESDAYTHURSDAY△FRIDAY      "
2 sp.─┘                 └─1 sp.
260 DW$=MID$(DW$,9*DWK+1,9):LOCATE CSRLI
N+2:PRINT "The day was, is or will be a
";DW$:END
```

Note: It is important to space exactly as shown in line 255, since each day is allotted 9 characters for its position.

ALLCAPS

ALLCAPS uses the DEF FN statement to solve a common problem, which is encountered in many contexts. Often, when a program asks the user for some textual ("string") input, it would be helpful to have the material entered in a particular form, so that it can be compared with some other "string". ALLCAPS defines a function which converts lower-case letters to capitals.

```
5 PRINT "  ALLCAPS shows how to change t
he lower-case letters of a string which
may be a mixture of characters into ALLC
APS, --- while changing nothing else."
10 DEF FNU$(C$)= CHR$(ASC(C$+" ") + (C$>
CHR$(96) AND C$<CHR$(123))*32)
50 PRINT: PRINT "Enter anything (up to 2
55 characters)":PRINT: LINE INPUT I$: GO
SUB 1000: PRINT: PRINT I$: END
1000 FOR I=1 TO LEN(I$): MID$(I$,I,1)=FN
U$(MID$(I$,I,1)): NEXT: RETURN
```

Line 10 defines FNU$, which converts any single letter into upper case, if it isn't already capitalized. If more than one letter is involved, you send the string to the subroutine in 1000 to capitalize the entire text.

Here is an example of how this would be used. Suppose you have a list of members of some group in an alphabetized file. If you store them all in upper case, then when you want to compare with some other data or add to the list, re-sorting at the same time, it's nice not to have to worry about reminding people that they must type in capital letters. It's hard enough to make sure you type names in right, without worrying about upper and lower case.

This is clearly a very common problem, since various questions and solutions keep showing up in club newsletters and letters to magazines. Most of the proposed solutions have some other drawbacks. This DEF FN approach seems to work pretty well, with a minimum of complications. No PEEKS or POKES are required. It can be used in a routine which arranges a list of entries in alphabetical order.

ALPHSORT

ALPHSORT, which follows, illustrates the use of several features of BASIC statements, in addition to alphabetizing a list of entries. The actual sorting routine ("sort" means put in some desired order) is done by only three program lines: 140, 150, and 160, which assume a list already available, the "string array" A$(100), with room for 100 entries of up to 255 characters each.

If you need to work with a longer list, simply change the 100 in DIM A$(100) to some larger number. This is a very simple and rather slow sorting technique. If you had a long list of items, you would want to use a more sophisticated approach, but for a reasonably short list this works perfectly well. Try it. Then read further for more comments.

```
10 DEF FNU$(C$)=CHR$(ASC(C$+" ") + (C$>C
HR$(96) AND C$<CHR$(123))*32)


100 KEY OFF: DIM A$(100): DEFINT I-L


110 I=0: CLS: PRINT "Enter items to be a
lphabetized."


120 PRINT "When no more, simply press en
ter key.": PRINT


130 LINE INPUT "?  ";A$: IF A$=""THEN L=
I ELSE I=I+1: GOSUB 1000: A$(I)=A$: GOTO
 130


140 FOR I=1 TO L: FOR J=I+1 TO L


150 IF A$(J) >= A$(I)THEN NEXT J
```

```
160 IF J>L THEN NEXT I ELSE SWAP A$(I),A
$(J): GOTO 150

165 I=1: CLS: PRINT "List is alphabetize
d, all capitals": PRINT

175 WHILE CSRLIN < 24:PRINT A$(I): IF I>
=L THEN LOCATE 25: PRINT "List done. Pre
ss any key to end program";:X$=INPUT$(1)
: KEY ON: END ELSE I=I+1: WEND

180 LOCATE 25,5: PRINT "Press any key fo
r more";: X$=INPUT$(1): CLS: GOTO 175

1000 WHILE LEFT$(A$,1)=" ":A$=MID$(A$,2)
: WEND

1010 FOR K=1 TO LEN(A$): MID$(A$,K,1)=FN
U$(MID$(A$,K,1)): NEXT: RETURN
```

Line 1000 is needed only to guard against the user's accidental entry of a space before typing in an item. It removes any blanks at the beginning. Lines 165 to 180 take care of the presentation of the result on the screen, to make sure only an appropriate amount is printed at once. (If you were printing the result on paper, you wouldn't need these at all. You would substitute an instruction like FOR I=1 TO L: LPRINT A$(I): NEXT.

If your list were in a file, and you wanted to add or delete items, you would start by OPENing the named FILE for INPUT and add a line (say 105) where you read the file into the string array (look this up in your manual—A$(100) is a string array).

If you wanted simply to alphabetize a list, but did NOT want to change the items of the list in any way, you could accomplish that purpose by adding a second array B$(100). The following lines would be changed:

(In line 165, delete ", all capitals")

188

```
125 DIM B$(100)

130 LINE INPUT "?  ";A$: IF A$=""THEN L=
I ELSE I=I+1: A$(I)=A$: GOSUB 1000: B$(I
)=A$: GOTO 130

150 IF B$(J)>=B$(I) THEN NEXT J

160 IF J>L THEN NEXT I ELSE  SWAP A$(I),
A$(J): SWAP B$(I),B$(J): GOTO 150

165 I=1: CLS: PRINT "List is alphabetize
d": PRINT
```

But enough about alphabetizing. (You can also arrange numbers in size order, in a somewhat similar, but easier fashion.)

How About a Simple Game?

DRIVE can be played on any member of the PC family of computers. It requires BASICA but does not need graphics or color. If your system includes graphics or color, adding them would certainly be an enhancement.

DRIVE was adapted, with many changes, from a game called RACEMAN whose source, I think, was originally an article in a computer magazine. Again, it was written for children, but adults seem to enjoy it too. It tests your coordination at keeping your "car" between the boundaries of a road which keeps moving. You use the left and right cursor keys to change the position of your car, as you drive down the screen.

After watching children impatiently waiting for turns, I added a feature which automatically stops the program after the player has had five trips. That makes a good signal that it's someone else's turn to RUN the program.

DRIVE

```
10 'DRIVE is game program

100 SCREEN 0,0,0:WIDTH 40:KEY OFF:CLS:LO
CATE 5,13,0:COLOR 15:PRINT"D R I V E  !"
:COLOR 7

110 PRINT :PRINT :PRINT"Keep your car on
 the road.":PRINT"Use LEFT cursor to mov
e left; RIGHT for right."

160 PRINT:PRINT "Press SPACE BAR to star
t":X$=INPUT$(1)

190 RANDOMIZE VAL(MID$(TIME$,7))+1:CLS:M
=0:X=0:ROAD=12:B1=15:B2=B1+ROAD:T=20:SPE
ED=10

220 C$=INKEY$

250 ON ERROR GOTO 1000

260 KEY(12) ON:KEY(13) ON

300 ON KEY (12) GOSUB 430

310 ON KEY(13) GOSUB 440

330 PRINT TAB(B1)D$ TAB(T)CHR$(232) TAB(
B2)D$:FOR I=1 TO 10*SPEED:NEXT

340 IF B1>=T OR B2=<T THEN LOCATE CSRLIN
-2,T:COLOR 15:PRINT CHR$(178);:GOTO 600

350 PLAY"MB"

360 SOUND 250-20*SPEED,5
```

```
370 A=INT(RND*5)+1

380 ON A GOSUB 410,420,420,420,410

390 ON B GOSUB 470,460

400 M=M+1:IF M>50 THEN ROAD=11:SPEED=8:I
F M>75 THEN ROAD=10:IF M>100 THEN ROAD=9
:SPEED=5:IF M>200 THEN ROAD=8:SPEED=3:IF
 M>250 THEN ROAD=7:SPEED=0

405 GOTO 300

410 B=1:RETURN

420 B=2:RETURN

430 T=T-1:RETURN

440 T=T+1:RETURN

460 GOSUB 550

470 R=VAL(MID$(TIME$,7)):Y=INT(RND(R)*3)
+1

480 IF X=Y THEN 470

490 X=Y

500 D$=CHR$(177)

530 GOSUB 550

540 RETURN

550 B1=B1+X-2

560 IF B1<1 THEN B1=1

570 B2=B1+ROAD

580 IF B2>30 THEN B1=30-ROAD:GOTO 570
```

```
590 RETURN

600 SOUND 50,0:PRINT " !! CRASH !!":PRIN
T SPC(39):FOR I=1 TO 10:SOUND 90+2*I,2:N
EXT:FOR I=1 TO 3:PLAY"L8MLO2EF#":NEXT:CO
LOR 7:J=J+1:SCORE(J)=M

630 PRINT "You scored"M"points this time
.":IF J=5 THEN PRINT"Earlier scores were
";:FOR I=1 TO 4:PRINT SCORE(I);:NEXT:END
 ELSE PRINT"Try again ? (press y)":TR$=I
NPUT$(1)

710 X=ASC(TR$):IF X=89 OR X=121 THEN 190
 ELSE WIDTH 80:END

1000 IF ERR=5 THEN PRINT "This program r
equires BASICA":LOCATE CSRLIN+3,10:PRINT
 "Return to SYSTEM, then run the program
 under BASICA":LOCATE CSRLIN+5:END
```
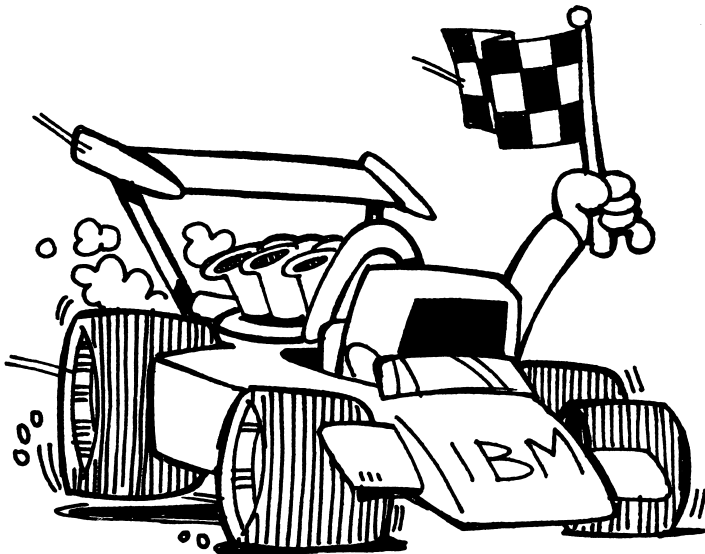
MINE, another game which does not require graphics, was adapted from a program on a club library disk. Changes to make it more suitable for small children included adding a choice of desired speed as well as density when the game starts.

MINE

```
1 SCREEN 0:CLS:WIDTH 40:PRINT "MINEFIELD
. Down arrow represents Player.""Use lef
t and right cursor keys to move""Down Ar
row to avoid rising,mines"

10 DEFINT A-Z:KEY OFF:M=1

20 S=20:T=-18

30 LOCATE 5,1:INPUT "Minefield density (
1-10):",M$:INPUT "speed (1-3):",S$

40 IF VAL(M$)<>0 THEN M=VAL(M$):IF VAL(S
$)=3 OR M>3 THEN SPEED=0 ELSE SPEED=1.5-
VAL(S$)*.5

50 COLOR 3,0:LOCATE 23,1:PRINT "!";:LOCA
TE 23,39:PRINT "!"

60 COLOR 7,0:FOR I=1 TO M:X=RND*36+2:LOC
ATE 23,X:PRINT CHR$(15);:PLAY"mf":SOUND
30000,SPEED:SOUND 30000,.5:NEXT

70 T=T+1:LOCATE 25,1:PRINT T:I$=INKEY$

80 IF I$=CHR$(0)+CHR$(77) THEN S=S+1:SOU
ND 1000,.5 ELSE IF I$=CHR$(0)+CHR$(75) T
HEN S=S-1:SOUND 1000,.5

90 P=SCREEN (5,S):IF P<>32 AND P<>0 THEN
 110
```

```
100 COLOR 7,0:LOCATE 5,S:SOUND 200,.5:PR
INT CHR$(25):GOTO 50

110 IF S>5 THEN S=S-5

120 COLOR 15,0:LOCATE 5,S:PRINT "<<< ZAP
! >>>";

130 FOR X=1000 TO 1900 STEP 100:SOUND X,
.5:NEXT

140 FOR X=1 TO 10:SOUND 500,.5:SOUND 100
0,.5

150 FOR DV=1 TO 100:NEXT DV:NEXT X

160 LOCATE 25,1:COLOR 0,7:PRINT "SCORE:"
;T;:COLOR 7,0


170 LOCATE 24,1:WHILE INKEY$<>"":WEND

180 PRINT "Press 'P' to play again...";

190 Q$=INKEY$:IF Q$=""THEN 190

200 CLS:IF Q$="P" OR Q$="p" THEN 20
```

APPENDIX A

RBBS-PC VERSION CPC12.1E—(compiled)
OPERATING AT 300 BAUD, NO PARITY, 8 DATA BITS, 1 STOP BIT.

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

```
* * * * * * * * * * * * * * * * * * * * * *
*                 W E L C O M E           *
* * * * * * * * * * * * * * * * * * * * * *
*        RBBS-PC Bulletin Board in Desoto, Tx  *
*                                          *
*             24 Hrs.–7 days/week          *
*             300-450-1200 BAUD            *
*             SYSOP: Mark Collard          *
* * * * * * * * * * * * * * * * * * * * * *
```

This BBS is primarily for the IBM-PC, but all are welcome
to browse around, leave messages, upload, download, and read
the bulletins. I'm interested in your comments on how to make
this BBS more useful and enjoyable for you.
                    E N J O Y ! ! !

        Miscellaneous Notes from the SYSOP on 1/5/83
        :

        The password function is now fixed. Feel free to change
        your password if you like.

        I've added a bulletin relating to Amateur Radio and would
More?   y   .
        like for you to give me some feedback on what you would
        like to see in this bulletin.

                    Time Limitations
                    : : : : : : : : : : : : : : :

        The bulletin board is getting so busy that we need to limit
        access to 45 minutes during the hours of 6:00 A.M. to midnight.
        Thanks for your cooperation!

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>>> SYSTEM CONFIGURATION <<<

Just thought you might be interested in what makes up this system.

Hardware
: : : : : : : : :

IBM PC - 576K Memory - Two double sided diskettes
Hayes 1200 Smartmodem - Epson MX 80 printer

Software
: : : : : : : : :

More?   y

The software, RBBS—PC, is public domain software. There
are about 11 revisions in circulation. The Capitol PC
Users Group in Washington has made the majority of the
revisions and is the "official" source of the program.
If you're interested in getting a copy, contact the
Capitol PC Users Group.

The following Bulletin Boards keep the latest version
available for downloading.

    703/759-5049   Great Falls, VA
    415/689-2090   Concord, CA

>>> NEW CALLERS - HERE'S WHAT TO EXPECT <<<

You are reading the "WELCOME Message". I change it a little about
every week or so. There are usually about 4 or 5 pages (23 line screens full)
to the Welcome message. If you don't want to read it enter a CTRL-K (^K)
while it is printing or enter a "N" in response to the "More?" prompt
that is displayed at the end of each page.

More?   y
After the "Welcome message" is finished you will be prompted to enter
your FIRST name, LAST name, City and State you're calling from, type
of computer you're using. Finally you'll be asked to enter a password.
You make up your own password, and make sure you remember it for the
next time you call. You will now be shown a list of System Bulletins
that you may read. If you don't want to read these now you can always
read them from the MAIN MENU. You get to the MAIN MENU by pressing
your ENTER key or carriage return at the FUNCTION prompt for the

SYSTEM Bulletins. Some additional information will then be printed
before you get to the MAIN MENU. This will happen only the first time
you call. There are only two menus: MAIN MENU and FILES MENU. Type
"H" at either menu to get an explaination of the commands. You shouldn't
have much trouble. Have fun!

>>>SYSTEM USAGE & TIPS<<<

It's frustrating when you try to call and all you get is a
busy signal. To make it a little easier to get on, let's
try operating under the following guidelines:

     1. Limit calls to 45 minutes
     2. Limit yourself to no more than 45 minutes
More?
        of usage during 6 A.M. to Midnight
     3. Don't immediately call back a second time after
        you've timed out on a call.

: : : : :

At the end of each page that's displayed on your screen there
is a prompt, "more?". You can hit your enter key instead of
typing in "yes". If you don't want more then enter "n".

: : : : :

There are gaps in the number sequence of messages because
they are "killed" when they are no longer needed. When
you want to read a group of messages try entering the
starting message number and then a "+". That way you can
read all messages after the starting number and you don't
have to keep entering message numbers that don't exist.

: : : : :

You can also read messages backward by specifying the starting
message followed by a "–".

: : : : :

Please "kill" your messages after reading them unless they would
be of interest to the others.

>>> Uploads <<<

More?

Thanks for the uploads! I'll try to keep enough room to handle
the files you want to upload. Occasionally, there may not be
enough room, but I'll try to keep space available.
A few things to remember about uploads....

  a) Save BASIC programs with the "A" option before
      transmitting them to the BBS.
  b) Don't send any copyrighted programs, only Public Domain
  c) Send a .DOC file on how to use the program or use Remarks
      in the BASIC code to describe the operation.
  d) Make sure you have "Messages" turned off in your
      communications software.

  >>> Please leave me a Comment if you have suggestions <<<
: :

Thanks for Calling!

What is your FIRST Name?   ada
      And your LAST Name? booth
Checking User File ...

What type of system are you calling from?   IBM PC
What CITY and STATE are you calling from? SANTA CLARA CA
ADA BOOTH from SANTA CLARA CA
Is this correct? Y

Type in a message security PASSWORD (not IBMPC) ? ....
Type in PASSWORD again for security double check? ....

ADA, please remember your password for the next time you call.

Logging ADA BOOTH to disk ...

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

                    System Bulletins
              : : : : : : : : : : : : : : : : :

              1. CQ ... CQ ... CQ ... DE KA5SDT
              2. RBBS-PC Communications Parameters
              3. Computer Graffiti
              4. Description of XMODEM PROTOCOL
              5. Description of 450 BAUD operation
              6. My Company, PCM Corp. [propaganda!]

Bulletin # < 1 through 6, L) ist or C/ R to end >?

Checking message file ...

Sorry, ADA, no personal mail for you today.

Entering the message subsystem ...

You are caller #   -> 6052
# of Active msgs   -> 119
Next msg # will be-> 206

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

              WELCOME! If you are new to electronic
              bulletin board systems, the following
              information may be useful.

              You can skip this by typing a control K
              Which is done by pressing both the

control and the K keys at once. It may
take a bit for the printing to stop, it
may type 100 characters or so before it
gets done!

This system operates similar to most of
the other systems. It allows you to
read or leave messages, upload or
download files, and read bulletins.

Message Functions
: : : : : : : : : : : : : : : : :

You may enter, read, or scan messages from the main menu.
       Q)uick scan will list the subject line of the active messages
       S)can will list From, To, and Subj. of the active messages
More?
       R)ead will allow you to read the messages
       E)nter will allow you to leave a message. You have the option
           of making your message public or private.
       C)omments are messages that you can leave to me.

Upload and Download of programs and files
: :

This is the most popular feature of most bulletin boards.
If your communications software allows file transfer (most do)
then you can transfer files to and from your system and this BBS.

From the main menu select option F)iles menu. From the file
menu you can select L)ist which will list the available
download files. Once you've made your selection choose
the D)ownload option and follow the computer's prompts.
If you have trouble there is a more detailed explanation
under the H)elp menu and the ?) download help.

H A V E   F U N !
: : : : : : : : : : : : : : : : :

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

================= FUNCTIONS SUPPORTED =================

- Send and receive messages with password protection
- Download and upload 7-bit ASCII files
- Download and upload 8-bit binary files using XMODEM protocol
- List files available for download with directory number select
- Save caller's expert/novice, prompt & page length preference
- Save caller's last message read mark and line feed preference
- List personal mail message numbers or says no personal mail
- Quick scan and scan of messages with stacked number option
- Read messages with stacked number or from last message read
- Read SYSOP bulletins from bulletin menu

Time remaining = 37 min.

=== RBBS-PC MAIN MENU ===

B)ulletins	C)omment	E)nter message	F)iles menu
G)oodbye	H)elp	K)ill a message	L)ine feeds
M)sg margin	N)ew baud	O)perator	P)rompt sound
PL)age length	PW)assword	Q)uick scan	R)ead messages
S)can msgs	T)ime	U)serslog	W)elcome
X)pert on/off	#)statistics	?)Functions	!)Personal mail
$)Nulls			

Function < B,C,E,F,G,H,K,L,M,N,O,P,PL,PW,Q,R,S,T,U,W,X,#,?,!,$ >? F

Entering File Subsystem...

Time remaining = 36 min.

=== RBBS-PC FILE MENU ===

G)oodbye	H)elp	D)ownload a file
L)ist files	M)ain menu	U)pload a file
N)ew files	?) Xfer info	

File Function < G,H,L,N,D,U,M,? >? L

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

Download Directory
::::::::::::::::::

DIR   Description
::::   ::::::::::::

   1   Files on Drive A
   2   Files on Drive D
   3   Files on Drive B - Contains uploads
   4   Files on Drive C - Recipes
   5   Amateur Radio related programs

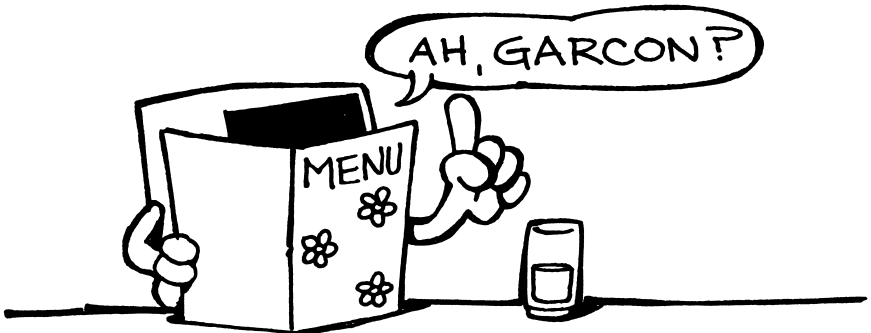To list the files on drive A type "L;1", for drive D "L;2", etc.

Time remaining = 36 min.

=== RBBS-PC FILE MENU ===

G)oodbye   H)elp   D)ownload a file
L)ist files   M)ain menu   U)pload a file
N)ew files   ?) Xfer info

File Function < G,H,L,N,D,U,M,?>? L;1

* Use <Ctrl K> to abort, <Ctrl S> to suspend *

AH, GARCON?

MENU

NAME	EXT	SIZE	DESCRIPTION
747	BAS	33408	747 Flight simulator
747	DOC	8064	Documentation for 747.BAS
ASK	COM	256	Batch enhancement for DOS 2.0
ASK	DOC	1152	Documentation for ASK.COM
ASK	HEX	640	Batch enhancement for DOS 2.0
CALENDAR	BAS	9216	Perpetual calendar
CHESS	EXE	46976	Chess
COM2ASM2	BAS	3009	Convert .COM to assembler code
COM2ASM2	DOC	2162	Description of COM2ASM2.BAS
CONFIG	BAS	2297	Gives installed options on your system
CVTHEX	BAS	4224	Converts .HEX to binary (.COM or .EXE)
CVTHEX	DOC	640	Documentation for CVTHEX.BAS
FINANCEA	BAS	20864	Finance program
HOST	BAS	14104	Host computer program
PC-TALK	MOD	1408	450 BAUD for PCTALK III (See msg. D. Stickle)
PCDOSMOD	TXT	7680	Modify DOS to stay resident 100% of the time
PLOT3D	BAS	2048	Plots a user defined function
PSQUISH	BAS	4736	Compress BASIC pgms. [Fix 6/22 by C. Dixon]

More?

| NAME | EXT | SIZE | DESCRIPTION |
| :: |

NAME	EXT	SIZE	DESCRIPTION
SATELITE	BAS	5120	Finds TV Satelite pointing angles - ACROS
SD	COM	1536	File directory Sort
SETKEY	DOC	2432	Documentation on SETKEY.EXE
SETKEY	EXE	31872	Redefine keys
VJRTDISK	ASM	16384	Variable size RAM DISK - Source
VJRTDISK	COM	768	Variable size Ram DISK (10K to 512K)
XREF	BAS	5632	Basic Cross referencer - See next 2 pgms -
XREFM	DOC	1024	Description of XREFM.MOD
XREFM	MOD	3200	Enhancements to XREF.BAS
ZSQ	EXE	19840	Squeeze files for transfer
ZSQ-ZUSQ	DOC	1792	Description of ZSQ.EXE & ZUSQ.EXE
ZUSQ	EXE	13696	Un-Squeeze files squeezed with ZSQ.EXE

Time remaining = 34 min.

=== RBBS-PC FILE MENU ===

G)oodbye	H)elp	D)ownload a file
L)ist files	M)ain menu	U)pload a file
N)ew files	?) Xfer info	

File Function < G,H,L,N,D,U,M,?>? D
Enter full filename to download? PLOT3D.BAS
Download type < X>modem, < A>scii, < Q>uit? A

File size is 16 blocks.
Transfer time: 1 minutes, 14 seconds.
Transfer can be suspended with <Ctrl-S>, aborted with <Ctrl-X>

Ready to send. Open download file then enter < C/R> to start?

APPENDIX B

ASYNCHRONOUS COMMUNICATION

—by MARK GUZZI
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Communication between two or more independent computer systems is known as ASYNCHRONOUS (literally meaning untimed or uncoordinated) communication. Two distinct types are included in this category, MODEM communication and COMPUTER NETWORKING. Modem communication has been in wide use for many years, while computer networking is still a relatively new technology.

Although both types involve computer-to-computer communication, major differences exist. Networking allows communication at very high speed between an almost unlimited number of computer systems, while modem communication is usually limited to two systems exchanging information at relatively slow transmission rates.

MODEM communication is loosely referred to as "dialing in." This means that you call up some other computer over a phone line. Then the signals from your computer are converted into signals that can be transmitted over phone lines. When the signals reach the other system (often a large computer which is referred to as the "host"), they are translated back into computer-understandable form. The host system will respond to you over the same phone line. When you use this method of computer-to-computer communication, you are limited to transmission speeds that phone lines can handle accurately. A reasonably "fast" modem might send 1200 bits per second (equivalent to about four pages of this text material per minute.)

COMPUTER NETWORKING is a very new field in computer science. The basic idea of networking is to connect a large number of separate pieces of equipment (computers, printers, plotters, modems etc.) so they can communicate with each other. In this way, all the users in an office or company can use specific resources or equipment when needed.

This is managed by connecting all pieces of equipment through one "ethernet" cable. Data transmission speeds on the ethernet are extremely fast—about 10 million bits per second, a tremendous increase in speed compared to using telephone lines.

At present, networks are limited essentially to equipment in reasonable physical proximity. They are not yet practical for communication over large distances. Any networks that connect computer systems separated by great distances use telephone lines to communicate. These networks then become subject to the same transmission speed restrictions that apply to all modem communication.

Modem Communication

Modem communication requires five basic components: a sender, a receiver, two modems (one for the sender and one for the receiver), and a medium of transmission (usually a phone line).

For the rest of the discussion, you, the reader, will be considered the sender. Before going any further, we will define a few terms:

1. MODEM—a device that translates signals from the computer to signals that can be sent over a phone line.

2. BAUD—number of "bits" per second. (8 bits = 1 character).

3. HALF DUPLEX—signifies that the modem can communicate in only one direction at a time.

4. FULL DUPLEX—2-way communication: the modem can transmit and receive data at the same time.

5. ACOUSTIC COUPLED—the modem communicates by converting computer signals into audible sounds that are "heard" by the receiver of the telephone. The modem "listens" to the sounds that are returned from the telephone receiver and relays them to the PC.

6. DIRECT COUPLED—this kind of modem is connected directly to a telephone line; the signals do not have to go through the telephone receiver. Many modems allow you to dial from the PC ("autodial").

Some other terms which are used in the following explanation will be defined when we get to them.

All right. Assume that you have a modem and also have the necessary supporting hardware and software, what is the first step in connecting to a distant computer? It is not dialing the "host" computer and trying to log in. Your PC must be set up so that the other computer can understand the signals that your PC is generating. For example, you must know the baud rate at which the other computer expects data to be transmitted. Often, the host computer to which you want to "speak" is set up to accept any rate up to 1200 baud. It will automatically sense and accept your sending "parameters" (the descriptions of your transmission methods).

What other parameters do you have to set at your end? Often, to guard against transmission errors, a procedure called "parity checking" is used. What does this mean?

Your computer sends information by what is called binary coding. Each "bit" of information is a signal which can have one of two states (like ON or OFF, a one or a zero). Then each letter or number can be represented by a unique sequence of ones and zeros. All the different letters of the alphabet, punctuation symbols, or numerals, can be represented by unique sequences of eight bits, often called a "byte" or "word". Parity checking involves adding the eight bits (individual ones or zeros) of each data "word" transmitted to determine whether the total is odd or even.

Suppose you are using even parity checking (transmission parameters E 7 1). The so-called "word" you send really amounts to only one character like a single letter of the alphabet. In this very small bundle of information, the first 7 bits represent the actual data you want to transmit. If the sum of those 7 bits is even, a zero is sent in the eighth position. Otherwise the eighth bit is a one, to ensure that the sum of all eight bits will be even. At the other end, the receiving computer checks each sum to make sure that it is even. This "parity check" makes it extremely likely that errors would be caught, since occurrence of two separate cancelling errors in such a small period of transmission would be very rare.

Another parameter which is involved is the character used to determine the end of a line of text. Some systems use a <CR>, carriage return, others use <LF>, line feed, and some systems will accept either. All these things should be taken care of in your communications software, preferably more-or-less automatically, without your having to worry about them. (That is where the "default" conditions come in for the most common transmission types.)

Now that all the communications parameters have been set to match the two systems, you are ready to dial-in. Your PC will now function as if it were an ordinary terminal connected to the host—if that is what you want. But you can do much more than that. You can switch between "terminal" mode of operation and computer operation at will. You can send a file from the PC to the host system, or copy a file from the host to your PC. You can transmit messages in both directions.

You now have a convenient way to transport programs or files from one system to the other. It should be remembered, however, that if you are transferring a very large file, it might take a long time, since you are limited by the speed of the modem. At such times it is particularly convenient to be working in your own home or office because you may leave your PC unattended while you do some other work, grab a cup of coffee, talk to friends, or watch a little TV.

File transfer capabilities are especially useful to a business that is dependent on several different computer systems for information. The PC is versatile enough to connect to most computer systems, and the file transferring options allow all the data that you receive to be stored on your disks.

Networking

Networking is a relatively new technology that allows a large number of computer systems to be connected together. Networking permits the sharing of resources like hard disk drives, large printers, graphics plotters, etc. The network also allows high speed communication between all the computers of the network. These systems are gaining popularity among businesses and schools because they provide many of the functions of a large computer system at a lower cost.

Conceptually, a network is very simple. The basic component of the network is a single cable which connects all the "nodes." PCs, printers, disk drives, and large computers all qualify as nodes. All the nodes communicate with each other over this single cable.

For example, if you wish to print one of your files on a networked printer, your PC creates a "package" of information and broadcasts it over the

network. When the printer receives your message through the cable, your file will be printed. But the package of information that you sent out over the network cable is received by all the nodes on the network. How does the printer know that it should print the file you have sent it and not print the file that you have sent to the hard disk? To answer this question, we must know more about how the nodes are connected to the network.

As stated before, the network is a continuous cable that connects all the nodes on the network. To attach a node to the network, the cable must be broken and a "T" connection made to the new node. The cable enters through one side of the T and exits from the other side so that a continuous line through the network is maintained. The tail of the T connection attaches to a network card. If the node is a PC, an appropriate card is inserted into one of the serial connectors in the PC in the same way a memory expansion card or any other expansion card is inserted.

This card has been assigned a permanent 64 bit address. Under normal circumstances, the PC node will respond only to information "packages" that are sent to its address. Using 64 bits for the assigned address allows billions and billions of different combinations, enough to ensure that even if everyone had thousands of computers, there would be no duplicate addresses.

How can an ethernet increase the power and versatility of the PC? The particular ethernet system described here as an example is the 3COM ETHERNET. Its software has been designed specifically for the IBM PC. This network system allows all PCs to work independently if desired; it also provides for common printing facilities, an electronic mailing system, and hard disk allocations, both public and private. The network requires one or more "servers" to control these facilities. A "server" is a sort of traffic-controlling computer. It must have both the processing power to run the required software and a large amount of "fast disk storage" (information can be obtained from the disk or put on the disk quickly). Either an IBM PC-XT or a 3COM "smart" fixed disk may function in that capacity.

When determining who has access to the network, the ethernet functions like a full size computer. A user name must be created for you on the net-work. Then to gain access to the server, you must log in. When this has been done, you may use the server to create files, run programs, print files

or send mail. All these functions are performed using three ethernet programs: ES (ethershare), which controls user names and logins, EP (etherprint), which handles print requests on the network, and Ethermail, which sends and delivers messages between network users.

The first order of business is the creation of your user name. A new user name may be created by any current user on the ethernet.

Once the ES program has sent your request for a new user name, the server will receive the request, create the user name and send a confirmation back to the requesting PC. After the process is complete, the ethernet server will recognize you, and from then on, you will be allowed to log in. (Although it is not required, you can set a password to avoid unauthorized use of your name. In that case, you will have to supply the correct password to gain access to the system.) Now you will have the ability to use information and work as if you had six disk drives on your machine instead of only two. But there is another advantage in addition to the extra capacity.

As PC owners are well aware, a normal floppy disk spins only when something is being read from or written to the disk. Before anything useful can be done, the floppy must spin up to operating speed, and its operating speed is quite slow. The server disk spins at a constant rate of 3600 rpms, and can respond to read and write requests thousands of times faster than a floppy disk. The server gives almost instantaneous response time for the additional capacity that it provides. 320K bytes of memory (the equivalent of one double-sided, double-density diskette) can be copied or transferred in a tiny fraction of a second. Another useful feature is that you can work with "volumes" on the server of any size from 64K bytes up to 32000K bytes (32 megabytes)—a great advantage if you are working with programs or data that are too large to fit on a standard floppy.

You can create these "volumes", specifying the size you want, and whether your "volume" is to be private, public, or shared. (If a volume is classified as private, only one user can be linked to it at a time and access is gained with a password. A public volume can be read by many users, but modified only by the owner of the volume. A shared volume may be accessed by more than one user at a time.)

These network features result in increased speed, versatility and file protection for the PC user.

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Printers are another resource that may be shared. Use of the ether print software in conjunction with a server allows files to be sent from the PC to a printer node on the network. With the PC standing alone, the printer must be connected directly to the back of the PC. The network allows one or two printers on the net to be available to all users. It also means that you are not limited to IBM PC compatible printers. One or two full size printers may be connected on the network to handle the diverse printing needs of many PCs and users. Once logged into the server, all you have to do to print a file is use the appropriate command.

You can establish a link to a particular printer on the server, or can even communicate with a different server which has a printer you prefer.

Again, the network provides greater versatility than a stand-alone PC. With two servers on the network, it becomes possible to send one file to a high-speed printer, send a memo file to a letter quality printer, and send a specially formatted file to a graphics printer—all from the same PC! Furthermore, the same BASIC LPRINT and <PrtSc> that are used when the printer is directly attached to a PC can be used in exactly the same way when the PC is linked to a printer via the ethernet.

When you issue a print request, the file is copied onto a temporary file on the server. It is held there for 30 seconds so that additional print requests from the same user may be done together.

The server queues the file to be printed. If the requested printer is not busy, the file will be printed immediately; if it is busy, files will be printed on a first come first serve basis.

Another feature of a network that is impossible with the stand-alone PC is the creation of an electronic mailbox for every user on the network. Each user's messages are stored in the server until the Ethermail program is run. This may be one of the most convenient features of the network. When reliable electronic mail has been established, it soon becomes both the most convenient and the preferred mode of communication among the regular network users.

There are several reasons for the popularity of electronic mail. One, it is very convenient to use if you work on the computer a great deal; you never

have to leave your PC to read, answer and send all your messages. Second, the mail has the fastest delivery time possible, less than a second over a local network. Third, reliability: your messages cannot be buried under the paper mountains that frequently spring up on some desks. Your mail cannot accidentally wind up at the other end of the country because the zip code was read incorrectly, and unless you also happen to misplace your server, you never have to try to remember what you did with your memo pad.

Like regular mail, each electronic letter must have a correct mailing address which corresponds to a user name on a server, and a return address. It is also possible to send copies of the message to other users by including their user names in the CC: (carbon copy) field of the message header. The server will postmark the message with the current date and time.

To use ethermail, you must log in to the ethernet server and create a mailbox to receive your messages. All messages sent to you will be delivered to your mailbox. You may also write messages and save them for later mailing within your mailbox. This mailbox is really a new volume that is created on the server. The contents of the volume are examined each time the mailing program is run. The mailing program also provides for archiving and filing messages on disk or printing them for conventional filing.

The network and its supporting software greatly expand the capabilities of the PC. However, the system does present some problems and annoying restrictions. Since the ethernet consists of a single cable attached to all nodes, this cable must be a single unbroken line. If one connection from the back of one PC becomes disconnected, the entire network ceases to function. This also means that it is necessary to turn off the ethernet if you wish to add a new node or remove an existing one. Although these restrictions can sometimes be annoying, they can be accommodated. Security of network transmissions presents a more serious problem.

As stated above, every node on the network receives all the data packages that are transmitted over the network. The software and hardware insure that only the addressed node responds to these transmissions. But nothing prevents eavesdropping on all transmissions. If confidential data is being transferred over the ethernet, that data is not secure. It is not very difficult to write listening programs that record all network traffic. To protect such

data, encryption would have to be done before the file is transfered to the server and decoding would have to be done before the file could be used.

Computer networking has already had significant impact on the computer industry, and the influence of this new technology will continue to expand. Networking is not without complications or problems, but this is always the case with a new technology.

New developments will continue to expand the capabilities and reduce the limitations of networking. It may soon become possible to assign different parts of a very large job to several PCs on the network. The network would allow the PCs to share common data and communicate with each other upon the completion of their assigned tasks. Making several small computers do the work previously done by one larger computer is the current trend in computer science. This trend can be expected to continue for some time; and as it progresses, so will the capabilities and flexibility of the PC.

Technical references:

EtherSeries User's Guide
3COM EtherSeries
Version 2.0, July 1983.

UPDATES

In a sense, the readers of this book constitute a large, diverse and informal Users' Group.

We know that in a rapidly-changing field like this one, it is important to keep up with the changes as they occur. For that reason we plan to update this book regularly and we would appreciate your input and help, to keep the information as current and complete as possible. All contributors to UPDATES will be listed in the acknowledgement section of the revision which contains their contributions.

Users' Groups

If your group isn't listed in our directory, or addresses have changed, please let us know. If your club publishes a newsletter, we'd like to be on your mailing list.

Computer-To-Computer

New bulletin boards, new phone numbers, comments on telecommunications software or equipment, new uses and facilities ... any information that will help keep readers up-to-date in this rapidly growing field.

Free Software

We know there are many more useful programs out there. We all probably wind up "reinventing the wheel" when we hit a problem, just because we don't know that someone else has already come up with a solution to the same difficulty. We can help ourselves and each other by sharing information.

User Supported Software

This can become an even more valuable resource, as more authors and more users learn about this new idea. (The first update on this topic appears in the following pages, courtesy of the Silicon Valley Computer Society.)

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Additions and Corrections

Everything changes rapidly in the computer field. If you find errors or outdated information, we'd like to know so that we can make the appropriate revisions in our next issue.

UPDATES

More User-Supported Software (Try it Free)

The following UTILITIES are also now available from the authors:

UTIL   Version 1.3   by Mutant Software

UTIL is a general purpose collection of utilities for use under DOS 2.0. The author states that the following routines are included:

sd   for sorted directory
br   list text file on screen
kb   allows keyboard redefinitions
db   a rudimentary data base routine
tf   causes printer to do a top-of-form
mo   switch to monochrome display
co   switch to color display

   System requirements: 128K and DOS 2.0 or higher
   Suggested contribution: $10
   Send formatted disk and postage-paid mailer, or check for $15 as total cost, including disk, mailing, and printed documentation.

   Write to: Mutant Software
           Program UTIL
           P.O. Box 765
           Bellaire, TX 77401

PC-COMPARE   Version 1.24   by Jeffrey Luther

The author describes this as an ASCII/text file compare program for any of the DOS 1 or 2 versions.

System requirements: 128K minimum memory. Either one or two drives, single or double-sided. IBM/Epson or compatible printer if you want a printout. Monochrome or Color/Graphics board and 80 column display.

Write to: *PC DESIGN*
P.O. Box 782
Palo Alto, CA 94301

COVER
by Dan Daetwyler

This is a relatively small program, the author says, which he extracted from a much larger package he had written, because he found that he used it so often and that many of his friends also liked it. COVER prints directory listings in a size that will fit in a diskette envelope, to be stored right with the disk.

Daetwyler has put it in the public domain, but offers (for users who don't want to "poke" the code in themselves) to copy his source code for you if you send disk, mailer, and postage. Alternatively, send a check for $7.50 and he will send the program on a new disk (single-sided, 8 sector).

System requirements: Any IBM PC and IBM/Epson printer (or compatible printer which has compressed type).

Write to: Dan Daetwyler
Route 5, Box 518A
Springdale, Arkansas 72764

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If you are an author who wants to put some software in the public domain for others to try out, under the user-supported concept, send the appropriate information about your programs (as in the above abstracts) to the address shown at the beginning of this UPDATE section.

If you are a user who would like to share information about additional public domain software, send us the same kind of descriptive material.

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