

A PROPOSED NEW CONSTITUTION

By Claude Jarry

The purpose of the second half of June's General Meeting was to adopt the proposed new Constitution. Copies of the proposed changes to the Constitution were sent to all members by mail early in June. At the beginning of the meeting, 112 members out of a total paid-up membership of 370 were registered, which equaled 30.3% of the membership.

In the present Constitution, ARTICLE II of the BY-LAWS, states that, "A quorum shall consist of one quarter (1/4) of the paid membership." Therefore, the meeting was declared valid.

Eric Clyde wrote and distributed copies of the proposed new Constitution which included the comments and suggested changes that had been submitted by the members prior to the June 22nd deadline.

Following the WINDOWS presentation and the break, there were 30 members present. Also, the Secretary counted 50 proxies which were divided as follows: approving the Constitution as distributed, 32; proxy to Secretary to vote on changes marked with a Y or an N, 17; other comments, 1.

One member called quorum, but after a discussion with other members, graciously rescinded his objection.

ARTICLES I and II were aproved. A long discussion began about ARTICLE III, and the member who had previously called for a counting of the members present called quorum again. Consequently, as there were then not enough members to constitute a quorum, the meeting was adjourned.

On August 9, 1990, the Executive decided to put the proposed changes to the Constitution, which had been submitted prior to the June meeting, to a straight Yes/No vote at the August General meeting.

THE DOS ENVIRONMENT

By Robert Parkinson

By its very nature, the DOS environment is inextricably tied to the basic concepts of DOS memory organization. I found that, to understand the intricacies of the functioning of the environment, I had also to understand the functioning of DOS memory. The first part of this series of articles starts with a general discussion of the environment.

The testing of the environment was done on a 10 MHz XT compatible with an Award V3.1c ROM BIOS running MS-DOS V3.30a. Neither the processor type nor the ROM BIOS make or version should affect the DOS environmental characteristics and idiosyncrasies reported here, but the DOS version will certainly do so. Wherever possible, I have included comments related to the various versions of MS-DOS and PC-DOS. However, DOS variants issued by other manufacturers (e.g. Compaq) may well exhibit different environment characteristics.

The DOS environment is probably one of the least-understood capabilities of that operating system. First, the name environment itself is less than helpful in understanding its purpose. The simplest way is to visualize it as nothing more than an electronic bulletin board, your personal equivalent to the PUB. DOS permanently fences off a small piece of random-access memory (RAM) to serve as this bulletin board and lays down a trail of pointers so that your programs, and DOS itself, can find it. Anything on your system can post a notice there - DOS, application programs or you yourself.

These notices, called variables, all take the form of alphanumeric ASCII strings, starting with an identifying name, then an equal sign, and then the information itself. For reasons that will become clear later, the

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NEXT MEETING

The next meeting of the Ottawa PC Users' Group will be held on August 29, 1990. The "guest" speakers will be Terry, Tim, and Suzanne. Synersys will present: Integrating Applications Software - The Electronic Carbon Copy. The presentation will focus on creating integrated solutions with software from different popular publishers. There will be draws for prizes.

FROM THE EDITOR

Hi folks! Five prizes were given out at at the June meeting by Guy Wardle of Microsoft Canada Inc. after his Windows 3.0 presentation. The first winning number was 61. Unfortunately its owner left before the draw and did not answer to claim his prize. (Aren't you sorry?) The second number was 147 - Doug Poulter. Doug generously gave back his prize. The five winners were: 268 - Roger Ruest, 146 - Will Binnie, 642 - Pauline Panter, 19 - Tony Frith and 65 - Herb Kelland.

Don't forget to bring your OPCUG ID card. You will need it to vote on the proposed changes to the Constitution. Happy reading!

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total length of each string can normally be no more than 127 characters. DOS automatically terminates each string with an ASCII NUL (00 hex) and adds a double NUL after the last string entered.

What is the purpose of these variables? Most importantly, they serve, in a very limited sense, to transfer information between programs that make full use of this capability. DOS, or any program, can post a notice on this bulletin board and then, after the first program has terminated, a second program can read the notice and act upon it. However, there are practical limitations to these inter-program communications.

Second, the bulletin board serves as the electronic equivalent of a piece of string that you tie around your finger as a reminder. Most programs, including DOS, are forgetful by nature. You can tell them something the first time, but when you run them again, they will have forgotten what you told them. If the instructions are posted on the system bulletin board, and if the programs know how to read them, they will produce the same effect every time they are run. As with all things in RAM, the bulletin board and its contents disappear when the power is turned off, even momentarily. We must have a way to pin up our notices again — normally done through the AUTOEXEC.BAT file.

More and more application programs, both commercial and Shareware, are beginning to use the environment to enhance their operations. Programmers now routinely use the environment, and they understand the benefits that such use can provide to their programs and, more importantly, to the users. You have only to look at the effectiveness of the environmental variable settings supported by programs like WordPerfect, Telix, XTree Pro, compilers, and so on, to see the truth of this.

If you write and use simple batch files to automate many of your mundane computing chores, you should take a good look at how the use of environmental variables can speed up and simplify your files.

I am assuming that you know how to make use of the DOS environment by means of PATH, PROMPT, SET, etc. My aim is to give you more detailed

information about this DOS capability and a few tips on how to manage it effectively. Most of the details apply to all recent versions of both MS-DOS and PC-DOS, including version 4.01. I will be basing the discussion on MS-DOS 3.30.

If you are rusty on the basics of the DOS environment, or are relatively new to that operating system, I recommend Richard Hale Shaw's articles in PC Magazine, Vol. 6, Nos. 6 & 7. This series, later summarized in "PC Magazine DOS Power Tools" by Paul Somerson (Chapter 11), contains advice for both the average DOS user and the power user.

FUNDAMENTAL FACTS ABOUT THE ENVIRONMENT

Let's review a couple of the lesser-known fundamental characteristics of the DOS environment.

HISTORY

The environment was introduced in DOS 2.0, but was not documented and could not be increased beyond 160 bytes, short of patching COMMAND.COM. DOS 3.0 provided a way of increasing the size, but the documentation didn't arrive until DOS 3.2 thus preventing the average user to effectively use the environment. As well, some of the inner workings of the environment changed in all versions of DOS between 2.x and 4.0.

The default environment space is now 160 bytes, of which only 158 bytes are available. The remaining two bytes are reserved for the unseen double NUL end-of-environment marker.

SYSTEM FRAMEWORK

How does this DOS environment fit into the overall operating system framework? When your PC boots up, the system's ROM BIOS and the hidden system file, called IO.SYS (or IBMBIO.COM in PC-DOS), build an interface to the lower-level input/output services, including the default device drivers and hardware routines (for the clock, keyboard, printer, display, etc.). Then the other hidden file, MSDOS.SYS (or IBMDOS.COM in PC-DOS), adds its basic code and data that comprise the core of DOS. This is a small resident section of DOS that serves to access the lower-level hardware routines set up by IO.SYS and act as a bridge between programs (including COMMAND.COM itself) and the higher-level DOS disk, file and video handling routines.

The supplementary DOS data area contains your File Control Blocks (FCBs).

FILES (beyond the five already set up by MSDOS.SYS), BUFFERS (beyond the one set up by MSDOS.SYS), Logical Drive Tables (one for each disk drive), STACK (if any have been called up by CONFIG.SYS) and all external device drivers specified in CONFIG.SYS. These three elements comprise the DOS kernel, which must be established before any program, including COMMAND.COM itself, can be loaded and executed.

The command processor (or command-line interpreter), known in DOS as COMMAND.COM, is then loaded in three parts, each in a separate memory location. COMMAND.COM serves as the interface, so that the user actually works with this character-based shell and not the actual operating system kernel itself. COMMAND.COM interprets the commands you enter at the DOS prompt, or in a batch file, and processes them in a form usable by the DOS kernel. I will be discussing the command processor quite often, so whenever you encounter this expression, just think of user interface.

COMMAND.COM contains internal commands (e.g., CLS, DIR), but not enough to satisfy the average user. Its key role is to provide the high-level loader to invoke other programs, even a second work copy of itself.

During the boot-up process, a small temporary area in RAM is created immediately above the DOS kernel, where DOS puts its own built-in default environmental variables. As MSDOS.SYS executes the CONFIG.SYS file, it alters this temporary environment block, including its size, in accordance with the instructions in that file. MSDOS.SYS (or IBMDOS.COM) loads the start-up part of COMMAND.COM, which then takes over control of the boot-up process.

This start-up module runs the AUTOEXEC.BAT file, loads the other resident and transient parts of COMMAND.COM and creates, immediately above the resident part, a new, modified environment block as directed by the AUTOEXEC.BAT file. This new memory block is called the Master Environment Block (MEB).

When AUTOEXEC.BAT finishes, the start-up portion of COMMAND.COM and the initial temporary environment block are removed from memory. Later in the series

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we will look at the difference between the resident and transient parts of COMMAND.COM.

In general terms, when your system has finished booting up, you will find, starting at the bottom of the available memory, the low memory area used by the system, then the resident portion of COMMAND.COM and only then the Master Environment Block.

Immediately above this block are the resident portions of the memory-resident programs, i.e. Terminate-and-Stay-Resident (TSR) programs, in the order in which you specified them in your AUTOEXEC.BAT file.

The transient portion of COMMAND.COM is at the upper limit of the 640KB user memory space. In between, the remaining available space must suffice for your normal application programs.

DOS MEMORY ORGANIZATION

I would also like you to keep in mind, as we discuss the environment, that DOS manages memory as a chain of variably-sized blocks. DOS cannot allocate or use pieces smaller than 16 bytes — a paragraph. Although I will be using figures in bytes, those figures are all divisible by 16. This fact may not seem vital at the moment, but it is important.

COPIES OF THE ENVIRONMENT

Any subordinate program loaded by DOS, whether it is a normal application program, a memory-resident program, an executing batch file or even a secondary copy of COMMAND.COM itself, has a parent. Because most programs are executed by COMMAND.COM, COMMAND.COM will be the parent in most cases.

Each child program is given a limited-size copy of the environment block of the parent. If the boot-up COMMAND.COM is the parent, then the child program will inherit a limited-sized copy of the Master Environment Block that exists at that moment in time. It is this copy of the environment that the program sees and uses, not the actual parent DOS environment itself. This copying process ensures that the Master Environment Block is not corrupted by the actions of ill-mannered programs.

Aside from the master itself, there are two other types of environment copies:

- **PROGRAM COPY:** The copy given to all programs, whether memory-resident or not, and including another COMMAND.COM shell.
- **ACTIVE COPY:** The extra copy, over and above the program copy, given to another COMMAND.COM shell processor when it is activated. While the shell is actively in control of the system in place of the original boot-up COMMAND.COM, it is this active copy of the environment that is used for all system activity.

Confused already? Just remember that there are three types of DOS environment, the master owned by the boot-up or root COMMAND.COM, the program copy given to all programs when they are loaded into memory and the additional active copy given only to a secondary shell version of COMMAND.COM. Also note that we are talking about DOS 3.3 and up.

I will delve deeper into the DOS environment in the next issue of the Newsletter.

LEAVING YOUR COMPUTER ON 24 HOURS A DAY

By John Whelan

Today's hard disk drives usually have MTBFs (Mean Time Between Failures) of about 50,000 hours, which is about six years of use without turning the disk drive off. Some of the new drives quote 100,000 hours, or about 11 years. Most of the wear and tear on disk drives is caused by things such as read-write heads crashes and the powering on and off of the computer. When the PC is powered down, the head thumps onto the surface of the disk. On a good drive, the head retracts to a defined zone first. On cheaper designs, it can land anywhere and chew up the media.

Screens are coated with phosphor which is excited with a beam of electrons. This is how the screen gets "burned in" over time. It is noticeable on computer terminals that display a menu system all day.

There are many utilities available that will blank the screen after so many minutes. They are referred to as screen savers. I usually end my .bat files with a "cls" command so that a minimum amount of information remains on the screen.

Some newer monitors have more stable phosphors, but it's still a good idea to turn the monitor off when it is not in use. Colour monitors need at least three electron beams to get the colour mixture, and the phosphors tend to be less stable.

Leaving printers on depends on the type of printer. I suggest leaving dot matrix printers off because warm surfaces attract dust which is the curse of all mechanical devices.

Dust acts as an insulator to keep things warm and is NOT good for chips. Chips are silicon compounds that are thermodynamically unstable. They degrade or rot over time as compost does. Compost rots faster when it is warm and so do electronic components. For reliability, they should be kept as cool as possible.

Another reason for running the system with the case closed is to keep the temperature down. The fan draws air across the system and then through the power supply. The boards are kept cool by that flow of air. Opening the case allows air to get directly to the power supply, thus by-passing the boards. No circulating air means warmer components.

Before side-mounting a PC, think about cooling. If there are any cards that draw a lot of power, the warmer components are deliberately placed on the top edge of the card so they do not over-heat the other components as the hot air rises. Putting the card on the side keeps the air flowing properly.

WINDOWS 3.0 BONANZA!

Windows 3.0 users should be sure to drop by the software table at this month's meeting (or check out the file areas on The PUB).

There are five new disks of programs for Microsoft Windows 3.0. We have communications software, personal information managers, icons and icon editors, games, bitmaps, utility programs, and info/help files.

Chris Taylor
Software Librarian

ECONO-SOFT'S DIR-EXT

By Michael Goddard

After you realize how important it is to back up your files and have started your backup system, you develop a few tricks to make the process more efficient. John Whelan's *BACK IT UP* article in the August-September 1989 Newsletter had a terrific discussion on how to back up using DOS tools that come with your operating system.

The purpose of this article is to show how members of the OPCUG can benefit from some great Shareware packages that are available on the PUB to make backing up and other tasks speedier and more convenient.

Take a look at Patriquin's PCOPY utility. There are many switches which are explained in the documentation and outlined if you type PCOPY without parameters.

I am fond of the /FI option. It provides a semi-optimal packing of files across many diskettes. With a large backup, this saves a few diskettes. It offers the switches needed to follow John Whelan's JOHNBACK using PCOPY instead of XCOPY.

Don't feel limited to backing up only those files which will fit on your largest floppy. SLICE, a PC Magazine utility in VOL.8, NO.9, splits up large files across as many diskettes as required and does not depend on your version of DOS. My strategy is to SLICE the huge files, then PCOPY /FI those smaller than one floppy.

I make heavy use of ARC files when I back up, especially from one hard drive to another on the same machine. Some suggestions that follow can also work on one hard drive.

My major tool has been Econo-Soft's DIR-EXT. One of its big capabilities is that it can write and optionally execute batch files based on file and directory lists which it constructs.

For some of the tricks that follow, it is critical that each directory have a unique name. If you are a Norton NC addict like myself, you adopted this practice long ago!

For example, to back up all the files on my C drive with ZIP files to subdirectory D:\BACKUP.C, I use the line:

```
ECHO PKPAK -A D:\BACKUP.C\SN  
SS\*. * | DX C:\ /FF /AT:ID /B
```

This builds and executes a batch file which compresses all the files in each subdirectory of C into a separate ARC file with the

directory name as a filename. That is, all the files in C:\DOS will be in DOS.ARC. Every day, I update the backup by using the same command but with -U instead of -A after the PKPAK command.

PKPAK and not PKZIP? PKZIP will work too. I keep my hard drives not so heavily loaded so that the compressed file size difference is critical. DX has a property which allows you to recurse ARC files.

Suppose you have an ARC file stored in an ARC file which itself is stored in an ARC file, it takes some effort to get the file list of the most deeply buried ARC files. When I steadfastly keep everything as ARC files, I can find any file by the command:
DX D:\BACKUP.C\LOST.FIL /FF:ALL

It's only a matter of time until Robert Blaine, the author of DX, adds ZIP capabilities to this tool. (Blaine has commented that the next version will probably only be a commercial product.) DX's batching facility adds wildcard options to applications that lack them.

For example, we use a terminal emulator program called REFLECTION when we connect to an HP3000. It lacks a wild card file upload/download feature, but DX can be used to write a command file that offers the wildcard facility!

Lastly, I want to praise EDLIN. EDLIN? EDLIN! I mean it! Experience has shown me that a lot of computing power comes from combinations of useful tools.

EDLIN, while not everybody's favourite editor, does have one terrific property. Its input and output can be re-directed. You can come up with some powerful tools by combining this feature with DX's batch-making property.

Let's say you have a large number of listings and you want to perform the same editing function on each file. You would like to delete the first two lines and change "G" to "New" throughout the file.

Create an EDLIN input file (EDLIN.IN) with the editing commands you need:

```
1,2D  
1,1000RG^ZNew  
E
```

(See your EDLIN reference for details on this). Next, create a template file for DX's batch files (TEMPLATE.TPL):

```
EDLIN $$ < EDLIN.IN
```

and lastly, invoke DX:

```
DX SUBDIR\*.PRN /B:TEMPLATE
```

DX will create a batch file and apply the EDLIN commands to each file you specified (here, every ".PRN" file in subdirectory

"SUBDIR"). Experience will quickly show you that you don't want to take the ECHO approach to driving DX's batch option like I did above, because DOS gets a little messed up with re-direction and pip between DX and EDLIN. You also want to avoid specifying either EDLIN.IN or TEMPLATE.TPL in the target fileset. Keep these in a directory separate from the directories you want to change.

This trick is useful to move large packages. I use a word processor called T³ (T cubed). It installs and writes many ASCII batch files and environment configurations. To move everything to another directory or disk, I didn't want to read all those diskettes and answer all those questions again. Thus, I used the above method to scan all files and subdirectories in \T3 and to change all references from C:\OLDDIR, to the new one, D:\NEWDIR. It was fast and convenient.

A TRUE STORY

By Michael Goddard

"Can you come up for a second? I don't understand the message on the computer screen."

"What does it say?"

"No system."

(Checks...no system, no files on hard disk!)

"Did anything strange happen recently?"

"Yes. The last time I used it, it didn't look like the WordPerfect screen."

"So what did you do. What happened?"

"Well, I went to retrieve the file, you know <Shift F10>, except I didn't get the usual message 'Document to be retrieved'."

"What did you do then?"

"I just tried to retrieve the file. I typed the name and hit <Enter>."

"Then what happened?"

"Not much, just some numbers on the screen. So I quit and went to some other work."

"What were you working on?"

"The outline of the format of a conference we are planning."

"What was the file called?"

"FORMAT".

(Wince)

....certified true.

PUB TALK

QUERY: MARCEL ST. PIERRE

Does anybody know the correct technical French translation for "PATH", as in "It must be in your PATH statement."?

REPLY: JEAN FORTIER

I am a translator by profession. You can use two terms to translate the word "Path" (as in path statement), one being "chemin", the other "voie d'accès". "Chemin" is the most widely used.

QUERY: JOHN WHELAN

How about the French translation for CASE? That's caused some discussion amongst my francophones.

REPLY: JEAN FORTIER

The abbreviation CASE (computer-assisted software engineering) does have an authorized translation in French: génie logiciel assisté par ordinateur. I have also seen "ingénierie logicielle assistée par ordinateur". The jargon of computer science is quite hermetic and is very hard to understand for the layman, in both French and English. CASE has no equivalent in French: you either use the English abbreviation or the first translation given above. I could give you many other examples of the kind. The French term "octet" is much more precise than its English counterpart "byte" since the first letters "oct" already indicate that there are 8 elements (a byte being a string of 8 bits).

QUERY: BONNIE CARTER

What are the differences between ASCII text and DOS text?

REPLY: CHRIS TAYLOR

There are no differences between ASCII text and DOS text. Basically, both refer to the idea that there is no extraneous information present. Generally, the only things in an ASCII (or DOS) text file that don't show up on a piece of paper, if you copy the file to the printer, are things like page breaks, tabs, and so forth. A file other than ASCII or DOS text will have garbage in it understood only by the application that created the file. WordPerfect puts an incredibly huge header onto a file which holds information about what printer driver the text is formatted for, etc. As well, in the body of the text, there may be other information embedded, such as font changes, column information, tabs sets, and so forth. In reality, ASCII text is probably quite a misnomer, as all files contain ASCII

codes. That's all there is! I guess nobody ever agreed on a term for plain text files.

REPLY: JOHN WHELAN

ASCII text is normally taken to mean American Standard Code for Information Interchange. There are a number of these. Some are 6-bit. Some use the first 7 bits of an 8-bit byte. IBM uses a special 8-bit character set which allows for a wider range of characters. Hewlett Packard uses the Roman-8 character set. Telecom uses the Latin Alphabet one. Digital has yet another 8-bit character set. The 6-bit ASCII Character sets are no longer used often. They allow for upper case and numbers.

When WordPerfect refers to DOS text, it means the text without the control codes. The Canadian version of WordPerfect will write out the correct codes for Code Page 863. WordPerfect holds only the bottom character set as characters. French characters are held as 3-byte strings internally. These 3-byte strings are converted to the relevant single byte when saved as DOS text.

The basic idea of it all is that you can produce data on one machine and transfer it to another. If a computer sends a <Ctrl L> (^L) to a printer, the printer will throw a page. The code for <Ctrl L> is actually an ASCII code that is often used in other character sets mainly because computer manufacturers don't build their own printers. It also makes life easier for printer companies.

<Ctrl S> and <Ctrl Q> are the flow control codes. <Ctrl S> means, "Stop sending. I can't process any more." <Ctrl Q> means, "Start up again. I'm ready." Hewlett Packard uses a unique implementation of these codes on the Hewlett Packard Laserjet IID. It then sends down a <Ctrl Q> every few seconds when the printer isn't receiving data.

Finally, just to confuse things, the PC character set allows you to have printable characters in the control code part of the character set. I suspect these are only available on a parallel connection where the flow control, etc., can be controlled by a separate connection.

QUERY: LUCILLE LURETTE

Is anyone familiar with a character font software package that is compatible with WordPerfect 5.0 & 5.1, Star Laser 8 printer with Hewlett Packard emulation? I am particularly interested in Orator & Helvetica.

REPLY: JOHN WHELAN

Probably one of the BitStream downloadable fonts would do what you are after. You will

need a certain amount of memory on the Laser to download them. I think Helvetica itself is an Adobe typeface. Bitstream's version is called Swiss. You will almost certainly not be able to tell the difference unless you are proffing for a Linotype. Orator used to be a 10-pitch font with extra high letters to make it easier to read speeches, etc. I think you'll find using Helvetica (Swiss) at an 18 to 20-point size works a little better. Times Roman (Dutch) sometimes is easier to read. The Serif works to give a more distinctive word shape. People tend to read words, not letters, so word shape recognition is important. Some people who used Orator, used to set it all in capital letters to give more height. It is better to use upper and lower case, but with a higher point size.

I tend to stick to Postscript and now with the Canon LBP-4, available for \$1,295 (SSC standing offer) with Bitstream Swiss and Dutch scalable fonts built in. Why buy a non-scalable font laser?

REPLY: RAYMOND OUELLETTE

You might want to try the Bitstream starter Font package. It sells for around \$70.00 and comes with approximately four fonts that you can generate to any point size you want. I'm not sure which fonts the starter kit has, but it's the cheapest solution to cram in more fonts for a Laser that supports HP Emulation.

QUERY: DOUGLAS MALLALIEU

I'm looking for a calendar program which will print out one month's worth of calendar with engagements on it in the proper days. It is needed for a friend who does work for a hockey league. She wants to print out a calendar for each month of the season with the practice times and game times for each coach of each team.

REPLY: TIM MAHONEY

Assuming that you are looking for IBM software, there is a program called Calendar Creator Plus produced by Channelmark Corporation which would suit your needs. It can handle unique and recurring events, floating dates (say the second Monday of each month or every other Friday). It allows a custom title for any calendar. You can create event lists for each person or project, and merge them into master calendars. It sorts and prints daily appointments and events by time, or in any order. It contains several formats including

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PUB TALK

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daily, two-day, business week, standard week, extended weekend, biweekly, monthly, quarterly, and annual. You can set your own start and stop dates. It outputs to either dot matrix or Laser printers and uses 320K of RAM, DOS 2.0 or greater, but does not require a graphics display card. Best of all it's under \$50.00.

QUERY: GORD PHILLIPS

Could someone please explain the difference between "regular" formatting and "low-level" formatting?

REPLY: CHRIS TAYLOR

Low-level formatting lays out the groundwork. It creates the pattern that defines the sectors on the disk. The DOS format simply creates the file allocation tables, the partition table, the boot sector, and the root directory.

On a floppy disk, the low-level formatting is done at the same time as the high-level formatting. On a hard disk, two separate procedures are required. It is very rare to buy a disk now that has not been low-level formatted already (mail-order may be an exception) and, more often than not, when you buy a system now, the vendor has done the high-level format as well.

The reasons for re-doing the low-level format are many, but the two most common are to redefine the formatted area to account for the inevitable drifting of the head alignment over time, and to change the interleave factor.

REPLY: HOWARD KRAKOWER

Just as an additional comment, my 386SX uses the AMI BIOS, which has a low-level formatter built in. The BIOS asks you to select the hard drive type, or, if your type is not listed, just put in the specs (cylinders, heads, etc). It then merrily does the low-level format. After that, as you know, boot-up with your favourite flavour of DOS, do FDISK and then format your hard drive. The low-level formatter is a far cry from that used on my XT clone, invoked by DEBUG.

QUERY: BONNIE CARTER

I'm thinking of buying Windows 3.0. Is anyone using it now? How does it perform? Any information will be much appreciated.

REPLY: CHRIS TAYLOR

Windows 3.0 is very nice. It really hums on a 386 with lots of memory. At work, I have

a 386SX with 4 Megs of RAM. When I run Windows in 386 enhanced mode, it tells me I have something like 8 megs free memory. It will grab all conventional, expanded, and extended memory, and then it will look to disk for virtual memory. You can run non-Windows applications quite well. The big problem right now is that there are lots of Windows programs that can't run under Windows 3.0 in anything but real mode, but that is changing fast.

Windows 3.0 may just be nice enough to boot up into and stay there. On the 386, I can even run the Norton Commander in a window!

QUERY: DOUG HEWKO

Can anyone recommend a good address database? I have seen some excellent versions, but unfortunately they were American (i.e., They would not accept a Canadian postal code.). Basically, I am looking for something where I can enter personal and business contacts (i.e., name, title, phone, two lines for address, city, province, postal code, three lines for notes, and a second phone), and I would like to be able to print labels to printer or to disk so I can use form letters.

REPLY: CHRIS TAYLOR

I assume you are not interested in investing a great amount of time or money on this. You may want to look at both PC-FILE and FILE EXPRESS. Both are available on the OPCUG's PUB. FILE EXPRESS is the easiest of the two to use. PC-File is more flexible and powerful.

REPLY: LUCILLE LURETTE

Have you looked at the PARADOX Relational Data Base? I've used it quite a bit. I find that, if well programmed, it provides me with just about anything I like. So far, I have never been disappointed with my databases.

TYPEFACES AND THEIR USE

By John Whelan

As PC programs and printers get more powerful, it becomes more important to understand typefaces. I've cribbed a few topics from Adobe systems on some aspects of typefaces and how to use them. The comments are aimed at typesetters and designers, so some of the terms and jargon may not be immediately apparent.

Serifs are the curly bits often found on the letter r, etc., in such typefaces as Times Roman or Dutch. Sans Serif type face is one without the curls such as Helvetica or Swiss. Often a Sans Serif type face is used for headings and a Serif typeface is used for body text.

"Printing should be invisible. Type well used is invisible as type. The mental eye focuses through type and not upon it, so that any type which has excess in design, anything that gets in the way of the mental picture to be conveyed, is bad type." (Beatrice Warde)

SHAPES OF WORDS

Word recognition is based on word structure, a combination of external word shape (the contours of letters) and internal word pattern (the counterforms of letters). Words set in lowercase letters are more distinct than words set in all caps, because the irregular word shape makes them more recognizable.

Also, once a specific word shape is perceived, it is stored in the reader's memory. Future recognition of the word takes place without letter-by-letter deciphering.

TYPE IS TO READ.

Type is to read.

ITALICS

Since readers are not accustomed to reading italics, it slows down the reading process, especially when the copy is long. However, italic type can be very effective when used sparingly to provide emphasis.

SERIF VS SANS SERIF

Studies have shown that Serif type is more easily read in sustained reading as Serif provides the horizontal flow. Studies have also shown that the relative legibility between Serif and Sans Serif type is negligible, whereas reader familiarity and the control of other legibility factors are more significant. Adults who grew up reading Serif type have been shown in other studies to prefer them, while other people who grew up accustomed to Sans Serif textfaces find them quite readable. Perhaps there is no last and definite word on the subject. Furthermore, even if a readability advantage can be proven for a given face or style, one may prefer to sacrifice a small amount of readability to achieve attention, distinction, memorability, or compatibility with other graphic elements.

SPEEDING UP YOUR COMPUTER

By Eric Clyde

Speed tends to be addictive. With microcomputers, this manifests itself through impatience when reading or writing a file or recalculating a spreadsheet (or some other function you frequently perform) seems to take forever. There is a human tendency to forget that a few months or perhaps a few years ago, the same function on the computer seemed miraculously fast.

Can anything be done about it, short of upgrading to an AT (or a faster AT, or a 386, or 486)? A few suggestions are given below, but remember, after a few months you will probably be looking for still more speed ...!

It is not generally realized that, for most XT's (and perhaps some slower AT's), the rate at which the screen is refreshed can be speeded up, with a significant increase in performance. QFRESH (disk 53) is a program that allows you to do some experimenting -- try it, you may be surprised. I managed approximately 10% speed increase on my 4.77 MHz clone by using this one program.

If you have lots of memory, and especially if you have expanded memory to the LIMS specification, you should be making use of a RAMDISK, the equivalent of a hard disk in memory, but with access almost 2,000 times as fast. There are a number of commercial RAMDRIVE software programs available, and even some in the Club's disks, e.g., RAMDISK (disk 62), but most users will be satisfied with VDISK.SYS (for PC-DOS systems), or RAMDRIVE.SYS (for MS-DOS systems) supplied with the DOS software.

In your CONFIG.SYS file, include the line `DEVICE=VDISK.SYS` (or `RAMDRIVE.SYS`). If you do not have a hard disk, this sets up a small RAMDISK as drive C; if you have a hard disk, it sets it up as the next available drive letter, e.g., drive D. You can increase the size of the RAMDISK, if you wish. Remember to save your work from the RAMDISK to either a floppy or to your hard disk, otherwise you will lose it.

Other ways to cut down on disk access times are through the use of BUFFERS, FILES, and (if you have DOS 3.3 or later) FASTOPEN. My CONFIG.SYS file at work included the lines:

`BUFFERS=15`

`FILES=60` (for most purposes, 20 is adequate)

`FASTOPEN C:=34`

If you do not have a hard disk, the best Christmas present you can give yourself is to get one -- you will wonder how you ever managed to do without it! A typical hard disk allows reading and writing data at least ten times as fast as a floppy disk, thus cutting down significantly on the waiting time.

After a period of use, all disks, whether hard disks or floppy disks, develop file fragmentation, i.e. instead of parts of the file being stored one after the other, they are scattered over the disk. This can slow disk read and write times considerably. There are a number of commercial utilities available -- PCTools Deluxe, Norton Advanced Utilities, Mace Utilities, etc. -- to defrag your hard disk, but if you don't have one of them, try DOG (which stands for Disk Organizer, and is on disk 58).

For more serious experimenters, check the interleave factor of your hard disk -- you may be able to get faster read/write operations if you change it. There are several available for downloading from the PUB, but I have not tested them so I cannot recommend them. I use SPINRITE, a commercial program, and I heartily recommend it. As well as testing and making recommendations on the interleave factor, it can do a low-level reformat of the hard disk without losing the data.

I recommend you try some of these techniques. Make a bootable floppy, with a CONFIG.SYS file containing one or more of the above, and try it out. Good luck!

INFO SELECT

By Paul Cooper

If you are like me, your desk and the walls around it seem to continually fill up with notes for appointments, "to do" lists, telephone numbers, etc. As they are all over the place, it isn't always easy to find the one I want, so I searched for a program that would organize my random information.

The Personal Information Manager (PIM) type of Software seemed to offer the best solution. TORNADO looked good, but its cost (about \$100) was beyond my budget.

Six months ago, PC Magazine advertised

a new version of it under the name INFO SELECT. At that time, "PC Connection" was offering the program for \$55(US), so I took the plunge and bought a copy. Now I'm using it every day and would like to share my impressions of it with you.

Anyone who sits in front of a PC all day will find INFO SELECT very useful. It really does get rid of all those bits of paper.

The program's strength lies in its ability to create windows from the size of a full document down to a name and a phone number. The windows are stacked and can be accessed from either direction. You can edit, delete and create new windows, export text directly to most word processors, etc. The program can allegedly handle up to 64,000 windows. To find a note quickly, use the "Get" command and type in any words or figures that are in the text. The program will tell you swiftly how many windows contain the text you specified.

I use this feature to label all my notes for my monthly column in "The Canadian Amateur". In the text of each note, I put the letters DX. When I want to see these notes, the Get command and DX display them.

INFO SELECT, in its memory-resident mode, uses about 121K of RAM. Micro Logic supplies a nifty utility with INFO SELECT, that will load the program into RAM as you need it.

The program will also run as a stand-alone package, but its strength is in the memory-resident mode. It has pull-across menus, help screens, automatic date and time stamps, a feature that recalls a window on a specific date to remind you of something, etc. The manual is well written and contains a "quick start" section to get you up and running in about 15 minutes.

INFO SELECT performs other tasks such as dialing phone numbers, drawing forms, creating multiple stacks and so on, but its basic windows, which you can access from virtually any program, remain INFO SELECT's best feature.



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