OTTAWA PC NEWS

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Commentary on February Meeting

The Once and Future King

How Intel got to where it's going

by Jackson Hibler

Intel's ambassador, Jon Coxworth, presented his credentials at our court last month. As many ambassadors do, Mr. Coxworth decorated his message with much flowery prose; gifts of baubles and polished brochures; and promises of much power and glory to come. But looking beyond all the diplomatic language, we see that he really came to surrender.

That wasn't the case when Intel last sent its ambassador to us! Then it was, "Oh yes, I suppose you would like to know about our new 486 (*yawn*) but what I really want to show you is our new i860 RISC processor. Now there is where the future is!"

Hampered by a good solution

Most of us wondered then what was wrong with the future of their 486! The problem with that future from Intel's viewpoint was that the entire 80x86 line of CPUs was encumbered by the memory architecture developed for the original 8086. That architecture used a "segment plus offset" kludge to get 20-bit addresses out of 16-bit wide registers so that it could address 1 Mb of memory. It was a good solution to the low transistor count and limited bus width facing chip designers back at the beginning of their reign. Then they sold a version of the 8086 chip, crippled with an 8-bit external bus, to give IBM what they needed. Little did they know that this chip, the 8088, would raise a standard that would sweep up IBM, Intel and for a while, almost everyone else.

New architectures

The science of chip building and program design didn't stop, of course. Soon that one-step-at-a-time (linear), offset-segmented architecture began to look more and more limiting. The flat (that is, non-segmented) memory architecture of Motorola's CPUs tempted away Apple and some Unix workstation builders. Studies of how the early CPUs—for the most part Intel's CPUs—really worked showed that reducing the instruction sets hard-wired into the CPU would result in faster chips: the RISC chips. IBM, Sun and many others began to implement these ideas. Hand-in-hand with RISC came pipelined, massively parallel design concepts. That was the problem with being in front: everybody got to second-guess Intel's work. The nice thing about being in front was that while everyone was designing, Intel was selling!

Taking a RISC

But while they were selling, Intel began second guessing too. First came the 80286 targeted to diverge from the 8088 architecture into a large, but 8088-incompatible address space called "Protected Mode". They thought that everyone would migrate to protected mode and never come back! But nobody except Microsoft, with its original OS/2, ever went over. Then came the 80386 with its much better solution of huge memory address segments and much better memory management of 8088-aware software. But the rest of the industry was then running rings around the 386

Continued on page 2

INSIDE

Continued from page 1

with their new RISC chips. So although the 386 was intended to be Intel's entry platform into the world of Unix, most makers of workstations went shopping for their CPUs elsewhere. Next, Intel decided to try RISC. It came up with a little bit of RISC and pipelining in the new 486 and a whole lot of RISC in the i860. Both chips were fine designs, but the company was going in two directions and starting to look pretty confused.

And the anchor that was holding Intel back from their perceived future was that incredible base of 8088 instruction set hardware and software out there—all of it using Intel's CPUs (now some 92 million by Jon's count) and all of it demanding that any new chip include backwards compatibility!

Everyone cries for the moon

Isn't it funny how success leads to discontent? IBM started the PC, and then abandoned it because it didn't get to sell 100% of 'em. Intel makes the CPU for the PC and has been trying to get out from under it ever since, despite the fact it has become the most successful chip maker in the USA as a direct result...odd, isn't it!

The good news, however, is that at least one of them has come to its senses. Intel has surrendered to the obvious: does it want to chase after the 20% of the market that does not use its CPUs running that massive base of software? Or does it want to keep doing what it has done so well—support the other 80%...its 80%? The 8088 instruction set is here to stay, and Intel has apparently concluded that it can thrive if it continues to enhance the power and speed of its CPUs that support that instruction set.

Bringing it all together

What has also come to surface is that you do not have to be a purist about RISC and other chip design strategies. The 486 proves you can pick and choose the best of new technologies and bring them into line with your real needs. It was thus no surprise that Jon Coxworth did not show us any divergent CPUs this time.

> *The 486 proves you can pick and choose the best of new technologies and bring them into line with your real needs.*

Instead he showed us how the coming P5 (586) and P6 (686) "superscaler" chips will incorporate RISC, pipelining, parallel processing and massive on-chip cache memory to boost the power and performance of their 8088-aware line of CPUs. Now there is a future in which Intel can thrive!

Old Habits Die Hard

This is not to say that Intel has completely abandoned its old habits. It still likes to peddle crippled hardware. Like the 8088, so also do we get things like the 386SX and now 486SX! But competitors' uncrippled clones will soon make the price differential between the "SX" and "DX" moot. It looks like the next trick will be to have a chip that runs at double speed internally, but slows down to use a standard motherboard and clock externally. Jon could not give much detail on which existing boards would support this idea, but it looks like some 486SX "floating point" sockets (which really link an uncrippled 486 to the "SX") will. Better wait and see about that one...my guess is that if Intel doesn't offer a fully backwards compatible solution for existing motherboards, someone else soon will!

Keeping It All Together

And yes, Jon did talk about a glorious future CPU: the Micro 2000. But it is now clear this CPU will not forget the past. The "2000" will be so massive that all of the 8088-aware compatibility can, and most certainly will be tucked securely into a corner so that the rest of the chip can bring new technologies to bear on our old needs. Now that's a surrender of which we can all be proud!

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Calendar *(subject to change)*

Meeting Location: Sir Robert Borden High School
131 Greenbank Road

Meeting Time: 8 p.m. to 10 p.m.

Date	Topic
Tuesday, March 24	Micrografx on *Designer*
Tuesday, April 28	Microsoft
Tuesday, May 26	Victor Charlie, Snoopguard & the computer virus

Leaving us?

We want to continue sending you newsletters: however, if your membership expires this month this will be the last newsletter you will receive...until you renew.

Check your mailing label for your expiry date.

To renew your membership, simply fill out the form on the back of the newsletter and send it in with the fee or see Paul Green at the next meeting.

Micrografx at March meeting: How hefty is *Designer*?

by Lynda Simons

At the March meeting, the Microgafx's presentation will mainly be on *Designer*, a graphics application.

Although there is a great deal of cross-over, graphics applications fall into three broad user categories: CAD (Computer Assisted Design) packages serve engineers and architects; paint (pixel-based) and draw (vector-based) programs serve artists and designers; and presentation graphics serve business users.

The two leading vector-based drawing packages are currently Micrografx *Designer* and *CorelDRAW*. These two Windows-based packages were chosen jointly as the PC Magazine Editors' Choice in October, 1991. And in its Coke-versus-Pepsi style advertising, Micrografx has openly acknowledged *CorelDRAW's* position by calling it "WIMPY WIMPY WIMPY".

Greg Kastelein, Sales Manager for Micrografx, who will be guest speaker at our March meeting, assures me that this advertising campaign has worked. Nonetheless, Greg himself takes a more gentlemanly approach: "Both products have their advantages," he concedes. On March 24th, Greg will, quite naturally, show us *Designer's* advantages, as well as give us a quick look at a couple of the other products in the Micrografx line.

Font manipulation

Last October Greg demonstrated *Designer 3.1* to the Ventura Users' Group here in Ottawa. He acknowledged then that *CorelDRAW* had more fonts and font manipulation capabilities than *Designer*. Now Micrografx is bundling *Designer 3.1* with 175 Type 1 fonts and *Type Align*, a type manipulation program. Whether these additions remove *CorelDRAW's* font advantage depends partly on whether *Type Align* can be used inside *Designer*. Either way, the 175 Type 1 fonts are not to be sneezed at. Apart from their dollar value (approximately $5,000 US recommended retail), being Type 1 fonts, they can be used with any other Windows product. The 150-plus fonts that come with *CorelDRAW* can also be used elsewhere in Windows, but first you have to convert them to Type 1 with the *WFNBoss* utility provided by Corel, which takes time and disk space.

> *Now Micrografx* Designer 3.1 *comes bundled with 175 Type 1 fonts and* Type Align, *a type manipulation program.*

Precision drawing for technical illustration

While the jury may still be out deciding which package provides better text manipulation, *Designer* continues to enjoy a reputation as a more precise tool for technical illustration, and with good reason. Some of the features which will maintain this reputation are *Object snap, layering* and the *ARRAY* command.

- *Object snap* allows you to snap one object to another using snap points on the first object.
- *Layering* allows the user to deal with separate elements of the drawing in layers which can be viewed separately or in a variety of combinations. A CAD-based method of building drawings, it provides the user with more control over very complex illustrations.
- The *ARRAY* command allows you to arrange a string of like objects equally spaced in a straight line or a circle.

Designer 3.1 also allows you to edit in both wire-frame and full-preview mode.

Is *Designer* now in the lead?

Many of these features will appear in version 3.0 of *CorelDRAW* which, says Corel, is likely to arrive "soon". Version 3.0 plans are under wraps, but Corel did say they include full preview on-screen editing and layering.

Picture Publisher and *Windows Draw*

But enough about Corel. March 24th is Micrografx's night and Greg will also give us a brief look at *Picture Publisher* and *Windows Draw*. *Picture Publisher* provides image manipulation for scanned images and *Windows Draw* is an easy-to-use (incredibly easy, Terry Mahoney tells me), and easier-to-pay-for (that is, easier than *Designer*) drawing product for business graphics.

Giveaways

Greg will also be bringing one of each Micrografx product to give away. These are *Designer* ($835), *Charisma*, a presentation graphics program ($595), *Windows Draw* ($179) and *Picture Publisher* ($940, includes an 18-bit color hand-scanner). Prices are suggested list in Canadian dollars.

Reviews

Designer and *CorelDRAW* were reviewed in the October 29, 1991 edition of *PC Magazine* (Vol. 10, No. 18, p.341). *Charisma* was covered in the *PC Magazine* feature on Presentation Graphics in the March 17, 1992 issue (Vol. 11, No.5, p.113). *Windows Draw* got a "First Look" in the December 31, 1991 issue of *PC Magazine* (Vol.10, No.22, p.38).

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Revisit the PUB: an old friend with a new look

by Chris Taylor

The PUB (PC Users' Group Bulletin Board) has undergone a considerable revision with the advent of the new version of TBBS (The Bread Board System), the software that drives it. Rather than try to cover all the new features in detail, this article offers some pointers for using both the new and the not-so-new features.

Note: *Angle-brackets around a character indicate a keyboard character to type.*

Suit yourself

You can customize the way the PUB looks and acts for you by selecting the **<,> User Profile Menu**. To change your personal configuration, select **<C>onfig** from the User Profile menu. Before changing any settings, check your current set-up by selecting **<S> - Show current settings**.

The information which appears on your screen will look something like Figure 1, below.

You may need or want to vary some of the settings. I recommend the following.

<A> - Set ANSI codes On/Off
Answer **<Y>es**, your terminal can display ANSI codes, if you want colour and have ANSI enabled in your communications software.

<W> - Set Terminal Width
Set the number of characters per line to **<80>**.

<L> - Set Line Feeds On/Off
Answer **<Y>** es to the question about Line Feeds. However, if you see everything double spaced, leave a message to the Sysop.

<N> - Set # of Nulls
Set the number of nulls at <0>.

<G> - Set IBM Graphics On/Off
Answer **<Y>es**, that your terminal can display IBM Graphics Characters

<C> - Set Lower Case On/Off
Answer **<Y>es**, your terminal can print lower case.

<D> - Set File Download Protocol
<U> - Set File Upload Protocol

If you have the ZMODEM file transfer protocol choice in your communications software, use it. It is the best protocol by far. My personal preferences are, in the following order,

ZMODEM, YMODEM, SEAlink, XMODEM-1k, XMODEM, KERMIT.

ZMODEM, YMODEM, and SEAlink are all batch protocols. They allow you to select and then send multiple files or filenames with wildcards in a single upload process.

DON'T use YMODEM-g unless you have an error-correcting modem and are connected on line 4. It is the fastest protocol, but there is no software error checking. To find out if you are connecting in error-correcting mode, log onto line 4 (228-8550) and leave a message to the Sysop indicating your logon date and time. I will let you know.

M - Set Message Base Defaults
For Type of Message Input Prompting, Select **<3> - ">" Only**
If you ever upload prepared messages, say **<Y>es** you want to be prompted for prepared message text.
For New Message Pointer, select **<2> - Equal to lowest unread message** if you want to make sure you never miss a message using the **<R>ead, <N>ew** command.
For Full Screen Editor usage, select **<2> - Always use**

<P> - Set Page Pause
Set to 25 minus the number of lines used for status information in your communications software.

Moving back up a level to the User Profile Menu, for the item **<M>enu: Change user menu level**, leave this set to beginner. Many menus look very strange if set to anything else. If you have learned the menus and know the option you want, remember that you can choose it even while a menu is scrolling. You don't have to wait till it appears on the screen for TBBS to invoke it. If you do have your menu level set to anything higher, press **<Enter>** at any **Command:** prompt to see the full menu.

```
Current User Profile:

ANSI codes Allowed
IBM Graphics Allowed

Terminal Width = 80
Upper/Lower Case
Line Feeds Needed
0 Nulls after each

Page pause = 24 lines

File Upload Protocol = ZMODEM-90(Tm)
File Download Protocol = ZMODEM-90(Tm)
Message entry prompt = ">" Only
Prompt for Prepared Text
New Message Pointer = Equal to lowest unread message
Full Screen Editor = Always use
```

Figure 1: PUB Current User Profile Information

Continued on page 5

Continued from page 4

Getting the message

When reading Messages, avoid the **<S>can** feature. It is slow and gives little information. Select the **<R>ead** option instead. After selecting **<R>ead**, choose the **<N>ew** option rather than the **<F>orwards** or **<R>everse** options. TBBS will start you off at your earliest unread message in the current area. If you're not interested in the message scrolling through the screen, press **<N>ext** and TBBS will skip to the next message.

If you see a message that you might want to refer back to at a later date, press **<C>ubby** from the message prompt line. Then, even if it is deleted from the original location, you can still access and reply to it, from the **Cubby<H>ole** message area.

If you have used the Personal Configuration settings recommended above, you will find yourself using the full screen editor when you go to send a message (unless you are sending a pre-prepared message). I recommend you use this editor as it offers easier editing and the ability to quote from the original message when replying to a message. **<Ctrl-Q>** is the quote key and **<Ctrl-Z>** brings up online Help.

Find that file

In the **Files Section** of the PUB, there are 44 file areas in 8 main groupings, comprising over 2,700 files.

You may need to search for a file when all you know is, for example, that you need an updated mouse driver. It doesn't matter that you don't know the file's location or name, because you can use the **<L>ist** command to search all PUB file areas for a file with the word "mouse" somewhere in the filename or file description. The steps for doing this are as follows:

1. Select **<F>iles**.
2. Select **<C>ombined File Areas**.
3. Press **<S>** to stop the list.
4. Press **<Enter>** to go into area 1. (Any area will do: this is the quickest way to the next step.)
5. Press **<S>** to stop the list again and to bring up the menu of command choices.
6. Type: **L MOUSE** (Instead of "MOUSE", type any word or string of letters that you expect to find in the type of file you are looking for.)
7. If your software has a method of capturing information from the screen into a log file use this before you press **<Enter>** to start the search. Otherwise have a pencil and paper handy to write the names and location of any suitable files found.
8. Press **<Enter>** to start the search.

TBBS looks for literal text in the filename or file description in all file areas in a subsection. For example, if you are in a file area under **<U>tility**, **List** will search all the utility areas. Moving to the **<C>ombined** area allows you to use **List** to search across all 44 file areas.

Search tips

If you tried the example above, you will have brought up a very long list of files as many file descriptions contain the word "mouse". You could have limited your search by entering "mouse driver" as the search term. The risk then is that there might be mouse drivers with descriptions that don't contain the phrase "mouse driver" - they might say something like "...new driver for the such-and-such mouse...". The search wouldn't turn up the mouse driver with this description.

You can also enter part words or strings which include other characters. For example, if you wanted to see what GIF files were available on the PUB, you could use ".GIF" as a search term.

How files are stored on the PUB

Most of the files on the PUB are archived. That is, they are collected in related groups which are compressed and stored in one file. These compressed files generally have either of the two extensions, .ZIP or .LHZ. (To extract and decompress the archived files you need PKZ110.EXE for the ZIP files and LHA213.EXE for the LHZ files. Both are available on the PUB in the Utilities Area, Section 1.)

Files with a mind of their own

Files on the PUB with the extension .EXE are usually self-extracting archive files, which, when executed, burst out into a number of other files. Make an empty sub-directory for these files before executing them to avoid overwriting existing files with the same names and losing some of the new files among old ones.

Checking for new files

The files on The PUB are dated according to the most recent file in the archive. Use the **<R>ecent** option (not the **<N>ew** option) to find files posted since the last time you logged on.

How to see what's in a .ZIP file

Use the **<E>xamine** command to list the contents of archive files, including most self-extracting formats. This also works for .GIF files. **<E>xamining** a .GIF file reports its image characteristics.

Free advertising for vendors

If you are a commercial vendor, you can get a free listing in the **<V>endor** section. This section was recently revamped so that vendors can upload a new file directly to that area at any time, after the initial set-up process. Read **<N>ews** Bulletin 35 if you are interested.

Hidden treasures in the PUB

Explore the nooks and crannies on the PUB. It's a wealth of information. Right now it's also in a state of change, so keep a look out for improvements. If you have any questions, leave me a message with the Sysop option on the Goodbye menu.

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Getting to know DOS 5.0: Has familiarity bred contempt?

by Julie Dustin

DOS 5.0 is alive and well on the majority of the OPCUG members' PCs, according to the newsletter survey and a show-of-hands at a recent meeting. Here are some titbits of information on using it that I have picked up from various sources including other OPCUG members, colleagues and my own experiences.

Help (on-line and manuals)

The help function, available for every command, is a long-awaited feature. Type a command followed by `/?` and you will see the proper syntax and all the allowable parameters. If this information doesn't help, consult the manual. Many users noted how easy it was to cross-reference the on-line help with the manual. Of course, it didn't answer all of our questions— like how to coexist peacefully with Windows.

Directory listings

The DIR command, with its new parameters and switches, is much more useful, though I still have to consult the help file to see all the choices. The DOSSHELL feature can provide most of the same results if you prefer menus.

`DIR /A:D`	Shows only directories
`DIR /O`	Sorts alphabetically
`DIR /O:N`	Sorts by name
`DIR /O:E`	Sorts by extension
`DIR /O:D`	Sorts by date and time

You can preset a default list format by using the SET DIRCMD command in the AUTOEXEC.BAT file followed by combinations of its parameters and switches. Use SET DIRCMD with other parameters at the command line to change the list format for the current session. To see what the current parameters are, type `SET`.

My AUTOEXEC.BAT file contains the following statement:

```
SET DIRCMD=/O/W
```

This make the DIR command automatically list the current directory information with the sub-directories first followed by the files all in alphabetical order displayed in wide format.

Edit

The EDIT command for changing your batch files is great. As a consultant whose clients' software may change from day to day, I have often had to resort to EDLIN to fix up files. Now I can type EDIT followed, if desired, by the filename and the file appears ready for changes.

Windows or DOS environment

I still haven't figured out how to write a CONFIG.SYS file that maximizes a 386 PC for both DOS 5.0 and Windows 3.0. It looks like my temporary solution (without buying more software) is to have two CONFIG.SYS files and invoke them when needed.

Pull-down menus with DOSSHELL

As well as menu choices for viewing, creating or deleting directories, the DOS 5.0 shell allows you to create program groups that contain related program items much as Windows 3.0 does. Double-clicking on a filename in a group will launch the associated program and load the file.

Task Swapper

With the ALT+TAB key combination you can cycle through the launched applications, although this isn't very intuitive. You have to hold down the ALT key and repeatedly press TAB until the title of the application you want appears and then release the ALT key. You also have to set up the Task Swapper first (from the Options menu): it doesn't appear by default. The suspended applications are held on the hard disk, not in memory, so the number of applications running is only limited by your hard drive capacity.

(Editor's Note: *DOSSHELL's task swapper doesn't, however, appear to cope with moving between applications with different screen settings, for example, when one application runs in 132 column mode and another in 80 columns by 50 lines. Nor can Desqview or WordPerfect Office Shell do this. If you know of a task switching device that can cope with different screen settings, please tell us about it.)*

The FORMAT command

The FORMAT command has handy new parameters. Some users are still debating over whether the conditional format, which automatically provides unformatting capabilities, or the unconditional format should be the default. Another case of users not wanting to be slowed down by being protected from their own mistakes.

To format your floppy with the correct density, use the switch `/F:[size]` to indicate the type of floppy. The [size] variable can be 360, 720, 1200, 1440, 2880, etc. - and DOS 5.0 doesn't mind whether you add "k" or "kb", or nothing at all after the number.

Example:

```
FORMAT A:/f:720
```

To save time formatting previously-formatted diskettes, like those storing DOS created backup files (which can only be removed with the FORMAT command), add the switch `/q`.

Example:

```
FORMAT A:/q
```

Note: *This means the disk is not scanned for bad areas.*

To perform an unconditional format, which speeds up the process, but doesn't allow unformatting , add `/u`.

Example:

```
FORMAT A:/u
```

Continued on page 7

Accessing the club's bulletin board using Procomm

by Eric Clyde

Those who have a modem gathering dust because they can't figure out how to use it might want to look into the version of Procomm now available from the Software Librarian. It is the standard package which has been setup with a dialer file all ready to call into the group's Bulletin Board, the PUB. There is also a file on the disk called PUB which explains how to access the various features of the group's bulletin board.

This month's beginners' session

Additionally, this month's beginners' session will be on accessing the PUB. It will be aimed at the novice. No prior knowledge of modems or communications is required. The first part of the session will deal with setting up Procomm. The second part will be given by our Sysop (System Operator), Chris Taylor, and will deal with what you can do once you get hooked up to the PUB.

Other communications software

It is worth noting that there are a great number of communications programs that may be used. Both Telix and Telemate are in use by many members of the OPCUG and are also available from the software library or on the PUB. Procomm was chosen because it is relatively small (it can be used on a PC with only one 360k floppy drive, although it will work much better if more space is available), and it is the software I am familiar with.

When you have become experienced in using Procomm on the PUB — reading messages and uploading and downloading files, you may wish to try out some of the other programs such as Telix or Telemate which offer some features not available in Procomm.

Is this free software?

Procomm, Telix and Telemate are shareware, which means you may copy them (from the PUB or get them from the Software Librarian) and legally use them for a trial period without paying for them. If you like the software and intend to continue to use it, you should register it (see the documentation on disk for details). In the case of Procomm you can also buy a commercial version, Procomm Plus, which has additional features and is available from most local software vendors.

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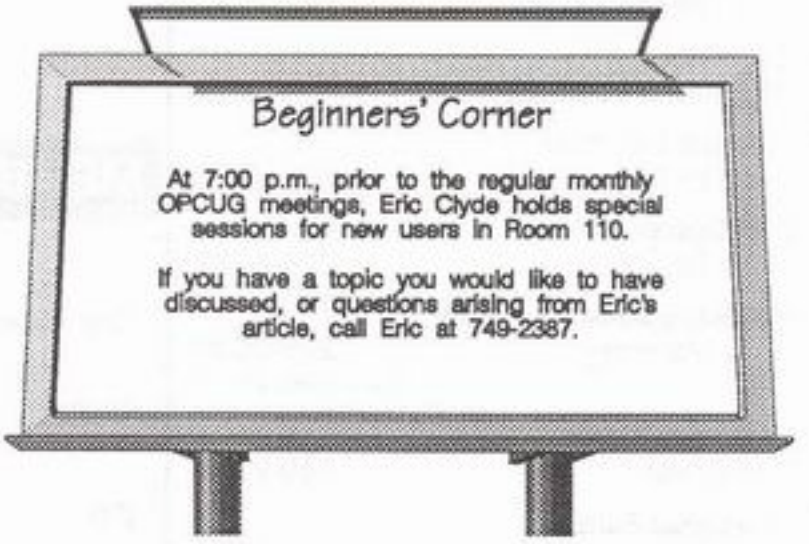

DOS 5.0

Continued from page 6

Though Microsoft may not have foreseen this, this switch avoids re-infection by a virus.

Make a system diskette

Making a system (bootable) diskette, for use when your hard drive will not boot up, ranks high on the list of Hindsight Do's and Don't's. The full version of DOS 5.0 comes with a bootable diskette, but the upgrade doesn't. If you use the upgrade to install DOS 5.0 and you cannot boot from your hard-drive, you could find yourself in a bind if you haven't made a DOS 5.0 bootable diskette for your A: drive. This is especially so since the manual cautions against booting your computer with an older version of DOS. If you do, you could corrupt the File Allocation Table on your hard-drive.

Note: If you still have it, the Uninstall Diskette that the Install program for the DOS 5.0 upgrade created is a DOS 5.0 bootable diskette. If you boot with it, it stops before completing the Uninstall procedure and allows you to back out with the F3 key. Still, it's probably safer to make a panic diskette for when your hard-drive lets you down. Such a disk can also have an autoexec.bat and config.sys on it.

To make a bootable diskette, you can use **`FORMAT A:/S`** , or if your diskette is already formatted, use the SYS command: type **`SYS A:`**.

Application program compatibility

While the vast majority is, not all existing software is compatible with DOS 5.0. Some drivers need replacing after DOS 5.0 has been installed. Updates for Microsoft CD-ROM Extensions and Mouse drivers are available on the PUB.

Please let me know if you have anything to add to the DOS journal. I hope this whets your appetite enough to explore and use DOS 5.0 to its fullest capacity. I hate seeing the cute kid (Windows 3.0) get all the attention.

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Ottawa PC News

Ottawa PC News is the newsletter of the Ottawa PC Users' Group (OPCUG), and is published monthly except in July and December.

Deadline
Deadline for submissions is the last day of the month prior to publication.

Mailing Address
3 Thatcher St.
Nepean, Ontario
K2G 1S6
Telephone Answering Machine 723-1329
PUB (Bulletin Board) N, 8, 1 228-0665
PUB, for MNP5/V.42 228-8550

Chairman
Harald Freise 828-3411

Past Chairman
Doug Poulter 745-8768

Treasurer
Stan McRoberts 722-0849

Secretary
Robert Parkinson 523-7299

Membership Chairman
Paul Green 747-7862

Convenor
your name could go here

Software Librarian
Norman Dafoe 723-1909

BBS Sysop
Chris Taylor 723-1329

Hardware/Software Broker
Terry Mahoney 225-2630
Fax 226-2615

Beginners' Corner
Eric Clyde 749-2387

Newsletter Editor
Lynda Simons 526-2179

Assistant Editors
Julie Dustin 228-0724
Susan Phillips 725-2935

Newsletter Team
Andrew Clyde, Eric Clyde, Mark Edwards, Thomas Greene, Ted Havrot, Jackson Hibler, Murray Kreisman, Michael Montpetit, Robert Parkinson, Marc Riou

Group Meetings
OPCUG meets monthly except in July and December. Check the answering machine, the PUB and the newsletter for the date and place of each meeting. Meeting times are 8:00 p.m. to 10 p.m. Beginners' sessions are from 7:00 p.m. to 8:00 p.m.

Membership fees
$25 per year

Disk-of-the-Month
$25 for 5.25 ins. diskettes and $35 per year for 3.5 ins. (for 10 diskettes)

Historical Note

French-fried floppies

by Julie Dustin

When the Apple II was being developed, minicomputers and mainframes used 8-inch floppies which were too large and expensive for micros. Hobbyist computers were initially hooked to unreliable and slow cassette tape recorders.

Then a company called Shugart came up with a 5¼ inch floppy-disk drive. Unfortunately, it needed a special circuit board, a task that could have occupied a team of engineers for months. Enter Steve Wozniak, who did it in a few weeks, staying up nights, working through Christmas Day, going without sleep, and living off French fries from McDonalds. His brilliant solution used 8 chips instead of the usual 50-70. Few outsiders realized it, but this was as important to Apple as his design of the computer itself.

Source: **West of Eden: The End of Innocence at Apple Computer** (Penguin, 1989)

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MEMBERSHIP APPLICATION/RENEWAL

Membership #
(if you are renewing)

First name | *Last name (please use caps.)*

Address | *Apt. #*

City | *Province* | *Postal Code* | *Country*

( ) *Home phone #* | ( ) *Business phone #* | ( ) *Fax #*

I use the following hardware: ☐ XT ☐ AT-286 ☐ 386 ☐ 486
(Check those that apply.) ☐ 300 baud modem ☐ 1200 baud modem
☐ VGA ☐ EGA ☐ Herc. ☐ 2400 baud modem ☐ 9600 baud modem

I would like to help in the following club activities:
(Check those that apply.)
☐ Programming instruction
☐ Hardware techniques
☐ Newsletter input
☐ Software library
☐ Promotion/Publicity
☐ Bulletin Board
☐ Other .....

I use the following software:

MEMBERSHIP FEE $ 25.00

Disk of the month subscription _____
($25/yr. for 5.25" or $35/yr for 3.5" 10 disks per year) _____

Cheque ☐ *Cash* ☐ TOTAL $ _____

Mail to: Ottawa PC Users' Group
3 Thatcher St., Nepean, Ont. K2G 1S6