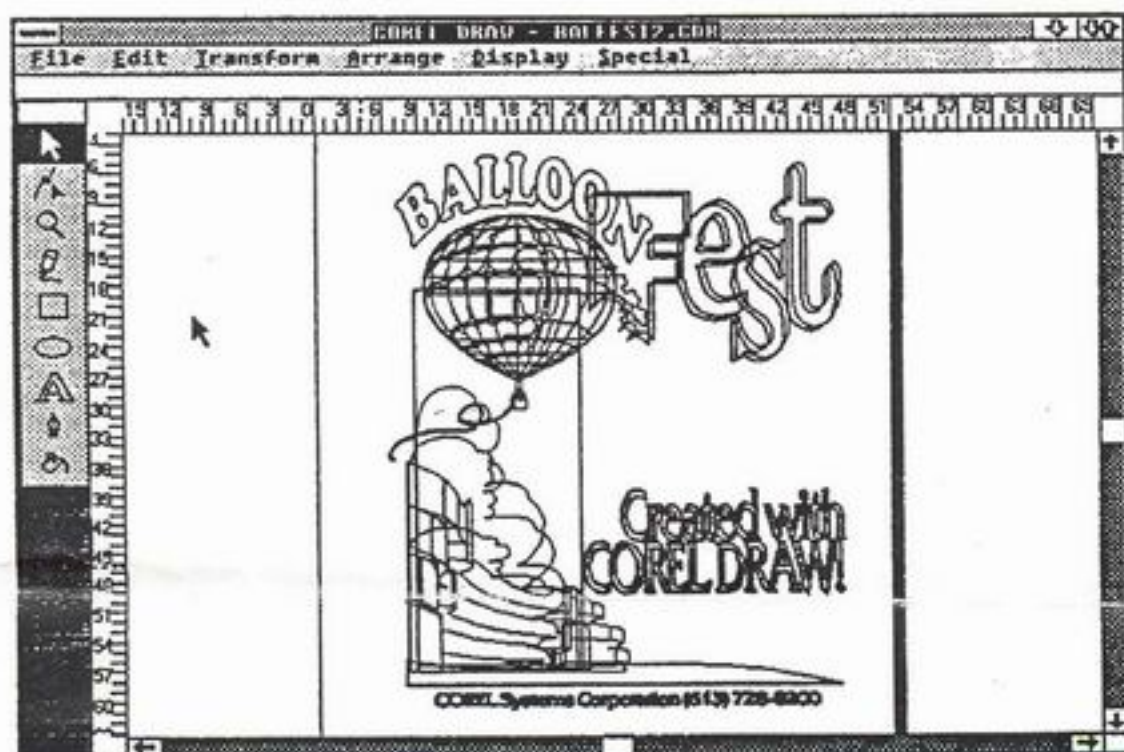# Graphics

by Terance P. Mahoney

Computer graphics confuse people. No, not the image, but how you get the image you want. The first question that arises is what type of graphics do you want? The answer ranges from desktop publishing to art, from analytical graphics to



animation, from black and white to a chiaroscuro of colours and they all seem to overlap: exploding pie charts, 3 D graphs, animated presentations.

Computer graphics are complex and confusing even within limited sub-categories.

Consider the characters you see on your screen and the characters you print. A good desktop publishing system must have many fonts for even one style of letter without enhancements: A display font that will vary depending on the resolution the graphics display system supports. A printable font depending on the resolution the printer supports. An underlying plain text font for ASCII text storage and display. An underlying printer

## MEMBERSHIP FEE HIKE

Unfortunately, it had to come sooner or later. Fees were last increased in 1984 from $15 to $20. The Ottawa IBM-PC USERS GROUP has always kept its operating costs as low as possible.

But while membership has been growing, albeit slowly every year, costs for the Newsletter, postage and stationery, THE PUB and other expenses have gone up by leaps and bounds.

At its August 10 meeting, your Executive -- after looking at several alternatives -- decided, reluctantly, that raising fees was the only way the OPCUG could maintain and improve its present services as well as explore new ways to enhance membership benefits.

## Contents

## Graphics

font for plain text reproduction.

Combine these elements with different manufacturers producing the main hardware components. Computer by Trillium, BIOS by Phoenix, graphics board by Renaissance, printer by Qume. All the pieces must work together with the software of choice to provide you with the graphics you need.

View each component as a different sized sandbox. You must produce an identical pattern in the sand, in each box but the walls prevent you from seeing the pattern in the other boxes until you are done. Your magic mirror is the software you use: it allows you to see into the other boxes. However magic mirrors have minds of their own.

Most desktop publishing requires more imaging capability than the publishing program itself contains. They need support from programs like Corel Draw. However, drawing programs seem to fly in the face of common sense. Ask yourself whether you would expect to pay more for a painting or a drawing, for paints or pencils. In the computer graphics world paint programs are a dime a dozen, true drawing programs are more expensive.

They are more expensive than paint programs because they allow you to play in more sandboxes. Like magic mirrors they are often quirky and sometimes even have minds of their own.

# "PLAY IT AGAIN, SAM..."

by Jackson Hibler

Remember the 80186? We still see it in the theatre from time to time, strutting its stuff on the co-processor boards. Back when it was introduced by Intel, it was going to blow the 8088/8086 away: It knew more songs; it didn't need such a big stage to perform on; and could dance up a storm... It was gonna be a star. But almost on its heels came the 80286. Exit to stage left, please, young fella.

Of course, the '286 is trying to duck the hook now, since the 80386 came along to show us how things really should be done. But look out, here comes Rick Hesup from Intel to bring up the curtain on the 80486! This one's got the whole songbook memorized, is practically a one-man-band and can dance so fast it'll smoke up the playhouse... "Uh, but what I would really like to show you is Intel's new i860 RISC microprocessor." Uh, oh! That tune sounds familiar.

Is the 80486 just the chip that crosses all the t's and dots all the i's for the '386 like the '186 was supposed to do for the 8088/8086? Will the '486 get the hook next season when the i860 goes into production? Is this really the end of the line

for the entire 80x86 architecture family?

Sure, the poor old 8088 may be beneath contempt, but it is also beneath the hood of the machine that is reading my keystrokes tonight, and attends to the work of at least 15 million others too. And yes, the '286 has been declared "dead" by PC Magazine, the pundits, and me, too, in this newsletter. If so, why is Harris Semiconductor introducing a 25 Mhz version of the same? And why is Intel discounting the 16 bit 80386SX?

Let's face it, the 80386 really hasn't yet found its niche--not because it isn't being used, but because it is too powerful to live comfortably in the AT architecture! The bus is too limited. Support chips are too slow. Memory chips are too expensive. And software? Hardly any has been written that takes advantage of the '286 Protected Mode, and only a tantalizing few morsels have yet shown up for the '386. So is the '386 really as long in the tooth as the introduction of its successor '486 might imply? Nope, it's just that the '386 is starving!

As Rick explained eloquently by answering the ques-

2

## 80486

tion from the floor with silence and a long face, there isn't a heck of a lot Intel can do about the present price of memory. Intel was the inventor of the RAM memory chip, but it doesn't manufacture them now, and as a result, it has to wait upon events out of its control, a problem shared by Microsoft, whose OS/2 is stuck in the same memory bottleneck. Intel can work on the support chips and bus I/O problems, however, and perhaps this is the best way to look at where Intel is going with the '486. By integrating memory management, a math co-processor, cache memory, "burst" memory access, and some RISC-style processing to get register-to-register functions down to a single clock cycle, the '486 can give two, perhaps even three times the performance of a 33MHz '386, at just 25MHz! That'll fit AT-class hardware!

When asked about those spectacular benchmark numbers, Rick mentioned that the code for the Dhrystone benchmark just happens to fit neatly into the 80486's cache memory: "so it runs that one like a bat out of H---..., but in the real world, of course, your mileage may vary..." Nonetheless, I suspect the '486 will be impressive. And even more vital, it will buy time for the bus, other I/O chips and systems, and memory--and the buying public--to catch up.

Interestingly, particularly because it is so out of recent

character, IBM has been first to demonstrate a well-designed implementation of a '486! At the Spring Comdex, IBM showed a Model 70 with its '386 replaced by a small "daughtercard" that sub-stitutes the '486! Some "minor" BIOS tweaking and three days work was all they claimed was needed to come up with what BYTE described as a very nearly finished piece of workmanship... One that doubled the speed of off-the-shelf software! Now if IBM would just be bold enough to market what their engineers have done, we would soon see quite a bit of the 80486 in high end machines. (Don't hold your breath, but if they do it, it just might be a hint that it's time to buy IBM stock again.)

*Editors note: IBM has an-nounced an upgrade board for the model 70 but don't rush your stock purchase as the price is to be a whopping $3,995.00 US.*

So is the '486 likely to fold in its first season? Not a chance. The troupe has just been joined by some impor-tant new talent... One that may turn out to be quite a star.

But what about Rick's i860... I mean, with all those MIPS it even blows away all the other RISC chips in the workstation market... It must be the future, no? No. Even with its "Intel Standard" MMU (memory management unit) architecture, it still ain't really "compatible" and if it ain't compatible (with the 80x86 ar-chitecture) it's just gonna be a spear carrier in the chorus. In this case most likely on a high speed graphics co-processor board to sing back-up har-

mony at the side of the '386, or '486, or '586 that will still be the Prima Donna treading the boards in most of our MSDOS and OS/3 machines--and more and more Unix boxes--for a long, long time to come.

PS: This is my last encore. I hope someone will step for-ward to do the meeting reviews. It can be quite a bit of fun!

*Editors comments:*
*The editors and staff of the newsletter and the club execu-tive would like to thank Jackson for his generous contribution to the club. We would also like to find someone to do the meeting reviews. VOLUNTEERS RE-QUESTED.*

## Tim's Tip

Most of us know vibrations and hard knocks can damage a hard drive. Few of us know how easily these accidents occur and how they can be prevented.

Serious damage to a hard drive or the data it holds usual-ly occurs when your computer is reading or writing to the drive. The read and write heads ride so close to the disk surface that any vibration dis-turbing their path can send the heads crashing onto the hard disk: destroying both data and the magnetic media.

Protect your hard disk and your investment in programs, data and time. Watch for potentially hazardous situa-tions and prevent accidents.

Firstly, install your com-puter and hard drive in a vibra-tion free environment on a

# "Know Your Club"

By Mike Luckham

**Club History:**

The Ottawa IBM-PC Users Group (OPCUG) is a non-profit organization. The group is dedicated to informing and serving its members, principally owners and operators of IBM-PC computers and compatibles.
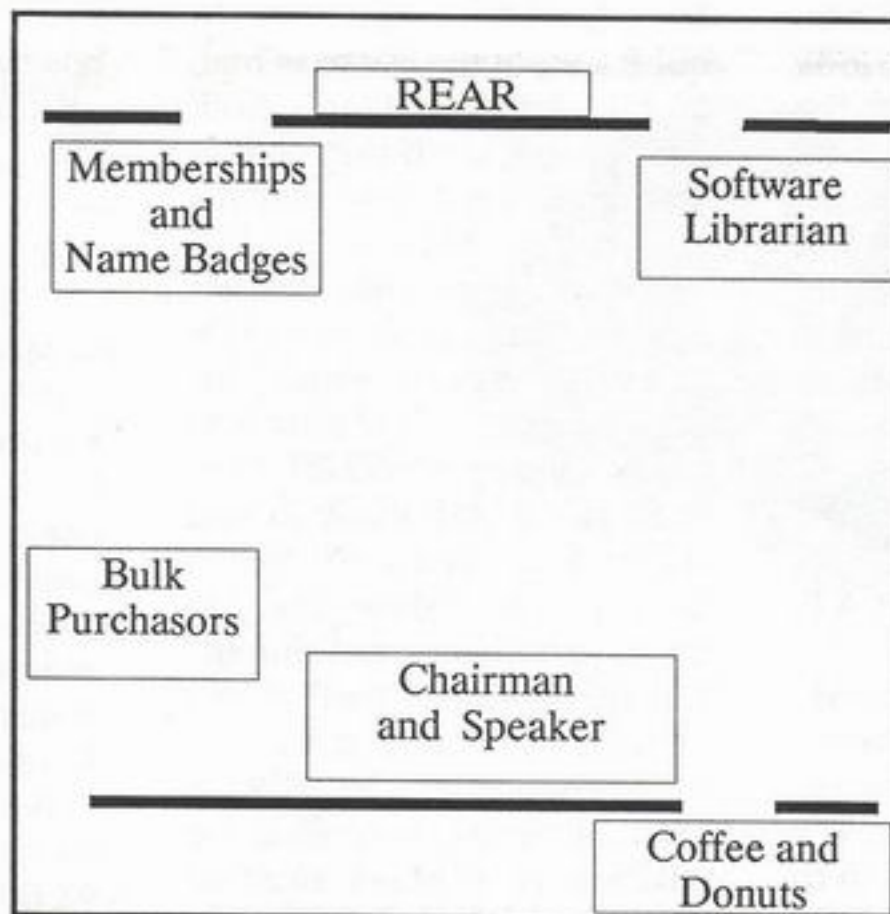
The OPCUG formed in 1982/83, shortly after the introduction of the first IBM-PC. At that time, you could buy a PC with 64K RAM, 160K single-sided drive, graphics card and monitor, serial port and DOS 1.0 for about $5,000!

The Information Connection sponsored the club in the beginning, but after a half-dozen formative meetings and the election of the first Executive, we moved out under our own steam.

The club has grown from its original 20 members to the present (1988/89) membership that exceeds 500. In the search for ever-increasing (and free) seating capacity, we have met at the Public Archives, Museum of Man, Glebe Community Centre and Camsell Hall (EMR on Carling). Now we meet at NRC (100 Sussex),

and we may soon have to move to larger facilities!

As a point of interest, some of the "charter members" remained with us to this day: Stu and Anne Moxley, Harry Gross, and Mike Luckham, to name a few.

```
                    REAR
 ┌──────────────┐          ┌──────────────┐
 │ Memberships  │          │  Software    │
 │     and      │          │  Librarian   │
 │ Name Badges  │          │              │
 └──────────────┘          └──────────────┘

 ┌──────────────┐
 │   Bulk       │
 │  Purchasors  │     ┌──────────────────┐
 └──────────────┘     │    Chairman      │
                      │   and Speaker    │
                      └──────────────────┘
                              ┌──────────────┐
                              │ Coffee and   │
                              │   Donuts     │
                              └──────────────┘
```

**Meetings:**

We hold general meetings in the NRC Auditorium (100 Sussex Drive), on the last Wednesday of each month, except for July and December. We welcome members and non-members alike to meetings, at no cost. The meeting begins at 8:00 PM.

The club discourages Hard-sell commercial presentations.

Guest speakers usually address the business use of IBM-PC or compatible computers. Presentations often include discussion of commercial software products, LANs, modems, printers, etc. During the year, we try to balance this type of presentation with technical discussions about PC hardware or software. Club members often make presentations.

Here is a guide to the usual meeting format:

- 7:30 -- pick up disk-of-the-month & name badge
  - 8:00 -- opening remarks
  - 8:10 -- speaker /presentation
  - 9:00 -- coffee and donuts
  - 9:15 -- club business
  - 9:30 -- questions & answers
  - 10:00-- closing remarks

Members pick up their specially printed name badge when they arrive. Colour-coding, corresponding to the first letter of your surname, facilitates badge identification. After the meeting, you may leave your name badge on the membership table, or (preferably) keep it with you.

Before and after the meeting, and during the break, the Software Librarian distributes the disk-of-the-month and other disks from our extensive library of public domain software. The BBS and our "Index Disk" have an up-to-date index of our library.

## Know Your Club

**Information for New or Prospective Members:**

Feel free to attend our meetings. However, as a non-member, you will not enjoy any of the benefits from the following club services:

Software Library/Disk-of-the-Month

- Bulletin Board (BBS)
- Newsletter
- Bulk Purchases

*Future issues of the newsletter will cover other aspects of the club's activities and services. The next issue will concentrate on memberships.*

### DOS COMMENTS

MD is not the nice man in the white coat with the little bottle.

Commands do not include roll over and dead dog.

Byte is not how your dog helps you get even with your mailman.

Dialing 411 does not get you directory assistance.

*Editors note: Somehow the author and title for this piece have gotten lost on the bulletin board. If you recognize it please step forward so we can thank you and give you credit for your work.*

I thought I'd quickly mention some utilities that I use and take for granted. I'm sure that if you are a PC user of more than six months or if you

## Crystal Clear

By Chris Taylor

I have offered to edit a column on handy hints. It will resemble (more or less) PC Magazine's *User-to-User, Power User,* and PC World's *Star-Dot-Star* columns. It will include hints on batch file techniques, configuration tips and short cuts for application software.

Now comes the hitch. I only want to EDIT the column. That means I need some help from you. If you have found a technique or have a useful hint and want to share it with the membership, send it to me. Give it to me on disk at the software table (I will return the disk), send me a message on The PUB with an enclosed file, or mail it to me. See your name in print!

### PATH HELP

Include .. as the second entry in your PATH statement. (If using a RAMdisk, make it the first entry and .. the second.) The .. refers to the parent directory. You can then create a child directory off any application software's directory. When you change to a child directory, you can automatically use the application because the PATH automatically looks in the child's parent directory for the application.

### ENVIRONMENT SIZE

If you ever saw the message "Out of environment space", you need to expand your environment. Edit your CONFIG.SYS file to include the line **SHELL = C:\COMMAND.COM /P /E:nnnn** where "nnnn" represents the number of bytes to be allocated to the environment. Start with 512. Don't forget the /P; it makes the copy of COMMAND.COM permanent and runs AUTOEXEC.BAT.

Ok folks, now it's up to you. This establishment definitely accepts tips!

## Sundry Items

dig around in the library, you are aware of these programs.

The first is D.EXE.t's the same as DOS's DIR command, except it gives total file-group size or subdirectory size; besides, you save two key strokes.

The second is FILL. People with computers may be divided into three camps. One camp includes those who always back up every file be-cause the manual says do it. 'Met one once. He didn't drink alcohol, never broke the speed limit when driving, and he saw the light, twice a week, both morning service and evensong. Another camp includes those who say "back up? what's that?" The third and toughest camp includes those who had at least one hard disk collapse under them, so they prayed to

## Sundry Items

the Gods above, swearing they will faithfully back up their machine every day if only the gods let the disk drive come back to life, just this once.

FILL makes backups relatively painless. You just start FILL up and it keeps asking for the next diskette as it copies your subdirectories to your floppies. It will even let you format the diskettes as you keep stuffing them into the floppy disk drive. I read about another technique using ATTRIB and XCOPY, but I haven't tried it yet. (Check DOC17. A recently published PC Mag has the details.)

**The third is FLIP.**
When morons like myself turn on the machine and drop into Word Perfect, invariably Num Lock is on. Instead of cursoring around the document, I end up with 4s, 8s, 6s and 2s in the document. FLIP now sits in my AUTOEXEC.BAT file and turns Num Lock off as the machine comes to life. I heard it helps conserve electricity as well - though I'm not sure how many kilowatts the green LED burns...

**Finally, PRN2FILE.**
This gem redirects output from LPT1, 2, or 3 to a file. You can use your neighbor's (or the office) printer, without a physical hook up! Using your machine, you direct a "printout" to a floppy. Take the floppy to your neighbor's com-

## Tim's Tip

solid desktop or table, in a safe location with adequate surge and spike protection. If power cords and cables must be exposed, they should be secured or covered to prevent people from tripping over them and jarring your computer or your insurance agent.

Impact printers are a constant source of vibration while printing. A daisy wheel or dot matrix printer on the same table or desk as your computer can severely shorten the life of your hard disk drive with possible data loss. Isolate your printer on a separate table if possible. At least dampen the vibration by using thick rubber pads under both the the printer and the computer.

Avoid opening and closing drawers in the unit you have your hard disk on while it is running. Watch out for desks with hanging files.

Users with vertically mounted PCs should be careful not to kick the computer when moving in or away from their desk. Users who have newly purchased a computer stand to vertically mount their PC should low level format the drive over again after it is on end before they use it. Drive tolerances are so precise that gravity can affect the heads alignment. New tower case owners should follow the same procedure when the drive orientation changes.

One ground level office is alleged to have had continuous mysterious hard disk failures. Investigation

revealed they were attributable to vibrations caused by heavy equipment passing on the street. If a computer cannot be moved try shock mounting the drive using rubber "O" rings, washers and rubber under the computer without covering the air vents.

Believe it or not users slamming books, fists or people on the table in frustration are another statistically significant source of drive problems. The frustration probably occurs when you watch someone running the arm rests on their chairs into the desk containing your computer.

You probably have a larger investment in time and data than you do in hardware. The most important thing is to make sure that your hard disk is backed up regularly. If a failure occurs you should be able to restore your data quickly and accurately. Without it and depending on the severity of the crash your information may be lost forever. It is usually possible to recover data from a crashed hard drive but it takes time ranging from several hours to days depending on the drive size and data stored. Even worst case crashes can be largely recoverable, but costs can be very high.

In a later issue we will discuss some other ways of protecting your data investment.

Timothy Mahoney

### DOS COMMENT

Batch processing has nothing to do with your favorite cookie recipe.

## Ottawa IBM PC Users Group - 1989 PC Club Executive

| | | |
|---|---|---|
| President | Stu Moxley | 592-4933 |
| Past President | Harry Gross | 733-7989 |
| Treasurer | Tony Frith | 728-7597 Weekdays |
| | | 671-0401 Weekends |
| Secretary | Eric Clyde | 749-2387 |
| Membership Chairman | Claude Jarry | 521-3366 |
| Meeting Facilities | Stu Moxley | 529-4933 |
| Publicity | Andre Cyr | 561-5207 |
| Software Librarian | Chris Taylor | 723-1329 |
| Software Assistant | John Ings | |
| Newsletter Editors | Terry Mahoney | 225-2630 |
| | Suzanne Blain | 225-2630 |
| Newsletter Team | Ted Harvot | 733-2710 |
| | Jackson Hibler | 523-3781 |
| | Marc Riou | 733-2092 |
| BBS System Operator | Mike Schupan | 820-0293 |
| Bulk Purchasing | Terry Mahoney | 225-2630 |
| | | 226-2615 FAX |

### Special Interest Groups

| | | |
|---|---|---|
| PCJr | Tom Mimee | 828-9705 |
| Enable | Bob Laidlaw | 995-3708 |
| PC/AT | Gord Hopkins | 828-3834 |
| Packages | Eric Clyde | 749-2387 |
| Whole Bit TV Show | Sandy Shaw | 733-5088 |

## Membership fees

**First, the bad news:**

The bad news is that, beginning at the September 27th meeting, NEW membership fees for the remainder of the current year, namely to March 31, 1990, will be $15 dollars. For the April 1, 1990 - March 31, 1991 OPCUG year, the fee will be $25. And, as of January, NEW members joining at the January and February meetings will be required to pay $30 for the remainder of the current year and the full year to March 31, 1991. NEW members joining AFTER the February meeting will be eligible for membership until March 31 of the following year for $25. RENEWALS, for current members will be going from $20 to $25 as of January 1, 1990.

**Now the good news:**

... that for the 1990-1991 year only, current members can RENEW their membership NOW at this year's rate of $20 provided they do so by mail or by dropping their name, address (including postal code), phone numbers (home and office) and cheque in an envelope at the membership desk before REPEAT before December 31, 1989.

... that there will be NO INCREASE for Diskette-of-the-Month (DOM) subscriptions which remain at $25 for 10 consecutive DOMs. ... and that 3.5" diskettes will be made available by the Librarian UPON REQUEST, though at a slightly higher price ($5 instead of $3) because of special handling. Those who have subscribed to DOM and who request the new format will be asked for the additional $2 when they pick up their diskette.

## Meetings:

Meetings of the Ottawa IBM-PC Users Group are held on the last Wednesday of the month except in July and December. The meetings are at the National Research Council Auditorium, 100 Sussex Drive (Gothic Building facing King Edward Avenue). Club functions including memberships, library disks, new members and bulk purchasing are available at 7:30 pm with the regular meeting starting at 8 pm. Free parking is available at the rear of the Gothic Building.

**Next meeting September 27. Topic to be announced.**

### Sundry

puter. Then, by copying the file to the printer, print the output. Works extremely well with PostScript output.

*Editors note: A little known, sometimes undocumented, and little used switch to the DOS* COPY command "/b" *is intended to be used when you are copying binary files. Try it if you are having trouble copying PRN files to print. It is particularly useful for graphics files, files including graphics and PostScript files.*

## FEE SCHEDULE

| Beginning | To | New Members | Renewals |
|---|---|---|---|
| September 27, 1989 | January 30, 1990 * | $15 | |
| January 31, 1990 | February 28, 1990 *** | $30 | |
| March 1, 1990 *** | | $25 | |
| September 27, 1989 | December 31, 1989 ** | | $20 |
| January 1,1990*** | | | $25 |

\* Membership ends March 31, 1990
\*\* By mail or in an envelope at Meetings.
    Membership ends March 31, 1991
\*\*\*     "    "    "    "

**DOS COMMENT**

Set has nothing to do with match.

**DISK OF THE MONTH**
One year subscription 5 1/4" (10 DOMs) $25
One year subscription 3 1/2" (10 DOMs) $45
ndividual 3 1/2" diskette surcharge $ 2

## THE OTTAWA IBM PC USERS' GROUP

### Membership Application (please print)

| | |
|---|---|
| Last Name: | Are you: A new member? |
| First Name: | Renewing your membership? |
| Mailing Address: | Can you help in group activities? |
| (include postal code) | Check any activities that apply: |
| Telephone: Home-     Office- | Programming language instruction |
| Profession: | Newsletter input |
| Business Name: | Newsletter Editor |
| | Memberships |
| Period covered: 89-90   90-91   89-91 (c   ircle) | Software library |
| Disk of the Month   Yes   No    3 1/2" | Promotion / Publicity |
| Amount Enclosed: From rate schedule   $ | Nominations |
| How did you find out about the group? | Hardware Techniques |
| | Meeting Locations |
| What in particular interests you in the group? | Agendas & Speakers |
| | Advertising |
| What hardware/software do you own and/or use? | Bulletin Board |
| Comments and suggestions: | Other |