

# OTTAWA PC NEWS

Vol. 10 No. 2

The Newsletter of the Ottawa PC Users' Group (OPCUG)

February 1993

*Review of the January meeting*

## OS...Q?

by Jackson Hibler

**M**ark Minasi, author of "Inside OS/2, Trouble-Shooting Windows", and a firm believer in the superiority of pre-emptive multitasking, did not look like a happy man last month as he stood before us: Windows? OS/2? Which way to go? Even when one has written books on how to use 'em, it's tough trying to figure out which operating system has the ticket to the future.

There's a fundamental philosophical difference underlying Windows and OS/2: does the operating system always rule, always exert control, or does it create an "environment"? Arbitrate or facilitate? And how does this work out in the real world? It was a clever to use role play to show the potential consequences of OS/2's pre-emptive vs. Windows' co-operative approach to multitasking, but somehow I don't think Mark remained certain this difference will be enough to predict either operating system's long term prospects. As Mark began to show us—first by almost thinking out loud and then more directly as he warmed to the subject—it may not matter!

What seems to matter is that while both approaches to multitasking prefer applications that know how to work with the operating system, the ultimate value of the operating system will be determined by how it supports applications that don't.

Windows' approach has been to provide extensive driver support for hardware. It supports the links to your screen, your printer, and other peripherals by making these tools available to your applications directly or indirectly as required. If applications are just too "dumb" this doesn't work, but if their design is even a little bit "smart", then it does—and quite well, too! In fact, it is amazing how well Windows 3.1 can work with the halt, the lame and the blind before finally giving up with a UAE.

OS/2 "...makes the kernel into a General!" It plans the battle, orders the troops, and courtmartials the slackers. But the trouble is, as Mark and the OPCUG Players demonstrated, undisciplined troops can still make a shambles of any theatre, no matter how well directed: everything must be thought of in advance, every contingency allowed for. I was left wondering how much experience with Parkinson's Law OS/2 needs before we admit the ultimate futility of mandated perfection?

Looming on the horizon—the far horizon in Mark's view—is Windows NT. NT wants to be OS/2's General with Windows' GUI. If anything it will have even stricter task isolation with no sharing of local descriptor tables or event queues and no direct hardware access, even as an option. How existing DOS, Windows-aware, and OS/2-aware software will work under NT remains to be seen.

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Mark suspects that the Windows co-operative environment will ultimately give way to one or the other pre-emptive system—probably NT, although his heart is still with OS/2. I'm not so sure. DOS/Windows and the forces of natural diversity may dominate for quite some time while the Generals fight it out...quite some time...

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**NEXT MEETING : TUESDAY, February 23, 1993** details on p. 3



# A year of change

by Harald Freise, Chairman

**O**PCUG activities, in 1992, mirrored the computer industry, with its own set of upgrades, fixes, new software and yes, even slipped delivery dates. We, the executive of OPCUG, hope the majority of the members applaud the directions the club has taken. Please let us know!

## Achievements

Some of the more notable activities included:

- establishment of three Special Interest Groups (SIGs), for Fox Pro, Desktop Publishing and Windows
- start time of the general meeting was moved forward to 7:30pm followed by training sessions and SIGs
- increase in membership to 650 (from 450)
- completion of the BBS upgrade (as approved by the 1991 Executive)
- completion of a volunteer operation in cooperation with the Community Foundation of Ottawa-Carleton and the Regional Municipality of Ottawa Carleton that saw surplus computers refurbished by OPCUG volunteers and placed into service with local charities and service groups
- agreement that the BBS should become a node on the international Fido echomail network and that necessary software be purchased
- approval to purchase a new high-speed (14.4K) modem for the BBS, to replace one 2400bps modem

## Administration

Administrative operations included:

- writing policy guidelines for all club training sessions (including SIGs)
- evolution of the newsletter into a more attractive and professional form under the guidance of the Editor and the editorial committee

- participation in the biannual Ontario Computer Fair which included producing a reusable club banner
- inventory of the club's hardware and software assets

## Executive changes

The Executive was hampered during the year by the absence of a Convenor, as efforts to find a volunteer were unsuccessful. In December, Lynda Simons moved from the position of Newsletter Editor to Convenor. Chris Seal was appointed as Newsletter Editor. Our past chairman, Doug Poulter, has kindly volunteered to take Lynda's place while she is away. Paul Green resigned as Membership Chairman in mid-1992 and was replaced by Mark Cayer.

## Software Library

Norm Dafoe, the club software librarian, informs us that monthly diskette sales from the software library

are regaining their popularity. Norm has undertaken an enormous task of updating the library as well as providing some of the best shareware and public domain software for the membership.

## Odds & ends

With respect to the very serious inadequacies of the audio/visual equipment available for our monthly general meetings, we are informing the presenters about them so that they may be better prepared.

Robert Parkinson, club secretary, kept excellent minutes of the executive meetings which, oddly enough, now finish more or less before 11pm.

I thank you, the executive, and those individuals that have volunteered their time and resources in making the OPCUG the largest and most successful computer club in Ottawa (if not the country).

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# Vendor Invitation

by Harald Freise, Chairman

**W**e cordially invite all software and hardware vendors in the National Capital Region to discuss how their products and services can benefit OPCUG members.

The executive has not appointed a hardware/software Broker for the coming year. With the PC market being price-driven and vendor margins being what they are, the role of a Broker is almost impossible to achieve as defined by our constitution. Can any single vendor meet the requirements of the Broker as set out in the constitution to search out the best prices from all available sources? The executive felt that questions about where and what to buy, vendor reputation and user satisfaction are discussed sufficiently at club meetings and on the Pub.

We thank the Mahoneys and their company, SynerSys, for their efforts and wish them continued success and a mutually beneficial continuing relationship with OPCUG in the future. Over many years, the Mahoneys have volunteered their time, produced the "Fortune Cookie", sat on the executive, added insight to Pub discussions and we hope they will continue their active memberships.

Interested vendors should note that no commercial sales can take place within the school due to our "not-for-profit status" and conditional free use of Sir Robert Borden High School.

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# CD Dazzle

by Julie Dustin

If you saw a flash of light in the early morning sky, you may have thought it was the Russians pulling their "smoke-and-mirrors" trick. But perhaps it was CDR Technologies experimenting with their presentation products. You don't have to get up early to see more of the same because the Toronto-based company will be showing their multimedia wares at the next OPCUG meeting on Tuesday, February 23rd, along with NEC Corporation.

CDR Technologies, based in Toronto, is a distributor of multimedia CD products to government, educational, private, and public organizations. Stewart Tidd, the special accounts sales manager at CDR, promises, "Our presentation will be fun and provide education on developing multimedia presentations with Asymetrix Corporation's ToolBook for Windows using the NEC multimedia upgrade kit."

"We can grab preset images from CDs, specify transition effects, add music, and develop a spectacular slide show with ToolBook and technology from NEC Corporation," Tidd adds.

CDR Technologies has been in business for over 3 years and sells its products across Canada and boasts a large client base in B.C. (maybe all our retired OPCUG members?). Their product line includes Compton New Media, Microsoft CD-ROMs, and Southam CD-ROMs.

## Calendar *(subject to change)*

**General Meeting Location:** Sir Robert Borden HS  
131 Greenbank Road

**General Meeting Time:** 7:30 p.m. to 10 p.m.

Date and Time	Topic and Location
Tuesday, 23 February	See this page
Tuesday, 30 March	To be announced
Tuesday, 27 April	WordPerfect

Asymetrix's ToolBook for Windows (version 1.5 lists for \$395 US) is a software construction set for non-programmers who want to build dialog boxes, list box fields, and 3-D buttons. My rudimentary research found many varied ToolBook applications including Oracle databases, Corel ArtShows and educational institutions offering lessons in physics, classical Greek, short stories, and sculpturing. School was never that much fun, was it?

CDR Technologies will be distributing their product and pricing information at the meeting. Look for CD surprises too!

Maureen Holland, Product Specialist for NEC's CD-ROM products, will be speaking on CD-ROM technology; what it is, who uses it, and what to look for when buying a CD-ROM reader.

"For example, we offer multispin CD-ROM readers. This means you can adjust the disk speed depending if you

*Continued on page 8*

by Norman Dafoe

**D**isks sold at January's meeting included shareware games and important updates to some old favourites. Once again some of the popular disks were sold out before the end of the meeting—I promise to have further copies of these available for the February meeting.

The most popular disks were:

- **BIG GAME PACK #6**, which included another **Commander Keen** episode and **Ken's Labyrinth**

## Software library

- a Shoot-em-Up games disk
- a fine stockmarket simulation, **Wall Street Raider**  
There were updates to:
- **Brother's Keeper v5.1** (genealogy)
- **Telix v3.20**
- **Telemate v4.0**
- **Blaster Master v5.5**
- And the new **PKZIP v2.04g** has finally arrived.

For February, I am looking at a couple of specialized database pack-

ages for keeping track of your libraries, both music and paper—separate programs, of course! I also expect to have a disk with templates for doing your 1992 income taxes. And any thing else which looks interesting.

As usual, there is a 360-kB Disk-of-the-Month that I prepare, containing a variety of smaller programs collected from PC Magazine and other BBSs. If you have any special requests, do not hesitate to contact me at the meetings or on the PUB.



# FoxPro 2.5: A look at new commands-part 1

by Andrew Ross MacNeill

**B**y the time this newsletter goes to print, FoxPro 2.5 for DOS and Windows should be available from just about every Microsoft reseller in the city. Retailing pricing is about average for a Microsoft product, \$649.99, but if you own another database product, you can upgrade for only \$249.99. If you already use FoxPro, you can upgrade to one of the new versions for only \$129.99 until April 30th. After that date, the upgrade price becomes \$249.99. There is a document in the Fox Area on the PUB that explains the pricing for the new version in greater detail. It's called FOXCOST.TXT.

FoxPro 2.5 brings with it the power and speed of FoxPro 2.0 with a wonderful cross-platform architecture. But it also introduces some new commands and features. This article attempts to look at some of them. Commands that are available on both DOS and Windows are described in this issue of the newsletter. In the next issue, I'll discuss Windows-specific commands.

## Preprocessor

Perhaps one of the biggest additions to FoxPro 2.5 is the introduction of a preprocessor. Clipper has a preprocessor and without one, FoxPro developers have been required to use PUBLIC variables extensively, sometimes to the point where it can make system requirements unattainable. A preprocessor allows for constants to be defined from within the program without taking up additional memory. For example, in FoxPro 2.0, if I want to use a variable to define the Escape key, I would probably use a command like this:

```
PUBLIC escKey
escKey=CHR(27)

OR:
escKey=27
```

Then in my code, I could write:

```
IF INKEY()=escKey
....
ENDIF
```

This can make my code infinitely more readable but it comes at a cost—memory.

In FoxPro 2.5, the preprocessor serves the same purpose without using up precious memory. I can use the following command:

```
#DEFINE escKey 27
```

and FoxPro 2.5 will know that when it encounters escKey in the code, it refers to the number 27.

How does it do this? FoxPro makes the switch when it compiles the program file, whether it be a PRG, SCX or MNX file. The result is in the application itself. The compiled FoxPro code would be read as:

```
IF INKEY()=27
```

while if I opened the file where this line of code was, I would see:

```
IF INKEY()=escKey
```

thus retaining my code readability.

## More preprocessor functions

The FoxPro 2.5 preprocessor introduces three other functions—#UNDEF, #IF, and #ENDIF.

#UNDEF unDEFINES a constant. For example, if I undefined escKey, FoxPro 2.5 would then require a variable to be created called escKey later on in the program if escKey was used again.

```
#IF...#ENDIF
```

These functions have the same effect as IF...ENDIF, only they produce compile-time statements similar to:

```
#DEFINE...#UNDEFINE.
```

The following example:

```
#IF 'WINDOWS' $ UPPER(VERSION( ))
? 'This is FoxPro for Windows'
#ELIF 'MAC' $ UPPER(VERSION( ))
? 'This is FoxPro for Mac'
#ELIF 'UNIX' $ UPPER(VERSION( ))
? 'This is FoxPro for UNIX'
#ELSE
? 'This is FoxPro for DOS'
#ENDIF
```

would result in compiled code that would only "read" ?"This is FoxPro for DOS" if compiled under DOS.

The major benefits of the preprocessor commands are reduced memory use, better readability and improved performance since FoxPro reads only the compiled code.

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## Call for names

If you are a consultant or a trainer and wish to have your name listed with the Fox SIG, please fill in the information requested in the files FOXCON.TXT or FOXTRAIN.TXT (in the Fox area) and either e-mail them to Andrew Ross MacNeill or fax them to 596-3313.

Microsoft and other companies ask on a regular basis for the names of consultants and training companies who deal with Fox. Only OPCUG members who have filled in this form will be placed on a list. Please ensure that your name is on the list that the Fox SIG will give them!!



# OPCUG in sound financial condition

by Stan McRoberts, Treasurer

**T**he Ottawa PC Users Group remains in very sound financial condition as of the end of 1992. The bank balance increased by \$4,402 to \$10,095, up from \$5,693 at the beginning of the year.

The increased cash balance is mainly attributable to the significant increase in the size of the membership, which as of the year end stood at about 630. Membership dues amounted to \$15,292, a 39% increase over 1991. The software library also made a significant net contribution of about \$1,700, although this represents a slight decrease from 1991. Disk

sales revenue has remained constant, but costs have risen slightly. OPCUG's total revenues for the year amounted to \$18,721, up from \$15,038 in 1991.

The largest expense was the monthly newsletter, which cost \$6,915, a significant increase over the \$4,000 cost last year. The increase is due to the growth in volume and the fact that the printing company now performs the service of stuffing the envelopes which had previously

been done by OPCUG members.

Bulletin board costs remain essentially unchanged from last year at \$4300. However an accounting change during the year conceals a decrease in this expense. The BBS telephone (voice) expense is now allocated to BBS costs whereas previously it was included as a miscellaneous expense. As a result, relative to last year, the BBS cost is overstated by about \$600 and the miscellaneous category is similarly understated.

Total expenses have risen to \$14,319 in 1992 from \$11,714 in 1991, mainly due to the newsletter. However it

should be noted that costs were reduced for much of the year because refreshments were not provided at the monthly meetings as no one volunteered to undertake the task. This has since been rectified. Newspaper advertising was also terminated with no discernible impact on the size of the membership.

It should be noted that OPCUG members Claude Jarry and Harry Gross reviewed the 1992 accounts on behalf of the members and found them to be in order. Their written comments can be reviewed by any member by contacting the Treasurer.

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## Income Statement Year Ending December 31, 1992

	1992	1991
<b>Revenues</b>		
Membership Dues	15,292	11,018
Disk Sales	3,333	3,397
Miscellaneous	96	623
<b>Total</b>	<b>18,721</b>	<b>15,038</b>
<b>Expenses</b>		
Newsletter	6,915	3,988
Bulletin Board	4,313	4,196
Software Library	1,624	1,271
Miscellaneous	1,467	2,259
<b>Total</b>	<b>14,319</b>	<b>11,714</b>
<b>Net Income</b>	<b>4,402</b>	<b>3,324</b>
<b>Bank Balance</b>		
Opening Balance	5,693	
Cash In	17,285	
Cash Out	12,883	
<b>Closing Balance</b>	<b>10,095</b>	

All figures in dollars



# What is a desktop publication?

by David Gerrior

**D**esktop publishing (DTP) is catching on as a new career for many aspiring publishers or writers and is a popular choice for a home-based business. Let's take a general look at this fast-growing market.

Desktop publishing (DTP) consists of three basic elements: composition, layout and graphics. Which is the most important? They are all important in their own way, however, it is important to note that good writing is what "brings 'em back for more".

Most publishers focus on special interest groups or a target audience. Our newsletter, *Ottawa PC News*, is such an example where a special interest group communicates among its own members. Other publications such as *The Frugal Bugle* or *The Royal Bank Reporter* are aimed at slightly different audiences—people who want to save money and people who want to make money grow. However, in both cases there can be an understandable overlap. For example, *The Frugal Bugle* also gives investment advice on where to find no-load mutual funds.

## Why DTP?

Organizations and like-minded individuals in an increasingly stressful and busy society have strong needs for focused communication. The sound bite has become the information age newsreel and the amount of information assailing us each day is staggering. Often a message is lost in traditional media formats—formats that include telling someone information verbally. To insure that the message is clear and concise, desktop publishers want to control editorial content (the message) as well as the media (the physical publication). (Editor: And the production costs).

## Know your audience

DTP publications generally have two fundamental objectives: communicating a message and promoting a lifestyle. Therefore, the elements of composition, layout and graphics must be geared to the audience. The Royal Bank wants to give the impression of a solid, trusted and professional institution. Therefore, its publication, *The Royal Bank Reporter*, has a professional look with advice columns written by individuals with professional credentials. The *Bugle* does not need any of these attributes. This

is not to say that the publication is unprofessional, but it has considerably more leeway. Graphics and illustrations can lend themselves to humour and the format can be structured to suit an individual issue. The reader is interested in how average people save money on goods and services, and expects the writing to be down-to-earth, informative and interesting.

For most of us, a DTP project will be a labour of love. Before starting such a work of art, recognize that you need to offer focused writing and the information should be presented in a format that your reader appreciates. Remember Dave's Golden Rule. If you're having fun preparing your project, your audience will enjoy reading it and will look forward to the next edition. So have fun, and enjoy desktop publishing and computing!

## Next DTP SIG meeting

From the DTP SIG chairperson: The next meeting of the Desktop Publishing SIG will be featuring (hopefully) a short presentation from a local reseller of laser printers. Come hear about the new LaserJet 4, colour printers, and more dpi than you could see with the naked eye.

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**FoxPro 2.5 continued from page 4**

## USE command

A new clause to the USE command allows a table to be opened in an undefined area without being automatically selected. For those developers who like to use the following type of clause:

```
SELECT 0
USE clients
SELECT 0
USE invoices
```

FoxPro now allows the use of "IN 0" with the USE command. This results in the above code being changed to:

```
USE clients IN 0
USE invoices IN 0
```

The result is that the currently selected area remains the same as it was before the commands were issued. If you were in work area 1 prior to running the above commands,

you would still be in that same work area. However, the difference is that the tables Clients and Invoices would be open in the first two available work areas.

## Get Directory dialog

FoxPro 2.0 allows developers to call standard FoxPro dialogs like the Get File or Open File dialog simply by issuing commands like GETFILE() and PUTFILE(). One of the standard dialogs that was missing was the Get Directory dialog. FoxPro 2.5 solves this. GETDIR() is now a ready-to-use function.

The command:

```
x=GETDIR("C:\","Select a directory")
```

will activate the Get Directory dialog box with the directory of C:\ and the text message "Select a directory" shown.

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# Using the User Group Bulletin Board: notes on communications hardware and software

by Eric Clyde

In order to send messages or files to or from another computer, you need a modem and communications software. The communication is normally done via telephone lines, which were of course designed to handle voice communication.

## The modem

The Modem can be 'internal' (a board that plugs into slots in your computer) or 'external' (a box with a cord which plugs into a spare serial port on the back of your computer). External modems have a row of lights which flash when something is happening; internal modems don't have lights, so it can be difficult to tell if there is a problem. The modem:

- dials the other computer (or answers the phone call)
- converts the computer data to a signal which is superimposed on a high frequency tone for transmission over the phone lines. (If you have accidentally dialled into a modem, you will have heard the high pitched tone of the answering machine. The calling machine uses a still higher tone.)
- negotiates with the other computer the rate at which the exchange of data will take place. This is known as the baud rate, named after a J.M. Baudot, a French pioneer in telegraphy. It is commonly taken to mean the rate of transmission of bits of information, although this is technically inaccurate. The common baud rates are 300, 1200, and 2400. Newer modems also support 9600 and 14,400 baud. A 40kb file transfer would take about 6 minutes at 1200 baud, 3 minutes at 2400 baud, 1 minute at 9600 baud, and about 30 seconds at 14,400

baud. As might be expected, the higher speed modems are much more costly and the higher transmission speed is much more susceptible to line noise. The cost can only be justified if large files are frequently transmitted. The PUB currently has 3 lines that support up to 2400 baud and one that can be used at 9600 baud.

Note that the effective speed of transmission can be reduced by line noise.

- has built in support for at least one communication protocol, with names like Bell 212A, or V32, or v32bis. Protocols are internationally agreed standards which allow modems to communicate with each other. (In the not-so-distant past, the communication standards used in different countries sometimes made communication difficult.)

Note: Modems should be 'Hayes-compatible', Hayes being the name of the company that developed the standards commonly used. If you are thinking of getting a high speed modem for use on the PUB, 9600 baud modems should support the v.32 protocol and 14.4kb modems should support the v.32bis protocol. Otherwise they will not be able to talk to The PUB at high speed. (The PUB will soon be equipped with a new modem which will support v.32bis). Also, the 'UART 16550A' communications chip is highly desirable.



## Communications software

The communications software controls the modem by:

- maintaining a telephone directory of numbers to be dialled, plus information for each of these numbers on the baud rate and packet size (number of characters to be sent as a unit), and whether full or half duplex is to be used. (Half Duplex—popularly known as "echo off"—means transmission is in one direction. If you type a character, it is transmitted to the other computer without appearing on your screen. If the other computer is on full duplex—or echo on—the character is echoed back to your computer and then appears on the screen. This is why there seems to be a slight delay between typing the character and its appearance on the screen. If both computers are on half duplex, you will not see what you type; if both are on full duplex, the character will appear twice on your screen.) You should set your software for half duplex.
- translating the instructions you give into instructions the modem can understand. When you want to download (receive) files, the sending computer (the PUB) asks which [download] protocol you wish to use, giving a selection from which to choose. If your software supports Z-MODEM, the information is passed to your software and downloading will start immediately. If you choose a difference protocol, e.g. Y-MODEM, you will have to tell your software to use Ymodem also.
- allows the preparation of scripts, which are sequences of frequently used instructions.

More next time.

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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 June and July.

### 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

Mark Cayer 224-8031

### Convenor

Lynda Simons 739-9318

### Software Librarian

Norman Dafoe 723-1909

### BBS Sysop

Chris Taylor 723-1329

### Hardware/Software Broker

No appointment

### Beginners' Corner

Eric Clyde 749-2387

### Newsletter Editor

Chris Seal 831-0280

### Assistant Editors

Julie Dustin 228-0724

Susan Phillips 725-2935

### Newsletter Mail Coordinator

Herb Kelland 733-4259

### Group Meetings

OPCUG meets monthly except in June and July. Check the answering machine, the PUB, and the newsletter for the date and place of each meeting. Meeting times are 7:30 p.m. to 10 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)

### Printed by

Zippy Print  
227 Rideau Street (at Cumberland)  
Ottawa, Ont. K1N 5X8  
Tel: 236-0340

## CD Dazzle continued from page 3

have an audio disk that transfers at 150 kB/sec or data transfer at 300 kB/sec. Our prices range from the external version at \$900 or the internal drive for \$800." Holland adds, "Stay tuned for our announcements on February 15th which are rumoured to include a new portable CD-ROM product retailing at \$699."

NEC's Canadian head office is based in Mississauga and offers

products through retail outlets and 7 offices across Canada. The company is probably best known for its monitors such as the MultiSync series but does offer the CD-ROM drives, UltraLite notebook, PowerMate Image computers, and SilentWriter laser printers. You can buy NEC products through CDR Technologies or Ottawa outlets including Inly Systems and Antares.

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## FoxPro 2.5 continued from page 6

ing in the Dialog box. It will return the full path of the directory selected by the user.

### 2048 ch. command line

Also, for those who were tired of seeing messages about the number of characters in a single line being over 255 characters, FoxPro 2.5's command line length has been expanded to 2,048 characters.

### Modify window

If you have ever wanted to change a window once it has been

defined, FoxPro 2.5 now contains the command MODIFY WINDOW which will simply move an existing window to a new location or assign additional attributes to it.

### Windows' enhancements

While there are some other noticeable enhancements to the command set in FoxPro 2.5, the largest changes may be found in the Windows product. These will be discussed in the next issue.

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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