OTTAWA PC NEWS

NEXT MEETING MONDAY, JUNE 24TH AT MC ARTHUR HIGH SCHOOL (details p. 3)

New BBS Numbers - Again! ... with regrets...

The BBS numbers have changed again. The new numbers, as of June 13th are 747-7272 and 747-8320 (for users of 9600 baud modems). Members will, at the very least, be wondering why we have changed the numbers twice in less than a month and some of you will have suffered frustration trying to get through on an out-of-date number.

Bonnie Carter suggested that the easiest way to explain to you all was to quote her message that she left in the general message area of the PUB for Gord Phillips who asked why the numbers had changed again. For those of you who don't know Bonnie or Jean Fortier, our BBS operator, where Bonnie goes Jean goes... and takes the BBS with him! Here then is Bonnie's message.

"I feel very badly about another change of PUB numbers. The house we moved into is a split-level. With Jean's help, I've been managing the stairs. Last week I had an appointment with my doctor for a regular check-up. I mentioned that I was having pains in my knees and hips, thinking it was just an expected part of my illness. He asked about our new house and whether there were stairs. When I explained the layout to him, he told me that if I continued to live here, I would permanently and rapidly damage muscles, and that I must move immediately to somewhere where everything is on one floor. That meant either an apartment or a bungalow.

With such a low vacancy rate in Ottawa, we were lucky to find a bungalow in the east end that was available immediately. Hence a move and a change of PUB numbers.

I sincerely regret any inconvenience this may cause to you or any other member."

This was Gord's reply. I'm sure he speaks for all of us.

"No problem Bonnie -- changing the dialing directory is a trivial inconvenience: your health is important. Best of luck with the new house!"□

The Music Box
by Jackson Hibler

Hugh Chatfield's May meeting presentation reviewed

When Hugh Chatfield last demonstrated his array of digital instruments to our group, he summed up as follows: "Duke Ellington played an instrument when he composed his music...his orchestra! The band musicians would perform the new piece, then the Duke would fiddle with the instrumentation, try this or that, refine it, get it right. These machines give me an 'instrument' like that."

The concept is compelling, but the implementation is still a lot of work. Just as the Duke had to drill, cajole and meld his musicians into a finely tuned orchestra, so also has Hugh had to work and rework each individual segment, each sequence, each performance into a coherent whole.

At last month's meeting, Hugh was obviously wondering if it was all really worth it. The source of his "crisis of faith" was software. Called "Band in a Box", this program purported to do all of the hard work for the composer, all the sequencing, even all the stylistic refinements. Just ask for "swing" or "jazz" or "heavy metal" and the instrumentation and pacing would be built in accordingly. All Hugh had to do was enter the sequence of chords to be played: A-minor, D, G augmented 7, etc. and Band in a Box would cobble together everything except the lead instrument performance. And do it well enough that Hugh wanted us to judge a test comparison with the same piece built up by hand on his array of instruments.

INSIDE

See page 3 for MAP to get to June meeting on MONDAY, June 24th at McArthur High School, 485 Donald Street.

Thanks for the Feedback   *by Lynda Si mons*

I got messages on the PUB and phone calls. I have tried to incorporate as many suggestions as I can this time and will continue to do so.This month's newsletter has a new name which comes with a committment to keep things looking as they do for a while.

We've had to deal with house-keeping matters again this month having new BBS numbers and a change of meeting day and location. There's still room for PC re-lated information, however.

The DataEase people provided us with some background material to think about before the meeting, and the folks at Microsoft gave me an 800 number to publish! Not for Technical support, of course, but at least it won't cost you to get product information or to complain! You can continue to delve deeper into DOS and learn about script files. See you at the meeting☐

Music Box continued from page 1

Most of us have had to endure someone's performance on their home organ equipped with a "sideman" that emitted a clunking, tympanic rhythm while the poor tyro laboured over the keys--an experience to be eclipsed only by the compulsory viewing of home movies. Well Band in a Box is that "sideman" gone mega-mode! Gone so far that it is--dare I say it--almost good. And that's frightening.

I use computers, and enjoy the benefits they bring, but computers have also taken one thing away from me that I bitterly regret losing: chess. I used to play a lot, and was pretty good, once. It was a skill that I worked on as a child, and continued to enjoy as an adult...until someone wrote an algorythm that could not only outplay the likes of me, but even the Masters. Suddenly chess was reduced to another technical task that could best be completed with appropriate routine procedures. It wasn't a "human" thing anymore, it didn't involve skill or intuition or any other attribute that could not fall to brute-force iteration and calculation. Chess had become something that an auto-mated tool could do by itself. Suddenly there was no "art" in it, and no fun. I don't play chess any-more. And I'm sad about it. I've lost something. I don't blame the computer, or the programmer. They have just shown me that something I thought was open-ended, was actually closed. That what once was more is now less.

Can this happen to music? Has it happened? This was what Hugh seemed to be really asking.

In an increasingly digital world it is sometimes hard to remember that much of reality is analog. Things slide as often as they step. Some musical instruments are quite "digital": pianos, guitars...but not trombones, or violins. Sure they can all hit a note, but musicians like to drag the strings to wow the sound on those "digital" guitars! We have already taken a firm step away from analog music with digitized, sampled sound. So perhaps Hugh's test is already prejudiced by the technology. But even with the playing field fully digital, I could hear the difference between Hugh's orchestration and that of Band in a Box. The former had those hesitations, subtle changes of speed and rhythm that human performers put into their work. Even when combined and sequenced into a rhythmic orchestration, that human touch comes through. The Band in the Box gave us rich sounds, but the "performance" was too exact, to metronomic, to perfect...and therefore cold, mechanical.

Take heart, Hugh. Your labour is worth it. Band in a Box is really just a super-sideman. Even I could hear the difference!☐
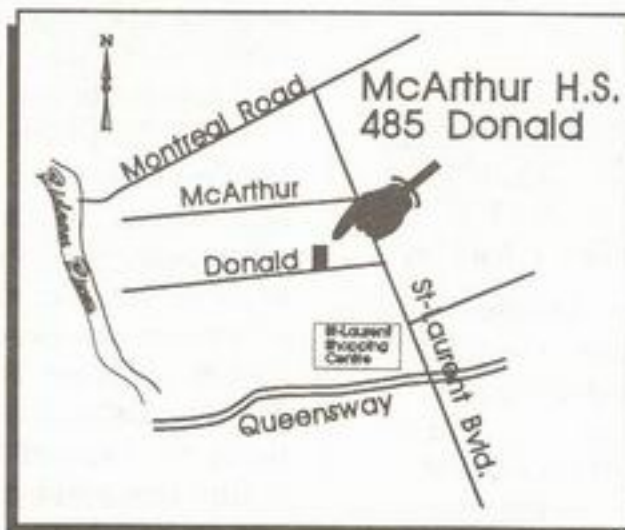
CHANGE OF LOCATION AND DAY FOR JUNE MEETING

Please note that, due to Ottawa Board of Education renovations to Rideau High School, our June meeting has had to be rescheduled and relocated to Monday, June 24th at McArthur High School, 485 Donald Street (see map on this page). Don't come to the wrong school on the wrong evening because you will have missed what promises to be a very good meeting. In the first half we have a presentation of the relational database management system package, DataEase and in the second half Bob Scowcroft of Microsoft will demonstrate DOS 5.

DataEase Presentation

A Computerlinks Canada Inc. representative will be demonstrating DataEase. To give you some idea if you are unfamiliar with this product, the DataEase name sits on the Paradox box right next to Lotus 1-2-3 and Quattro Pro as one of the programs you need to own to qualify to buy Paradox at a special price. Computerlinks is the exclusive Canadian distributer of all DataEase products.

Introduced eight years ago, DataEase is now being distributed in 14 different languages and in over 40 countries. This may well be because object-oriented DataEase combines user-friendliness and power so that anyone from a novice to a sophisticated user can develop complex applications without prior programming knowledge.

DataEase, however, also opens the door into the world of programming with a simple yet powerful Data Query Language (DQL). The DQL feature of DataEase is enhanced by an optional menu system that takes you step by step through the programming commands used for advanced applications involving batch processing, transaction processing, extensive data manipulation and advanced applica-

tion control.

The Spring, 1990 version of DataEase (4.2) added more than 70 new features including:

- Multi-form viewing and editing
- Multi-form quick reports
- Formulas and group totals in quick reports
- Eighteen new DQL commands
- Increased processing speed
- Improved LAN performance and better memory management
- Improved file conversion features including direct exporting to MultiMate and WordPerfect
- Support for expanded memory
- More reports and forms per database and more records per form

DataEase 4.2 also contains an expanded addressable memory of 16Mb of RAM on 80286 and 80386-based computers. In addition, referential integrity was introduced, improving links between multiple forms. This means that all key field values changed in one form can automatically be changed in a related form.

The latest addition to the DataEase family is DataEase SQL. Bringing together the latest in client-server technology with the efficiency of DataEase, SQL provides enhanced productivity for network systems.

DataEase users can also look forward to a French language version very shortly and a Windows version is slotted for release in early fall.

DOS 5

You can also see DOS 5 presented at the next meeting. Bob Scowcroft of Microsoft Canada Inc. will be on hand to tell us about DOS 5's major new features. He will cover memory management, the enhanced and new commands, on-line help, and the completely new DOS shell.

Microsoft Customer Support 800 Number

Bob will also be explaining to us the new 800 telephone number: (800)563-9048. This is a customer support number provided to help customers who have received defective or the wrong size diskettes, and to provide information on product updates, promotions and prices: everything, Bob says, except Technical Support. The number for Technical problems is (416)568-3503. Oh, and yes, there will be a door prize of a copy of DOS 5.□

Calendar (subject to change)

July	NO MEETING
August	(to be held early in September) IBM presentation on tenth anniversary of firstPC's release
September	RCMP on viruses & copyright
October	WordPerfect for Windows

AUGUST MEETING CHANGE

The meeting location problems continue into August. The exact date and place of the August meeting, which will probably be held early in September, will be posted on the PUB asap.□

The DOS Environment

by Robert Parkinson

The next excerpt from the 40 page article available on the PUB complete in the file ENVIRON.ZIP

The PATH A PATH is just that: It is a route map that DOS and your application programs can follow to find your executable files. It is the only method that they can readily use, unless you specify a full drive and directory each time you invoke such a file.

I emphasize that the PATH is for executable files only: programs that need to find their own overlay and data files use three other methods, only one of which will likely work for any given program. You may be able to specify the location of the files in the configuration, installation or setup process that the program uses (e.g. WordPerfect); some programs allow you to use an environmental variable (e.g. FASTBACK); or the program may be able to check the environment for an APPEND path and use it. (The APPEND Command is covered in a later section.)

There are also a number of commercial and shareware TSR programs available that replace both PATH and APPEND with a common path command. There is a 1985 one on the PUB called DPATH30.COM, or a commercial program called PATHMINDER by Westlake has been recommended by several of the computer magazines.

> *"...I have been telling you how you can create a huge PATH. That's fine as an intellectual exercise, but for practical purposes, DON'T DO IT!"*

PATH STATEMENT LENGTH

The common belief is that your PATH statement is limited to 127 characters. In reality, the length of your PATH is limited only by the environment space available. The normal constraining influence is the 127 character limit of the DOS command line; deducting five characters for "PATH[MS]ace" leaves you, normally, with an effective PATH limit of 122 characters. However, you can easily extend it well beyond this limit. You might think, having already set a long PATH, that you can simply put another line in your AUTOEXEC.BAT such as:

"SET PATH=%PATH%;C:\ABCD;C:\EFGH,C:\IJKL etc." I assure you that this won't work, as DOS expands "%PATH%" to its full original length before trying to add the new subdirectories. You not only still get caught by the 127 character limit, but you have lost an additional four spaces to "SETace".

The best method that I have found uses PTH-MAINT.ZIP (available on the PUB). There are four path maintenance programs included in that archive set, but the one we need here is called ADD-

PATH.COM. The other programs in the set allow you to put a new entry in a specific place in your PATH (INSPATH.COM), delete an entry (DELPATH.COM) and substitute one entry for another (CHG-PATH.COM). After you have specified the long original PATH in your AUTOEXEC.BAT file, a following line such as "ADDPATH C:\xxxxx;C:\xxxxx;etc", will work beautifully to allow you to expand your PATH to a maximum of about 241 characters. In the unlikely event that you need still more, simply use a second ADDPATH line. There are many other PATH-editing utilities available, if you wish to experiment with them. See the section on APPEND for its use as a path to find executable files, either in place of the PATH command or in conjunction with that command.

Just remember that you must have adequate environment space to store the increased PATH. Also bear in mind the fact that, if the executable file you want to invoke is in the last subdirectory in a list of 50, DOS has to search first the current subdirectory, then every one of the 50 subdirectories entered in your PATH (commencing with the left-most entry), for any ".COM", ".EXE" or ".BAT" file with that name, before it will find the file that you want. Time consuming, to say the least! So, regardless of the path length you choose, set up your PATH to use an effective search strategy, the most commonly-used subdirectories first. If you use a RAM drive, put it first, followed by the parent of the current directory, then the root directory of your hard drive and so on. If you have copied subdirectories to a RAM drive, don't repeat the equivalent hard drive subdirectories on the PATH.

A LONG PATH STATEMENT HAS DRAWBACKS

In the preceding paragraphs I have been telling you how you can create a huge PATH. That's fine as an intellectual exercise but, for practical purposes, DON'T DO IT. First of all, you have to maintain that PATH whenever you change your directory structure. Secondly, DOS takes valuable time searching the PATH, even a moderately-sized one, for the executable file you want. An extremely long PATH can also preclude your use of some handy batch file commands. Some batch commands will fail if they include a "%PATH%" in the command, simply because DOS expands the "%PATH%" before it executes the com-

Path ... continued from previous page

mand. A PATH of about 100 characters, depending upon the length of the command, is about the maximum.

ALTERNATIVES TO A LONG PATH STATEMENT

If long PATH isn't a good idea, what do you do? Well, there are three choices, each with it's own merits.

The first method, and my preference, is to use a small batch file that will change the current working subdirectory to the one containing the desired program and then calls the program up from within there. This method has a number of advantages. The program can then find it's own support files if they are in that same subdirectory. Further, you now don't have to worry about using files with the same names as those in other subdirectories, as long as they aren't on your PATH. (Remember that COMMAND.COM strips off the three-character file extension of an executable .COM, .EXE or .BAT file, EVEN IF YOU SPECIFICALLY INCLUDE IT, and then searches your PATH for any executable file of that name in the order of extensions given above. Thus, for example, LIST.COM will inevitably be executed in preference to LIST.EXE if both are on your PATH.) The batch file method also permits you to customize the run-time settings for the application (screen colours and size, printer settings, etc.) from within this batch file. You may want to use PUSHDIR.COM/POPDIR.COM (PC Magazine, Vol 5 #10, 27 May 86), or one of a number of similar utilities, to automatically return you to the previous current subdirectory when the application terminates.

The second method is to use some utility or batch file to change your PATH structure whenever you change your basic method of operation, say from spreadsheet use to programming. There are many such aids that will save your current PATH, invoke a new PATH and then restore the old one on command. For example, see the files PUSHPATH.BAT/POPPATH.BAT in the 15 May 90 issue of PC Magazine. See also the subsequent section here on Editing the Environment.

The third method is to use one of the special "search and run" utilities that will find the specified executable file, wherever it is buried on your hard disk, and then run it. If you would like to experiment with this approach, try "RUN.COM" from PC Magazine, Vol 7 #3 (16 Feb 88), page 321. You will find it on the PUB in VOL7N03.ZIP. It works very well, but is extremely slow, especially if it has to search through a 30+MB hard drive. However, as long as RUN.COM is in your root directory, you will not need any PATH at all.

Whatever method you choose, try to make it a practice to specify the full drive and subdirectory when you call a program or even a small utility. That way DOS doesn't have to use the PATH at all and will go directly to the specified location to find the program. Don't do this, of course, if the program is in the current subdirectory or is located in a subdirectory at the very start of your PATH (e.g. a RAM drive). Also, this will not work in any version of DOS prior to 3.0. DOS 2.x will NOT execute a file that is preceded by a path.

PATH STATEMENT SYNTAX

Having spent some time discussing the length of the PATH, we should look at a few other characteristics. First is the use of "PATH" versus "SET PATH" and the equals sign versus the space. PATH, PROMPT and APPEND are the only environment-related commands that do not require the "SET" preamble. You can use it if you wish, but why waste four unnecessary command line characters? The commands "PATH C:\DOS", "PATH=C:\DOS" and "SET PATH=C:\DOS" all work fine, but "SET PATH C:\DOS" will give you a "Syntax error" message. "SET PATH=" will delete your entire PATH, but "SET PATH" by itself will merit you an error message. In general, if you use "SET" you must use an equals sign, but if you use "PATH" without "SET" you may use either the equals sign or a space; DOS will automatically insert the equals sign. Earlier I mentioned the curious anomaly that if you boot your system without a PATH and then look at the environment with "SET" you will see the empty string "PATH=". If this apparently useless entry bothers you, delete it with a "SET PATH=" command; however, since most users put in some sort of PATH, the point is really moot unless you are saving memory space when loading TSRs.

There are several other anomalies in using PATH (and APPEND) that may interest you:

If you enter your path with "PATH" or "PATH=", DOS will always convert the entire path to uppercase characters, regardless of what case you entered. However, as with other variables, if you use "SET PATH=" DOS will maintain the original case of everything that you enter to the right of the equals sign.

When used alone, "PATH", "PATH=" and "PATH," will each return a display of the current path.

"PATH;" (the semi-colon may be separated from "PATH" by any number of spaces or none) will delete the current path.

"PATH" immediately followed (with no space) by any one of these symbols "[ ] + : / \ ." will reset the path to that symbol alone. If you separate the symbol from "PATH" by one or more spaces it will have the same result. But using any other alphanumeric character or symbol immediately after "PATH" with no intervening space, as in "PATH5", will result in an error message.

Next issue, the SET and APPEND commands

Selected messages from the PUB by Bonnie Carter

OGIVAR AND WINDOWS

From: DONALD MACMILLAN

For those who use the OGIVAR 286 machines and OGIVAR DOS 3.30, beware! When you try to run Windows 3.0, using "WIN /S" or "WIN /R", you will get aborted by Windows, i.e, you won't be able to run it. The good news is that there is a fix. OGIVAR has created a patched version of DOS 3.3 which they call OGIVAR 3.30B.

WP5.0 PROBLEMS

Query: PAUL COOPER

I sometimes encounter problems in amending commands in the "Reveal Codes" screen. Fairly often, when I use my F8 key to start an underline, I find the following codes revealed at this point in the text: "[UND][und]" (which I understand means start underlining followed immediately by stop underlining). Naturally this code combination results in no underline. Easy solution: delete the [und]. However, every time I do this, [UND] & [und] BOTH vanish. What's going on?

Reply: BRICE WIGHTMAN

If you hit F8 before and after you enter a string of text, it will be underlined. If you think of underlining later and hit F8, you will just get the codes. To underline after the text is entered, block the string first and then underline with F8.

Reply: BONNIE CARTER

[UND] and [und] work as pairs. If you delete either of these codes, they will both automatically be deleted. Any text to be underlined must be between [UND] and [und].

WORDPERFECT 5.1

Query: Doug Hewko

Does anyone know the weird key combination that caused problems with the early release of WP 5.1?

Reply: BONNIE CARTER

Doug, there were many bugs with the November 1989 release of WP5.1 so it's difficult to recall key-combination bugs. However, I strongly suggest that you get a later version. Try out many of the WP5.1 features, and when you find one that gives you problems, call WordPerfect's toll-free Features number in Orem (1-800-541-5096). They'll check to see if your problem is a documented bug, and if so, they'll send you a later release at no cost to you. If you phone the Orders Dept., you'll be charged about $10.00 for a later release (which you shouldn't have to pay for since the bug is in their product).

FRENCH FOR FONT

Query: MARK BAKER

Can anyone out there tell me the French equivalent for the word "font"? Would greatly appreciate it.

Reply: JEAN FORTIER

The standard translation for font and the one used by WordPerfect is "police de caractres". "Fonte" is also correct, but is less often used because it is not as well known as "police de caractres".

VIRUS CHECKER

Query: DOUG HEWKO

Does anyone recall which program will check for virii as you download (or was that unzip) a program?? And how good is the virus shield? It is getting somewhat bothersome running the virus checker every time I unzip a new file. The checker is so redundant, checking and rechecking the memory.

Reply: CHRIS TAYLOR

CHECKOUT will check all archived files in a directory. And it is smart enough to do a memory check only on the first file. You can always disable the memory check with /NOMEM when you use SCAN.

EXPANDED MEMORY DRIVER

Query: ANDRE LEFRANCOIS

DOS version 4.01 has a expanded memory driver called EMM386.SYS. When I install it using DEVICE=EMM386.SYS 512, it assigns 512K of extended memory as EMS, but also uses 384K of standard memory. Anybody know the command line to run it extended only?

Reply: LAIRD GORDON

Have you tried using HIMEM.SYS (Installable Device Driver for Extended memory)? See README.TXT file on the DOS disk. Also check out the Tutor column by Jeff Prosise, "Understanding HIMEM.SYS" in the DEC. 11, 1990 issue of PC Mag. (Vol. 9 No. 21, Page 547) and the Tutor column by Tony Rizzo, "Expanded vs. Extended Memory in the Dec. 26, 1989 issue of PC Mag (Vol. 8 No. 22, Page 309).

VENTURA GROUP

Query: BONNIE CARTER

I recently bought Ventura Gold for Windows. I know there's a Ventura group in Ottawa. Could someone give me details about this group?

Reply: LYNDA SIMONS

According to Colette Lacroix, the Software Marketing Rep. for Ventura, there is a Ventura Users' Group which meets at Sir Robert Borden High School on the first Wednesday of the month. The next meeting of the Ventura Users' Group will be held in September. The Group doesn't meet in July or August. Colette also gave me two phone numbers for Terry Taller, the Group's co-ordinator: 592-5137 and 829-5320.□

More on Communicating with the Club Bulletin Board Using Procomm

by Eric Clyde

In the January issue, I explained how to set up Procomm on your system to communicate with the PUB. If you have followed these procedures, I would now like to explain how to automate the signing on, using the following script file as an example.

A script file is a set of instructions to the program, in this case Procomm, telling it what to do. The syntax of the Procomm script language is very similar to BASIC, a feature that may be exploited to ease any hesitation that you may feel towards writing your own scripts.

The preliminaries:

1) The script file must be in ASCII format (i.e. from WordPerfect, use [Ctrl+F5],1,1, [filename] and then exit WordPerfect without saving the file).

2) Lines or statements starting with ';' are ignored by Procomm and can be used for explanations, much like the BASIC "REM" statement.

3) Scripts need some way to indicate that an [ENTER] is to be sent without actually using the [ENTER] key. Procomm uses the exclamation point "!" that is translated as it goes through the program and out the modem. Thus whenever you would need to press [ENTER] in response to a prompt you just substitute a "!" in the script.

4) The file should be saved with the extension '.cmd', e.g. PCUG.CMD, in the subdirectory in which Procomm resides. Then the filename (without the .cmd extension must be inserted into the last column (CMD) of the dialing directory to tell Procomm to start the script upon dialing the PUB.

Procomm functions:

WAITFOR:

As its name implies WAITFOR tells Procomm to WAIT FOR the arrival of the specified string through the modem. The syntax of WAITFOR is:

WAITFOR(StringToWaitFor)[,MaxTime].

MaxTime is an optional parameter giving Procomm a maximum time to wait before timing out and continuing execution with the next statement. Default MaxTime is 30 seconds.

TRANSMIT:

Again the name of the function describes exactly what it does. TRANSMIT sends the quoted string out through the modem. Note the use of the exclamation point to represent pressing the [ENTER] key. Also note that the transmitted string may in fact be made up of a number of separate responses so long as the "!" replacement for [ENTER] is inserted as required.

```
; PCUG.CMD                ; a comment showing the file-
                          name. ;

;--------------------     (statements after ';' are ig-
                          nored by Procomm)

WAITFOR "Name?"           ;this comes from the PUB

TRANSMIT "eric clyde!"    ;substitute your name

                          ;note that the "!" is equivalent
                          to "Enter"

WAITFOR "Password"        ;again, request comes from
                          PUB

TRANSMIT "*****!S!"       ;substitute your password

                          ;don't forget the "!"

                          ;the "S" stops all the    ;mes-
                          sages at the          ;begin-
                          ning. ;You may wish ;to omit
                          this

WAITFOR "key-"

TRANSMIT "!"

WAITFOR "Command:"

TRANSMIT "m"!             ;assuming you want to go
                          ;straight to messages

WAITFOR "Command:"

TRANSMIT "2!"             ;assuming you want to go ;to
                          area "2", general      ;mes-
                          sages

WAITFOR "Command:"

TRANSMIT "R!"             ;assuming you want to
                          ;[R]ead messages

WAITFOR "Which One?"

TRANSMIT "N!"             ;assuming you want to ;read
                          [N]ew messages

WAITFOR "(Y/N)?"

TRANSMIT "n!"             ;don't pause after each ;mes-
                          sage, assuming you ;are go-
                          ing to download ;new mes-
                          sages

;End of script file

Good luck! If you have any
```

Good luck! If you have any problems, call me at 749-2387. Eric Clyde□

Club Executive

Chairman, Doug Poulter	745-8768	Software Librarian, Chris Taylor		723-1329
Past Chairman, David Terroux	238-4895	Membership Chairman, Harald Freise		828-3411
Treasurer, Tony Frith	671-0401	Convenor, Paul Green		820-5348
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Newsletter Editor, Lynda Simons	526-2179	Hardware/Software Broker, Terry Mahoney		225-2630
Beginners'Sessions, Eric Clyde	749-2387	Terry Mahoney	Fax	226-2615
Bulletin Board (PUB) (N,8,1)	747-7272	BBS # for 9600 baud modem users		747-8320

MEMBERSHIP APPLICATION or RENEWAL

Last name:

First name:

Middle name/initial:

Address:

Apt. #:

City:

Province:

Postal Code:

Home phone:

Work phone:

Fax:

New member? (Y/N)?

Renewing?(Y/N)?

Sponsor's Name:

Membership fee: $25.00

Disk of the month? (Y/N?)   5.25" ($25.00 p.a.)
(10 disks per year)

3.5" ($35.00 p.a.)

Cash or Cheque?   Total: $

Are you interested in helping in any of the following areas? Please circle those that apply.

Programming Language Instruction Membership, Software Library, Promotion/Publicity, Hardware Techniques, Meeting locations, Agendas & Speakers, Advertising, Bulletin Board, Other, Newsletter input

What equipment and software do you use?