OPCUG The Ottawa PC Users' Group

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THERE'S LIFE IN THE OLD XT YET

By Robert Parkinson

INTRODUCTION

I want to share with you some lessons I learned while enhancing my 8088-based XT clone. I won't get into whether or not it is cost-effective to do so. Let's leave that for another article. I will assume that you have made the decision to upgrade rather than replace.

My 1988 baseline system was a Taiwanese 8088 10MHz turbo system with 640K of RAM, a monochrome TTL monitor, an enhanced 101-key keyboard, a 30M Miniscribe hard drive with a Western Digital RLL controller, a 5.25" 360K floppy drive and a "no-name" I/O board with a clock, a serial port, a parallel port, a game port and a low-speed floppy controller.

The motherboard was the common "DTK-type" 10 MHz turbo board with an assortment of odd-sized RAM chips adding up to a limit of 640K. It had a Phoenix V2.51 ROM BIOS in a 2764 EPROM chip and a vacant socket for a 27256 ROM BASIC chip. I was using MS-DOS Version 3.2.

PROCESSOR UPGRADE

My first decision was to upgrade the CPU to a NEC V20 chip. My reasons were that it is a CMOS chip running cooler at a higher speed. It runs most 80286 instructions and some faster 286-based utilities. It is considerably faster at memory operations, and it will run programs designed for the 8080 CP/M machines (not that I need that capability). All benchmarks show a 10-15% improvement. That's not bad for a $15 investment!

There are two versions of the V20, one for 8MHz and one for 10MHz. I'm using the 8MHz version, but running it at 10MHz with no problems.

If you would like more information on the NEC V20, see PC Magazine Vol 7 #11 (14 June 1988), page 377.

GRAPHICS ADAPTER & MONITOR

My next enhancement dealt with the display. I decided to go with the VGA standard. I chose the ATI VGA Wonder card and a NEC Multisync II colour monitor. The ATI card is an 8/16 bit card which automatically senses whether it is in an 8 or 16-bit bus (including a 16-bit slot on a 386 bus). It has a built-in mouse port and associated hardware and software. It will take 512K of video RAM (which I installed) and gives enhanced VGA (the so-called Super VGA) capabilities. The setup and control software are excellent. Also, NEC had a special combination deal that couldn't be beat. I made this purchase well before the ATI VGA Wonder became the PC Magazine "Editors' Choice". The benefits of my purchase are many, and I can migrate the combination to any future 16 or 32-bit machine.

UPGRADING THE CASE

Before doing any more interior hardware changes, I decided to replace the original flip-top desktop case. My desk space is limited, and I was using a Curtis computer stand, so I put my machine in an upright position next to the desk and added a couple of extension cables for the keyboard and monitor. The disk drives were of course now vertical, which made changing diskettes a little awkward. There are arguments both ways as to whether vertical mounting is bad for drives or not. One piece of advice: if your hard drive is mounted vertically, you should low-level format it in that position.

I wanted a tower case with a larger power supply, room for a 80386 motherboard and lots of horizontal drive bays. I settled on a CML-100D tower case from Associate Computer Supply in Riverdale, NY. This tower is 28" high and 17" deep. It contains a 250W power supply, an extra front-mounted cooling fan, five front drive bays, two internal hard drive bays, a full set of switches, LEDs and a speed indicator on a control panel at the top front.

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NEXT MEETING

The next meeting of the OPCUG will be held on April 25, 1990. The Guest Speakers will be a group from CompuServe, a very dynamic company in the Ottawa area. They will be demonstrating graphic packages with help from The Xerox Corporation of Silicon Valley, California.

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FROM THE EDITOR

Bonnie Carter

Hi folks. First, a big thank-you to the team from the Hewlett Packard Company of Canada for their informative presentation on the "New Wave Environment". And congratulations to Richard Bowes who was the lucky winner of the prize draw at the last meeting. Richard won an HP Scientific calculator which the Hewlett-Packard team provided.

Morris Turpin must end his series of "BAT HINTS" articles due to the time constraints of his work. He will still be available to answer specific questions if he is asked. Thank you very much, Morris, for your excellent contributions to the Newsletter.

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THERE'S LIFE IN THE OLD XT YET

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This Taiwan-made case is well constructed and is used by a number of US OEM companies for their machines. The instructions are not abundant, but the diagrams are clear enough. The only major modification that I made was to mount a micro toggle switch on the control panel (there is ample room) to turn the speaker on and off. Much better for late night use!

Moving all the components to the new case took a few hours, with only one or two momentary dilemmas. I removed the front plate and LED from my hard drive so that it could be mounted in the internal drive bay or in a front bay behind a grey blanking cover. As the case comes with two hard-drive activity LEDs, I connected one to my hard drive controller card in lieu of using the one on the hard drive itself.

KEYBOARD PROBLEMS

I had an enhanced 101-key keyboard from the outset. No BIOS that I could find locally (my original Phoenix V2.51, a later Phoenix V2.52 and an Award (V2.05) would support these extra keys. Neither my Phoenix BIOS nor an Award BIOS that I tried would support them. Phoenix Technologies Limited told me that they did not make a BIOS for the XT that would support the enhanced keyboard. I found a small TSR utility called "KBDR.COM", originally intended for AT machines, with an early BIOS version which uses less than 1K of RAM, that would enable the keys in DOS, via "ANSI.SYS" or its clones. I could now use those extra keys in my batch files and at the DOS prompt. However, programs which check the BIOS to determine if the enhanced keys are enabled would still not permit those keys to be used. More about this next month.

FLOPPY DRIVE AND I/O BOARD UPGRADE

I then wanted to install a 3.5" 1.44M floppy drive. However, in order to do this, I needed a high-speed (or high-density) floppy drive controller. But I could not disable the built-in controller on my I/O board, at least not without cutting board traces or unsoldering chips. This necessited replacing the original I/O board. I wanted to replace it anyway in order to gain more flexibility with I/O capabilities. In particular, I wanted to be able to install a deep-buffering NS16550AN UART chip set to be used when I moved to a faster 386 machine.

I bought an Everex Magic I/O Adapter (Model EV-170). This board has ample flexibility, not only with DIP switches and jumpers, but a software setup program as well. It has a built-in clock chip and battery which I can disable when I upgrade to a 386 system. At the same time, I installed the 16550 UART chip set as COMM-2 and set up my 2400 bps external modem on this port.

Prior to this stage I had upgraded to MS-DOS V3.30. This is the earliest version of DOS that will support 1.44M drives.

At the same time, based on magazine reviews, I bought a 3.5" 1.44M floppy drive kit from Northgate Computers in Plymouth, Minnesota. It was a Mitsumi drive in a 5.25" mounting adapter with a Universal Floppy Drive Controller (UFDC). The high-density UFDC is made by Accelerated Computer Technology in San Jose, California.

The controller will handle four drives, all internal or two internal and two external. There is an on-board EPROM ROM BIOS which controls of all the motherboard ROM BIOS floppy disk functions. You can use a second controller along with the UFDC, although the UFDC BIOS controls them both. After a few painful moments of initial setup decisions, I now had a functioning 1.44M floppy drive as Drive B, along with my 360K drive A. Again, as with the enhanced keyboard, this solution was not perfect, as many programs check the BIOS area to determine what drive types are supported. Inconsistencies and annoyances resulted. For example, the Safe Format program from Norton Utilities would not recognize Drive B as anything other than a 360K drive. While the new configuration worked, I was not entirely happy. What to do now?

Hang on and I will continue next month with an explanation of how I found a compatible ROM BIOS. I will also include information about expanded memory for XTs, hard drive controllers, future upgrades, and what I would do differently if I was to go through an upgrading process now.

* * *

CAPITALIZING on PATH

By Chris Taylor

When comparing strings in batch files, there is no way to make a case-insensitive test. When checking parameters, this leads to long batch files with sections like;

```
IF %1==test ...
IF %1==Test ...
IF %1==tEst ...
IF %1==teSt ...
```

and so forth. Fortunately, there is a way around all this. Most environment variables can contain strings that are upper or lower case. The one exception is PATH. No matter how you enter it, PATH will always be stored in upper case. So all that is required is to use the PATH variable temporarily to convert your string to uppercase.

```
SET P=%PATH%        ; store the real PATH
PATH=%1             ; set PATH to %1 batch file parameter
SET ONE=%PATH%      ; store the upper case results to ONE
PATH=%2             ; set PATH to %2 batch file parameter
SET TWO=%PATH%      ; store the upper case results to TWO
PATH=%P%            ; restore the real PATH
SET P=              ; delete temporary variable
```

At this point, the environment variable ONE holds the uppercase of %1. Also shown is how only two extra lines are required for each additional parameter passed to the batch file. From then on, tests for the value of the parameter need only test the upper case version as in:

```
IF %ONE%==TEST ...
```

* * *

ON MEN AND MODEMS

By Carl-Henri Gomez

The OPCUG is healthy and doing well. The sheer amount of competing companies, which vie for influence is clear evidence of this. In this perspective, we should establish a criterion in order to maintain, if not some composure, an appearance of fortitude when pulled by opposite interests. INFORMATION, a commodity that we acquire by being members of the OPCUG, helps us enter into the computer arena with sure footage. In order to address the problem of choosing WHAT to buy and WHERE to purchase it, we should have knowledge about our acquisitions. Otherwise, we will be at the mercy of unscrupulous sales people. Should we buy a clone or the 'real thing'?

First of all, we should ask ourselves: are clones true alternatives to the real thing? A clone, by definition, is a carbon copy of a given entity. Copyright protection prevents manufacturers from copying outright the works of others. However, one can copy part of a whole or slightly modify it and get away with it. Modem clones copy some of the AT set commands developed by Hayes. One could argue that they all are using the same standard. Frankly, we all see beyond such euphemism. Then incompatibilities, in cleverly hidden areas, result, as manufacturers cannot, by law, market a carbon copy of the patented Hayes modem, for instance.

The moral question is: should we buy a clone which is marketed more cheaply than the REAL THING because of non-existent research and development overheads? It is debatable, but we should think of the consequences of such purchases. Mostly foreign firms flood our market with such goods manufactured in sweat shops of underdeveloped countries with technology that we help supply through subsidies. It is like buying a whip for your torturers. What happens to our Canadian manufactures? We might save $1000.00 on one hand, but on the other hand, lose $2000.00 through unemployment insurance and social upheavals.

What happens to the non-upgradable clone when standards change? Are we going to contribute to the pollution of our environment by increasing the amount of 'JUNK' that we dispose of? In any event, clones are NEVER better than the REAL THING. You always get what you have paid for. Check the small print or look for the missing ones.

Should we acquire our computing devices at a reputable dealer or at a shabby 'grey' marketer? Is the grey market for everybody? Even the Federal Government buys through the grey market. What a pity! The grey market is the unsupported sale of computing devices that is frowned upon by good manufacturers. When you buy an HP Laserjet III, for example, the cost of technical support and warranty is included in the list price. The discounting window should be within the vendor's margin of profit, not on the cost of support or warranty. This is why Hewlett Packard of Canada DOES NOT support or honour warranties of HP devices bought on the grey market. Nevertheless, if you have the know-how and luck, buying on the grey market could be profitable, but if you are not an aficionados, beware of the inevitability of the 'Peter Principle'.

Should we acquire our computing devices at a reputable dealer or at a shabby 'grey' marketer?

A plausible example is the Hayes modem 2400 baud V42 MNP5 V42bis Sync Async. Will a clone fit your needs? To answer logically, let us look at modems. What is a modem? It is a box which permits your computer to access the outside world. There are numerous companies which sell modems. How does one choose among them? To suggest an answer, let's look at how a modem works. Mo-D-em, the acronym for Modulation and Demodulation, is a device that transforms digital signals (think of staircases) into analog signals (think of ramps for handicapped people).

PC__digital__MODEM__analog__MODEM__digital__PC

Why transform digital signals to analog and back again to digital? Because the telephone system can only transmit analog signals, while the PCs that most of us use, can process extensive digital signals. Presently, telephone companies are experimenting with a type of line system called ISDN which will permit us to get rid of modems altogether. The best estimate is 5 to 10 years for a wide implementation of ISDNs.

In the meantime, let's find out how we can reach a decision about the best buy for an all-round modem. Investing $500.00, spread over five years, at a cost of $100.00/year, is a very reasonable cost saving if you often access Information System Providers (ISPs) like Compuserve, wish to offset long distance phone bills or efficiently use your time.

The first characteristic we should look at is the BAUD rate. Definition of Baud rate: A type of measurement of data flow in which the number of signal elements per second is based on the duration of the shortest element. When each element carries one bit, the baud rate is numerically equal to bits per second (bps). Put another way, it tells us how fast the modem can process information. If you read the definition again, you can imagine ways and means to increase the speed of a modem.

One of the first ways is through data compression. We can reduce the number of signal elements per second as implemented in Run Length Encoded files (RLE). Let's say we have a message like 'CCCCCAAA'. We can reduce it to 6C3A, thus achieving a reduction of 50% or 2 to 1, given that it takes 4 elements to transmit the message instead of the original 8.

Another type of compression technique is the Huffmann coding. It takes 7 bits to code each letter of the alphabet (ASCII code). Now, if we redesign the ASCII code table and allocate the most common character like [e] to a low-bit code number, let's say 2 bits and high bit numbers like 10, to a not-too-common letter like [q], we can achieve even greater data compression. A modified Huffman and RLE is a Microcom Network Protocol level 5 or MNP5. Note that MNP4, an error correcting protocol, is included in MNP5.

MNP5 became a defacto standard because of its popularity. However the CCITT, (the international group that controls modem standards), approved the Hayes V42 error-checking protocol, and V42bis, a proprietary data compression technique called ADC for Adaptive Data Compression. MNP5 was included as an annex to the standard.

Hayes' ADC can achieve, according to the literature, data compressions in the ratio of 4 to 1, a much better compression than the 2 to 1 ratio of MNP5 and ZIP. According to some authors, ADC will be very difficult to implement in software due to its complexity and the overhead generated. The hardware implementation of ADC is efficient and works well on the fly.

A second way to sustain great speed is

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BAT HINTS

By Morris Turpin

Last month we finally arrived at the point where we can write interactive batch files. Admittedly, our abilities are somewhat limited at the moment relying on a single key-stroke to accept input. Lets expand on that capability and look at some examples.

Before we get started though, there was a footnote omitted last month giving credit for REPLY.COM to the book "Supercharging MS-DOS" by Van Wolverton, published by Microsoft Press. I highly recommend this book to anybody who wishes to learn more about writing batch files in particular and DOS in general. Another excellent source of information on batch files is a series of articles called (coincidentally) BAT-HINTS written by David Creasey of Calgary and distributed as part of the BATPOWER library by the PAINFRAME BBS in Baltimore, Maryland.

I have uploaded BAT-HINTS to The PUB as BATHINT.ZIP (they should be in Area 9). If you don't have a modem and wish a copy I'm sure that it can be made available somehow, and the price is right. Due to an excessively tight personal schedule, this month's article will be taken primarily from these BAT-HINTS.

IMPROVING OUR INTERACTIVE FILES

REPLY.COM gives us the capability to make our batch files interactive as we saw last month. There is a program written by Frank Schweiger called ANSWER.COM that is even more useful. ANSWER.COM, its documentation, and many other programs are available on The PUB as BATPOWER.ZIP in Area 5.

When used in a batch file, ANSWER.COM pauses execution of the batch file, displays an optional message string following the ANSWER command and accepts input from the standard device (i.e. the console) until a carriage return (ASCII 13) is sent. ANSWER.COM then sets an environment variable named ANSWER to the input received between pausing and the carriage return. This allows the user at the console to enter environment variables that can be used or tested at a later time.

For example, assuming that ANSWER.COM is in the current directory or can be found in the directory path, the following batch file waits for input from the console:

SAMPLE.BAT

```
@echo off
cls
answer What is your name?
```

The user might type the letters... John, then press return. The next few lines in the batch file might then be:

```
cls
echo Your name is %answer%
```

The monitor would then display the following statement:

```
Your name is John
```

Simple enough, but now you have this guys name in the ENVIRONMENT. Thus, each and every time you wish to refer to this user you need only call up the environment variable assigned the value "John"; in this case that environment variable is ANSWER. One hitch is that each and every time you run the program ANSWER.COM as shown above in sample.bat, the ANSWER environment variable is reset. To alleviate this problem, you can store the value of answer in another environment variable of your choice using the SET command.

For example, the sample2.bat file shown below accomplishes the same task as sample.bat shown above, but reassigns the value of ANSWER to a new environment variable called NAME:

SAMPLE2.BAT

```
echo off
answer What is your name?
set name=%answer%
cls
echo Your name is %name%
```

The result will be the same. Now there are two environment variables with the same value; both NAME and ANSWER are equal to "John". The value of an environment variable can be cleared from memory with the following command:

```
set variable=
```

where the word variable is the environment variable in question, in our examples "NAME" and "ANSWER". When the value of an environment variable is no longer needed, the command shown above should be used to free up available memory allocated to the environment.

Notice in the examples shown above, that when the value of the environment variable is to be used, the VARIABLENAME (i.e. NAME or ANSWER) must be enclosed with % symbols. This is how DOS distinguishes environment variables from normal text. As a more extensive example, examine the following batch file:

WORDPRO.BAT

```
@echo off
cls
c:
cd\wp
echo Entering WordPerfect...
answer What drive contains your document?
set wpdrive=%answer%
cls
answer What subdirectory?
set wppath=%answer%
cls
answer What is the name of your document?
set document=%answer%
if exist %wpdrive%:\%wppath%\%document% goto doit
cls
echo The directory %wppath% or the document
echo %document% does not exist!
echo.
echo Please try again!
goto end
:doit
wp %wpdrive%:\%wppath%\%document%
set wpdrive=
set wppath=
set document=
set answer=
:end
cd\
```

WORDPRO.BAT prompts the user for the name of the drive, subdirectory, and document to be edited by WordPerfect and sets each of the values of the WPDRIVE, WPPATH and DOCUMENT Environment variables to the value set to ANSWER, respectively. It then checks for the existence of this document, and if it exists, it passes these Environment VARIABLES as parameters to the command line containing the WordPerfect command. If the document does not exist, WORDPRO.BAT informs the user and kicks him out to the end of the batch file. When WordPerfect is

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exited, WORDPRO.BAT clears the values of the Environment VARIABLES and changes the directory back to the root directory.

Another example is the batch file that I use to compile TELIX.SLT files. I keep my *.slt files in c:\telix\slt and my *.slc files in c:\telix\slc. When I compile the .SLT files I do not always remember the syntax to use, so I wrote the following batch file:

COMPILE.BAT

```
@echo off
cls
c:
echo ^[[24;0H^[[7m  COMPILE.BAT  ^[[m^[[3;0H
set answer=
if not "%1"=="" goto PARAMS
:GET_NAME
answer Enter filename without extension (.slt will be added)
if "%answer%"=="" goto GET_NAME
:PARAM_RTN
echo.
echo.
echo compiling c:\telix\slt\^[[1m%answer%.slt^[[m
cd\telix\slt
cs %answer%.slt > nul
if errorlevel 1 goto ERROR
copy %answer%.slc c:\telix\slc > nul
del %answer%.slc
if exist %answer%.~?? del %answer%.~??
echo.
echo ^[[1m%answer%.slc^[[m was successfully created and
  moved to c:\telix\slc
echo.
cd\batch
set answer=
quit
:PARAMS
set answer=%1
goto PARAM_RTN
:ERROR
echo.
echo ^[[1mCompile procedure aborted^[[m
cs %answer%.slt
set answer=
echo.
echo.
cd\batch
```

Although not shown here due to lack of space, line 4 contains a total of 80 spaces or characters between the ^[[7m and the ^[[m. This places a reverse video line on the bottom of the screen with the program name, your name or anything else that you want in it.

The program then deletes the variable ANSWER if it exists as a precaution in case we forgot to delete it in a previous program. The existence of a command line parameter is checked and, assuming that there is none, it asks for the name of the .SLT file to be compiled ensuring that you really did enter something.

The lines with "echo." insert blank lines on the screen to keep the text separated and easy to read. The program next compiles the specified .SLT file using TELIX's CS.EXE, placing a message on the screen to that effect. If the file was compiled without error (i.e. e if errorlevel=0), the .SLC file is copied to the c:\telix\slc directory and deleted from c:\telix\slt. Note that the output from the copy command is redirected to the NUL file so that it is not visible on the screen.

The del %answer%.~?? deletes the backup file created by Norton Editor (this could just as well be del %answer%.bak or whatever your ASCII editor names its backup files). Since the program is now finished, the directory is changed to \batch, the variable ANSWER is deleted and QUIT (a zero length batch file) is called to end the program.

If a command line parameter was used (ie COMPILE PUB), line 6 sends the execution to the label PARAMS where the variable ANSWER is set to %1 (in this case PUB) and execution is then sent to the label PARAM_RTN where the execution continues as described above. If an error occurs in the compiling process it is detected by the line "if errorlevel 1 goto ERROR" and execution is passed to the label ERROR. The error message is printed on the screen and CS run again, this time without redirecting the output. This is done to print the error message produced by CS to the screen for use in debugging the .SLT program.

SUMMARY

These examples demonstrates most of what I have covered in the BATHINT series to date. They place the cursor where we want it on the screen, control the way the text is viewed (bold in this case because I have a monochrome monitor, but it could just as easily be setting foreground and background colours) and they are interactive so we don't have to memorize the correct syntax for all the programs that we use. With a little imagination you should now be able to write batch files to do almost anything.

Due to my upcoming workload and travel schedule, I will be unable to continue with this series. I hope that the articles that have been published have been beneficial to you. For more information, refer to the two sources identified at the beginning of this article. If any of you have specific questions, I will be pleased to answer them either on The PUB or through the Newsletter.

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--- GREAT OPCUG NEWS ---

The PUB's hard disk has been upgraded. The statistics of the new Micropolis hard disk and Always IN-2000 controller are:

Size: 676 Megabytes Avg Seek Time: 16 Milliseconds
Interface: ScuzzyInterleave: 1:1
Mean Time Between Failure: 50,000 hours
Parts and labour warranty: 2 years

The new disk has 8 1/2 times the capacity and 1.75 times the speed of what we had before. Many thanks to the retailer **Nitro Micro** of Ottawa and **Micropolis** who provided the equipment at a great price.

> Many thanks to retailers **Nitro Micro** of Ottawa, 228-8096 and **Micropolis** who provided the PUB's new disk and controller at a great price.

As previously planned, the OPCUG has also purchased equipment to facilitate production of the newsletter. The equipment is as follows:

- 386sx with 2 meg of memory - from Mooney's Bay Electronics
- VGA graphics card and paper white monitor from Nitro Micro
- Hewlett Packard personal laser printer from Synersys

Thanks to Mooney's Bay Electronics who lent us a hard disk and controller pending the installation of the old hard disk and controller card from the PUB.

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WORDPERFECT 5.0 SOLUTIONS

By Bonnie Carter

WHEN A WP DOCUMENT PRINTS OUT DIFFERENTLY ON DIFFERENT SYSTEMS

Have you ever created a document on one machine, checked it out in View Document <SHFT F7> (6), found it to be satisfactory, copied it onto a diskette and printed it out on a second machine with the desired printer attached, only to find that the resulting hard copy is not at all similar to what you saw in View Document on the first machine? The problem may stem from several sources.

The first thing you should always do when creating a document is select a printer. Before you actually make the selection, using Reveal Codes <ALT F4> or <F11>, ensure that the cursor is situated at the top of the document in front of all other codes and text. Pressing <Home Home Home and the UP arrow key> does not always take you to the very beginning of the file.

When you first begin your document, press <SHFT F7> and (S). You will see a list of printers. Move the arrow keys until the printer you want is highlighted. Choose "(1) Select". Now, select an initial font for the document by editing the selected printer "<SHFT F7> (S) Select; (3) Edit; (6) Initial Font". Choose a font that you will use the most often in the document with the lowest point size (size of font) that you will use. Then update the printer "<SHFT F7> (S) and 7". If you have more than one document on a page (i.e., as I have in the Newsletter), follow these procedures for each document.

Now, go into your document and press <F3> once (Help). Look at the top right-hand side of the screen. You will see a date. This is the release date of your WordPerfect 5.0 package. Use it to check the WP release date of the computer on the second machine.

You must also check out the release date of the printer. To do this, press <SHFT F7>, then "S", then "(6) Help". At the top left-hand corner of the screen, you will see the release date of the printer.

Still with me? Fine! Now, you have finished your document, copied the file onto a diskette and are now sitting in front of the second computer. Before you do anything else, check to see if the same printer, the initial printer font and the document's initial font have all been selected. If they are not, change them in the manner that I described above.

Also, look at the release dates of WordPerfect and the printer. If the release dates are about a year or more apart, you will not get the printout that you wish. In this case, you will have to order later releases to bring the two machines to the same release date.

There is one other "quick-fix" solution that you can try. Go to a blank screen. Type a small x at the very top left-hand corner of the screen. Use the backspace arrow and delete the x. Now retrieve your document into this file and save it.

The rationale behind the x is that there is a printer "prefix" code situated there that you cannot see, and what you are actually doing is "fixing" all of your codes so that WordPerfect ignores the codes of the computer you are using. This method does not work in all cases, but if you are in a bind, give it a try. Do not use it on a continual basis.

To summarize, to get the same hard copy of your document as you saw in View Document, ensure that:

1) the same printer and initial fonts have been selected for both computers;
2) the initial font in your document is the font you use most often with the lowest point that you use;
3) the WordPerfect and printer release dates are as close as possible for both computers.

* * *

TIDBITS

Edited by Chris Taylor

SPEEDY PERIODS

By Brice Wightman

The normal method of deleting all the files in a given directory is to enter the command **DEL *.*** , which involves either a couple of shifted keystrokes or moving your hands off the regular keys to use the asterisk on the numeric keypad.

An easier way is to use the synonym for *.*, which is simply the period, or **DEL .** . [Be careful you don't accidentally enter two periods, (i.e. **DEL ..**), as the double period is the synonym for the parent directory and you would erase all those files instead of the files in the current directory. - CT]

UNHEARD ECHOS

[Contributor unknown, apologies - CT]

Did you ever try to put a blank line in the messages a .BAT file plays back to the user? If you enter only **ECHO** you get a message declaring whether ECHO is on or off.

A handy way to get a blank line is to use the "other space" character, ASCII 255. Type **ECHO**, a regular space (of the common space-bar variety) then ASCII 255 by holding down the Alt key and typing **255**, using the numeric keypad. [Not all editors will allow you to enter Alt-255. - CT]

And if you wish to afflict an enemy with some cruel and unusual punishment, use the ASCII 255 character in a directory name. Your victim may go wild trying to remove the directory. [The same goes for filenames, but note that most DOS shell have no problem handling filenames and directories containing ASCII 255 - CT]

Forward your favourite tidbits to Chris Taylor by mail to the Group's address, by hand at the meetings, or via The PUB.

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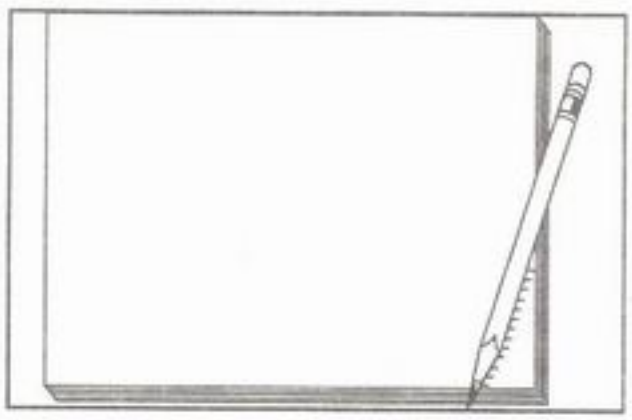
HELP SESSIONS FOR BEGINNERS

By Eric Clyde

Are you aware that immediately prior to the monthly OPCUG Group meetings, there is a special meeting intended for beginners. It is held at 7 p.m., usually in Room 1025 of the NRC Building on Sussex Drive. There is always ample opportunity for participants to ask questions and discuss problems, and there is usually a special topic discussed each month.

The next meeting is on April 25 at 7:00 p.m. Mike Schupan will discuss signing on to the OPCUG Bulletin Board.



ON MEN AND MODEMS

(Continued from Page 3)

have an efficient error-checking protocol. Xmodem's error protocol uses a 128-byte packet with a Cyclical Redundancy Check (CRC). It sends an Acknowledgement (ACK) or Not-Acknowledgement (NAK) to control the flow of information. When an error is detected, Xmodem sends back a NAK. Otherwise its sends a ACK. In noisy line conditions, it is a proven workhorse, but in better line conditions, it is not as efficient as Ymodem-G with its larger packets.

The Hayes V42 error checking protocol is very efficient even with noisy line and does not have the ACK-NAK overhead. It is based on the LAPB and LAPD link-level protocols used in X.25 and ISDN systems. It is what they call a 'windowed packet protocol'. It is reported that the Hayes V42/42bis modem surpasses the speed of V32 modems. But the V32 modem is theoretically a faster modem. One should make sure there is an upgrade path to the V32 standard.

The CCITT V32 standard uses Quadrature Amplitude Modulation (QAM) and Trellis Coding to cancel echo noise. It is more expensive to implement, and the echo cancellation circuitry is very complex. Companies like Rockwell are working hard to make a V32 modem on a few chips. With Lempel-Ziv algorithms integrated into the (PEP) Packet Ensemble Protocol, new modems could reach higher speed as proposed by British Telecom Lempel-Ziv (BTLZ).

When using a V42/42bis, with a similar counterpart on the other end, the modems should be set to 2400 baud and the software at 9600 baud. Otherwise, you may lose some data, because the software will not be able to keep up with the fast flow.

PC__9600b____MODEM____2400b__
___MODEM____9600b__PC

To accommodate inevitable variations in transfer rates, Hayes offers, with its V42/42bis modem, (ASB) Automatic Speed Buffering. It is a 250-byte buffer that lets the modem handle differences in speed between the PC and connecting modems.

A third way is by communicating SYNCHRONOUSLY with the other modem and ASYNCHRONOUSLY with your PC. V42 modems do implement transparently such a protocol. By doing so, they gain another 20% in speed, the total async communication has as overhead.

PC___async___MODEM___sync____
V42
MODEM___async __PC
V42

This particular feature may look attractive to members who deal mainly with already compressed ZIP files.

I hope that I have helped you understand some elements of the communication industry's jargon. When you purchase a modem make sure it will speak the 'lingua franca' of the 90's. If you connect to Mainframes, BBSs, PCs, etc., then the Hayes modem 2400 baud V42/42bis MNP5 is a leader in price/performance ratio. I concur with Byte, PC Week and PC World that it is a "Best Buy" for $649 US List Price.

Next month I will give a hands-on evaluation of the ATI 2400 Modem, a Canadian thoroughbred.

* * *

THE TRUTH ABOUT HAND SCANNERS

By André Lefrançois

Hand scanners are becoming attractive add-ons to many microcomputer users who make use of desktop publishing. Now featuring resolutions as high as 400 dots per inch (DPI), 32 shades of grey and 4" X 15" scanning areas, one might think that one of these peripherals might meet several scanning needs. Unfortunately, box covers and magazine advertisements don't tell the whole story. Once having installed your scanner, you quickly run into unforseen obstacles.

Pictures scanned at 400 DPI with 32 shades of grey require lots of RAM to store. Due to this reality, do not expect to be able to scan 4" X 15" with that type of quality unless you have oodles of RAM. You may be able to achieve 4" X 15" at 100 DPI, but you bought a quality hand scanner and you should expect quality output.

Most laser printers print at 300 DPI, a resolution which should be matched by your scanner. This resolution will also allow you to scan a larger surface. Your scanning area should be large enough to scan a 3" X 3" photograph with 32 levels of grey. Once scanned, your picture can be edited and saved in the supported graphic file format.

So now you've been able to scan your picture within the operating parameters of your scanning software and it's simply a matter of importing the picture into your favourite Desktop Publishing Program (DTP). This is where limitation #2 comes into play. If you thought your scanning software had a hard time allocating RAM for your graphic, wait until your DTP package gets a kick at the cat. One or two small pictures might make it, but a large single picture (at 300 DPI) might run into trouble at the translation stage. If you plan to import large graphics into your documents, make sure you have RAM to spare and a DTP package which supports memory models larger than 640K.

Where the Hand Scanner Shines!

Let's discuss what you can use your hand scanner for. Some hand scanners allow you to adjust the dither level (which determines the number of shades of grey which are scanned). If you set this level to line art mode (black and white, no shades of grey), you can scan line art illustrations with stunning results.

Line art will not help you if you plan to include a picture of your Employee of the Month, but it will help you if you are trying to represent the physical appearance of an external modem. Your company logo is also a good candidate (as long as it's black & white).

If you look around, line art is everywhere. It can ad pizzazz to your documents and help drive your message home. The only thing to look out for are copyright laws. It is important to get permission to use someone else's art before importing it into a document of your own.

The Bottom Line

If you plan to scan line art, a hand scanner will do the job just fine as long as it fits within the scanning window of your scanner. After some minor editing, your scanned clipart should look as good as the original.

If you plan to scan photographs, enquire about scanner specifications (DPI and Grey Levels) and what amount of memory you will require to scan at a reasonable quality. Ask your dealer for a demonstration. Do not forget to check your Desktop Publishing package to make sure it has the memory required to import your scanned photographs. If you are into serious desktop publishing, a high-end scanner with a special grey scale controller board may be your ticket.

* * *

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Membership Period: Present until March 31, 1990: _____ April 1, 1990 to March 30, 1991: _____

Disk of the Month: YES _____ NO _____ Size: 5 1/4" _____ 3 1/2" _____ Amount Enclosed $ _____

Are you: A new member? _____ Renewing your membership? _____

How did you find out about the group? _____

What in particular interests you in the Group? _____

Can you help in Group activities? Check off the activities that apply: Programming Language Instruction _____ - _____

Newsletter Input _____ Memberships _____ Software Library _____ Promotion/Publicity _____

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Bulletin Board _____ Other _____

What hardware/software do you own and/or use? _____

Comments and suggestions: _____