PolyLetter

The System-88 Users Newsletter

Editorial

I have just discovered the greatest thing since the Poly Operating System. In fact, I have discovered the two greatest things since the Poly Operating System. These two things combined make the PC almost as easy to work with as the Poly. One is the operating system add-on called 4DOS. The other is an intelligent print spooler program called DMP. Look later in this issue for discussions and descriptions of both.

Now that I have a 386DX-40, I have decided to upgrade to PM 2.0. I'll let you know what I think when I get to compare it to 1.13. Keep them cards and letters coming, folks.

Letters

Dear *PolyLetter*,

I have a number of Poly 8813's (and 8810's). I'm winding down on the Poly since my 486-50 runs all the software so much faster using Bybee's Emulator. If any of your readers need parts, please put them in contact with me. I have mostly single density controllers, plenty of video boards, and a variety of memory boards. Regards, -- Chuck Thompson.

[Chuck can be reached by mail at 209 Rosedale Avenue, Dallas, TX 75205-1532, or by phone at 214-368-8223. -- Ed.]

4DOS SUMMARY OF POWERFUL & USEFUL COMMANDS

by Chuck Scharmann

For those of you who saw or are using the power of (M)icro(S)oft (D)isk (O)perating (S)ystem (MSDOS) 5.0 you have discovered the power it offers over the old versions. Well, hang onto your pants and sit down. Now there is a powerful add on to MSDOS 5.0. It's called 4DOS. 4DOS is a simplified way of saying (For your present DOS).

First, to set the record straight, 4DOS is NOT a DOS. It is an overlay that works with your present DOS. It retains all of your original DOS commands as they were. 4DOS overlays itself on top of DOS and gives you many added features. After installing 4DOS and typing VER you would see:

4DOS 4.1 MSDOS x.x
(where x.x is the version you're using).

Installation is very simple. Just copy the 4DOS files into a directory of your choice. Then copy the 4DOS.COM to your boot drives root dir. Put the help files in your DOS dir & set your Shell to 4DOS by editing the Config.sys and typing SHELL=4DOS.COM /p. The /p tells your system that it will be your primary Shell.

Here are a few of the enhancements and commands I discovered within 4dos that I found very beneficial & useful.

ALIAS With the alias command you can create useful macros to do the work of your fingers. By setting up these macros you eliminate all unnecessary typing.

EXAMPLE: To enter let's say, PFS Write you would have to do the following at your prompt:

```
C:\> cdd drive\path
D:\> pw
```

After you exit PW you're at the prompt D:\> or whatever drive\path the program was in. You then have to execute C: to return to your main drive. Using the Alias function that you program as follows would avoid the above typing.

We will use Alt-F1 for the exercise.

```
Alias @Alt-F1='echo off^cdd drive\path^pw^cdd c:^Xr'
```

where ^X is the up arrow. The ^Xr issues a Carriage Return <CR>

Now every time you want to use PFS Write all you have to do is hold the Alt key and press F1.

KEYTACKS Let's take this one step further. Suppose you had a document you want to continually add to. When you get to the PW main menu you would press "1" to create/retrieve a document. Then you would press "F2" to get to the menu that would allow you to get a file. After selecting "1" to (Get), you would have to type in the drive\filename.ext. Then press return to load it in.

This is time consuming & unnecessary. With 4DOS using Alias & Keystack you could eliminate all the steps in the above to just 1 keystroke. Do the following:

First: You would create a file called ALIASES with your editor. Put the command 'alias >! \aliases' on the first line & save it. Then put the Kstack.com file that comes with 4DOS in your Autoexec.bat file & reboot

Second: you would: Using the (A)merican (S)tandards (C)ode for (I)nformation (I)nterchange (ASCII) code tables record your keystrokes used in the PW program by the ASCII (in Decimal) value. Once this is done you can put all the keystrokes into a macro as follows:

Alias @Alt-F1='keystack 049 049 060 "D:\Filename.exe" 013^echo off^cdd drive\path^pw^cdd c:^Xr'

^X being the up arrow, & 049 060 013 being ascii decimal values of that key. 049=1 060=F2 & 013=Enter or <CR>. Note: the filename.exe must be in quotes.

After entering the above line you would press <CR>. Type: alias >! \aliases - this would save the above line into the file called aliases you created earlier. You could program a keystroke that would save it automatically using the F10 as I have or any key you want to program allowing you to save the macro you just created.

Example: The command syntax would be:

```
Alias @F10=' *alias >! \aliases'
```

Third: Edit your autoexec.bat file and place the command CALL ALIASES at the end of your commands. Reboot and now your ready to see if your macro works. This is accomplished by holding down the ALT key & pressing F1.

Here is a sample of my aliases file:

```
po=popdrop v
@F10=*alias >! \aliases
a*lias=*alias %&
cd=*cd\^*cd %&
cdd=*cd\^*cdd %&
fd=keystack 0 13^fdformat a: T82 S18
@Alt-F2=mouse^compress^cdd c:
@Alt-F3=mouse^cpbackup^cdd c:
@Alt-Q=cls^dir/2/p
@Alt-P=park
@Alt-R=reboot
@Alt-C=echo off^cdd e:\catdisk^catdisk^cdd c:
@Alt-Z=echo off^cdd e:\zipmstr^zm^cdd c:
@Alt-S=echo off^stac^cdd c:
@Alt-D=echo off^cdd e:\catdisk^diskfill^cdd c:
@Alt-T=echo off^cdd e:\telix^set tagkey=0831^
     tagger telix^cdd c:
@Alt- M=echo off^cdd e:\qmenu^qm3^cdd c:
@Alt-U=echo off^mouse^pctools^cdd c:
@Alt-A=echo off^cdd e:\pw^pw^cdd c:
@Alt-F=echo off^cdd e:\pfile^pf^cdd c:
@Alt-N=echo off^mouse^norton^cdd c:
@alt-E=echo off^cdd e:\ccplus5^ccplus^cdd c:
@Alt-X=echo off^cdd e:\form^form^cdd c:
@Alt-L=echo off^cdd e:\label^labels^cdd c:
@Alt-B=echo off^cdd d:\qa4^q&a^cdd c:
@Alt-W=echo off^popdrop | 1^win :^popdrop
     down^cdd c:
@Alt-V=keystack 013 013 013 "vcrlog1" 013^echo
     off^cdd e:fe5^fe^cdd c:
@Alt-F4=echo off^catp.bat
```

The catp.bat is a file with special coding needed in Catdisk 6.0 to enable internal keystrokes:

```
keystack 7181 818 7181 18432 7181 1075 1075
7181 2103 283 2864 1846 561
echo off
cdd e:\catdisk
catdisk
cdd c:
```

This special coding may or may/not be needed depending on the program. It may requires both the ASCII code & the key's scan code.

COLOR DIR'S & FILES

With the colordir and stdcolors command you can set your file extensions to colors for easy viewing.

HISTORY OF COMMANDS & RETRIEVAL 4DOS also has a history command that saves (in memory) on start-up 1024 characters. The size can be changed in the 4DOS.ini file with the syntax History= (see below). This allows more characters to be saved.

To see your History list press PgUp or PgDn. To retrieve your history list type History. Here is an example of my 4DOS.ini file to set variables within 4DOS.

```
environment = 600
alias = 2048
NormalEditKey=F10
History = 2048

colordir=com:bright cyan;
     dirs:bright red;
     exe:green;
     bat:red;
     txt:magenta;
     ovl:bright cyan;
     pnm:bright yellow;
     pog:yellow;
     sys:bright green;
     ini:bright yellow;
     hlp:bright red;
     zip:bright yellow;
     nam:bright yellow;
     dat:bright blue;
     doc:bright magenta
stdcolors= bright white on Black
HistWinHeight=8
HistWinLeft=20
HistWinTop=30
HistWinWidth=80
noclobber=yes
```

DESCRIBE This command allows you to put a file description at the end of your file to let you know about the file. When you do a DIR you would see something like:

```
IRS.txt      5007    1-20-93   11:35  letter to IRS re: taxes
```

ONLINE HELP

Another feature is the online help. No more fumbling for manuals or trying to find a description of a command syntax. Just press F1 and all the help you possibly could need is at your finger tips. This by far is the greatest addition to 4DOS

This is a small example of the power behind 4DOS There are many more that would take a book to describe. 4DOS is a shareware program and can be found on most local BBS'S. It usually is a FREE download so you don't use up your time.

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DMP - An intelligent Spooler

DMP is a general purpose printer controller including very versatile spooling capability. It works on IBM PC/XT/AT and PS/2 computers and most compatibles, running under PC-DOS or MS-DOS versions 2.0 thru 4.01.

Some of DMP's major features are:
-Print to disk file option
-Support for serial port printers
-Spooling to any Dos-recognized disk
-Spooling to all common types of memory, including expanded and extended, plus XMS spec extended.
-Selectable internal buffer size / system memory usage
-The ability to drive a wide range of printers at full speed.

DMP is a true spooler in that it saves the printer output to non-system memory or to disk as needed instead of removing a large buffer from system memory. The choice of where to spool is yours.

DMP is a memory resident program which uses approximately 16K bytes of system memory. The program is not compatible with the DOS 'PRINT' utility, or with any other print spoolers or buffers for the primary printer. If you use DMP for a serial port printer, you must not use the DOS "MODE" command to redirect output -- DMP does it instead.

DMP has been used with MS-DOS and PC-DOS versions 2.0 thru 4.01, with Microsoft Windows 286 version 2.11, with Desqview version 2.26 and with numerous 'TSR' programs with no compatibility problems.

The program disk also includes the utility "PF" for printing files from a disk without using the DOS 'COPY' command. PF is described in detail below. The syntax for PF is: "PF filespec, filespec,..." The filespecs use the DOS file and directory conventions, and may include

wildcards, ? and *.

There are two important things you will want to tell DMP about your system. First is where to find your printer. Second is where to spool the data for the printer.

You specify the connection to the printer with the "/LPT" command for a parallel printer, with an optional port number after the LPT, or the "/COM" command for a serial printer - the port number is needed here. For a serial printer, you should also specify the bit rate and "handshake" signal, as shown in the examples below. You can also specify the data, parity, and stop bits parameters for a serial printer, if the default values are not correct for your printer.

You tell DMP where to spool the data with one or more "/MX" commands for memory spooling or a "/Dx:" command for disk spooling.
The "/MX" commands are:

- "/MX:nn" to set the internal buffer size to 'nn' Kbytes,
- "/MXP" for expanded (LIM) memory,
- "/MXT" for extended memory as found on IBM ATs and many other 80286 or later computers,
- "/MXT xxx yyy" also for extended memory, to specify the maximum amount (xxx) and starting place (yyy) in the extended memory,
- "/MXAll" for both expanded and extended memory, and
- "/MXAll xxx yyy" to use both expanded and extended and also specify the maximum and start for extended memory as in "/MXT".

The disk command, as mentioned above, is "/Dx:". You need the colon, and replace the "x" with the DOS drive letter you want to use.

Startup Example 1: Printer on BIOS default parallel port, spool to ramdisk D:

```
DMP /DD:
```

Startup Example 2: Printer on parallel port 1, spool to extended memory above a VDisk at 1.5MB and to the VDisk itself as drive D:

```
DMP /LPT1 /DD: /MXT 0 512
```

Startup Example 3: Printer on serial port COM1 at 1200bps, using DSR handshake. Spool to expanded memory and hard disk C:

```
DMP /COM1 R1200 WDSR /MXP /DC:
```

Like all the options, these basic ones have defaults. The printer default is the Bios parallel port. The spooling default is to use the internal 6K byte buffer only. If you install DMP with no commands, it will try to drive your printer this way. (It will display a warning for no spool buffers, but still work.) If you specify a serial port with "/COMn" with no other options, the default is 2400bps, CTS handshake, 8 data, no parity, one stop bit.

REMOVING DMP FROM MEMORY

The command to remove DMP from memory is DMP /UN. When the "/UN" command is entered, any other commands on the command line are ignored. If the program is not installed it will display an error message and will not install. If more than 500 bytes are spooled for printing when you issue this command the program will ask for confirmation before flushing all spool buffers. If another resident program would prevent release of DMP from memory, DMP will display an error message and remain installed.

The effects of this command are to replace the interrupt vectors DMP uses with their previous values, erase any data spooled for printing, and free the memory DMP was using back to the pool of DOS memory.

FREQUENTLY USED COMMANDS - EXAMPLES

These examples are shown with very little explanation. They show some of the capabilities of DMP, and should give you some ideas for which features you want to try out. Detailed descriptions for all the commands are in the sections following.

Example 1: Parallel printer, text only, spool to hard disk C:, simulate form feeds with line feeds, expand tabs, skip perforation.

Load spooler:

```
DMP /DC:/F-/T+/V65
```

Allow graphics printing temporary, i.e. don't convert tab and form-feed characters:

```
DMP /G+
```

Re-enable character conversion features:

```
DMP /G-
```

Example 2: DMP is already installed for a parallel printer.

Kill spooler output and empty buffers (e.g. paper jam):

```
DMP /SK
```

Print files ABC.TXT and all files with extension .DOC in directory \docs on disk drive C:

```
PF C:\DOCS\ABC.TXT C:\DOCS\*.DOC
```

Send printer output to file PRINTOUT.TXT in the current directory:

```
DMP /PFPRINTOUT.TXT
```

Send output back to parallel printer:

```
DMP /LPT
```

Suspend spooler output:

```
DMP /S-
```

(Data continues spooling, printer stops.)

Restart spooler output:

```
DMP /S+
```

Example 3: Parallel printer connected as LPT1:, text only, spool to ramdisk D:, send sequence 'Esc&k0S' to reset printer on startup. (You've checked the printer manual!) Prevent character ^U from being sent to printer.

Load spooler:

```
DMP /DD: /LPT1 /C27,"&k0S"/X15-
```

Example 4: Serial printer connected to COM1, text only, 1200bps, 7 data, even parity, one stop bit, printer busy signal connected to DSR line, spool to hard disk C:.

Load spooler:

```
DMP /DC: /COM1 R1200 7E1 WDSR
```

Printer output to disk file DATA.123 on drive A:, append output to existing file:

```
DMP /AFA:\DATA.123
```

Change output to parallel printer and spool to ramdisk. (No data spooled for printing.):

```
DMP /DD:/LPT
```

Switch back to serial printer, leave spooling set to ramdisk:

```
DMP /COM1
```

You will probably need to read more details about these commands in some cases, especially if you have a serial port printer with parameters other than those shown, if you have an 80286 (or later) CPU and you want to use combinations of different types of memory, or if you want to enter some complex character conversions.

FILE PRINT UTILITY - PF

The utility program PF.COM is intended for printing disk files directly, from the DOS prompt. It is used by entering PF followed by the names of the files to be printed. PF accepts full DOS path specifications as well as the DOS wildcard specifiers * and ? for printing groups of files.

PF accepts one parameter in addition to the file specifications: "/F-" or "/F+" to turn off or on automatic form-feeds. The default is to send a form-feed to the printer after each file printed. Entering "/F-" turns this feature off for file specs on the command line after the command. "/F+" turns it back on. The examples below should make the use of this command clear.

PF is useful for printing files output by word processors, compilers, data base programs, etc. that are in "ready to print" form, plus the "documentation on disk" many programs include.

The PF program can also be used for later printing of files generated by the "Print-to-disk" option. PF does no conversion itself, and may be used with or without DMP installed. It's intent, however, is to spool data for printing with DMP, then allow the computer to be used for other purposes while the printing takes place. Please do not confuse this separate utility with the DMP command "DMP /PF" for directing printer output to a disk file.

Some examples for PF:

```
PF ABC.TXT /F- DEF.TXT /F+ GHI.TXT
```

File ABC.TXT is printed, the page is elected, files DEF.TXT and GHI.TXT are printed with no form-feed between, and a form-feed follows GHI.TXT.

```
PF *.TXT /F- *.DOC
```

Files in the current directory with extension ".TXT" are printed with a form-feed between each file. Files with extension ".DOC" are printed without form feeds.

USER SUPPORTED SOFTWARE This program is copyrighted material for personal use on one

computer. If you would like to continue to use DMP after a reasonable evaluation period, send a check for $29 for registration to:

DMP Software
204 East Second Ave., Suite 610
San Mateo, CA 94401

CONTENTS OF THE DMP.ARC FILE

The DMP program incudes these files:

1.) DMP.COM; The main program.
2.) DMP.DOC; This documentation.
3.) PF.COM; 'Print Files' utility, described below.
4.) XMBLOCK.COM; Utility program to allow use of DMP with an XMM driver and an extended memory ramdisk.
5.) DMPNEW.DOC; Updates and fixes since this manual was typeset.

The distribution disk also includes the XMS driver HIMEM.SYS, Copyright Microsoft Corp., and the documentation HIMEM.TXT.

Using 4DOS to improve DOS

Let me tell you about the 4DOS operating system and how I use it to make DOS more like the Poly. 4DOS is actually a command interpreter that replaces COMAND.COM, but which uses much of the current dos external commands. Anyone remember CP/M? 4DOS is as much better than COMMAND.COM as System-88 is than CP/M. But what's so great about it?. The very first think I noticed was that it reports files being deleted just like the Poly does. I've always been most unhappy with DOS's "silent mode" when deleting files. You tell DOS to delete a file and it just returns to the dos prompt. But when you tell 4DOS to delete a file it says "Deleting <filename>". Ah... I'm home again!

The next thing I noticed was that I could set commands to execute when only part of the command name is typed. 4DOS has what it calls "aliases". (Norton's NDOS also does.) But 4DOS allows naming an alias in such as way that it will be recognized by fewer characters than the whole name. In the Poly the TYPE command will be recognized by any of the following "TYPE", "TYP", "TY", or "T". We can teach 4DOS to do this by defining an alias to TYPE.

```
ALIAS T*YPE = *TYPE %&
```

The ALIAS command allows giving commands, and sequences of commands, a different name, or an "alias". In the above definition, the first asterisk tells 4DOS that the remaining characters are optional. This allows 4DOS to recognize the TYPE alias in the same way that Poly's Exec recognizes Poly commands, by as few characters as necessary to distinguish it. The second asterisk tells 4dos to use the original type command. Otherwise an alias loop would be created.

I had used MSDOS DOSKEY to write DOSKEY macros to simulate certain Poly commands, but DOSKEY macros cannot be executed by other DOSKEY macros or by batch files. Guess what folks? 4DOS aliases work in other aliases and in batch files! This makes 4DOS aliases true additions to the system of commands.

Here are examples of some 4DOS Aliases that simulate Poly commands.

To simulate the Poly PAGE command, which can be shortened to PAG, define an alias for PAGE.

```
PAG*E=ECHOS ↑f >PRN
```

The asterisk (*) in the alias name tells 4dos to allow truncating the command to the first letters up to the asterisk, but also allows typing in the full command name. The Poly PAGE command send a form feed to the printer without any extra characters. We do this in 4DOS by redirecting the output of the ECHOS command to the PRN device, usually the printer. 4DOS extends the ECHO command by adding an ECHOS command. The difference is that the ECHOS command does not include a carriage return. Here's a comparison with Poly BASIC.

4dos echo	Poly BASIC PRINT
ECHO TEXT	PRINT "TEXT"
ECHOS TEXT	PRINT "TEXT",
ECHO TEXT > PRN	PRINT:2,"TEXT"
ECHOS TEXT > PRN	PRINT:2,"TEXT",

This is the "simple" implementation which does not capture Poly's undocumented TITLE feature. If you type "PAGE This is a title", and RETURN, on the Poly, the paper will be advanced to the top of the page and "This is a title" will be printed on the top of the page. To implement that fully we need to take advantage of another comand 4DOS offers that DOS does not. This is the IFF THEN ELSEIFF ELSE ENDIFF structure for batch file programming.

DOS has nothing like it.

In DOS batch files the characters %1, %2, etc, indicate the parameters passed to the batch file on the command line. 4DOS works similarly. To implement Poly's PAGE command fully we need to be able to distinguish whether a title has been provided. We must then choose the appropriate echo or echos command.

If no title was provided then we simply output a bare form feed, but if a title was provided then we output the form feed and the title and a carriage return.

If no title was provided then parameter number 1 will be nothing at all. We can test for this by seeing if it added to x is still just x.

```
IF
     X%1==X    (adding %1 to "X" just
               leaves it "X")
THEN
     we have no title and do an ECHOS of
     a form feed
ELSE
     we must have had a title, so ECHO
     it, and a form feed.
ENDIFF
```

Here's the fully implemented alias for PAGE.

```
ALIAS PAG*E=
'IFF X%1==X THEN^ECHOS ↑r >PRN^ELSE ECHO ↑r %& >PRN^ENDIFF'
```

A word about "↑".

4DOS uses the Ctrl-X character to "escape" command line expansion. It means to take the next character literally (except for certain special cases). But this character can also be changed by the operator in customizing 4DOS. 4DOS uses Ctrl-Home as its default character to delete to the beginning of the line (Poly's Ctrl-X), and Ctrl-L as its default character to delete the word to the left of the cursor. Both characters can be changed by setting values in the 4DOS.INI file. I wanted to use Ctrl-X for delete to beginning of line -- just like the Poly -- but Since Ctrl-X is used as the escape character, I must find some other character to use to replace it so I can restore Poly's Ctrl-X functioning. Since I use WordPerfect products a lot, and those products use Ctrl-V for their escape character, I decided to use Ctrl-V in place of the normal 4DOS Ctrl-X function. These changes are made in the 4DOS.INI file by the following directives.

```
DelToBeginning = Ctrl-X
DelWordLeft = Ctrl-W
EscapeChar = Ctrl-V
```

These customizing features makes 4DOS command line editing work like the Poly when you press Ctrl-X or Ctrl-W. In the remainder of this article I will use Ctrl-V (▬) in place of 4DOS'S default Ctrl-X (↑).

Here is an alias to simulate the Poly's DELETE command.

```
DE*LETE=*DEL %&
```

The asterisk in second part of the alias definition tells 4DOS to use the original internal 4DOS DEL command. This prevents getting an alias loop if 4DOS tried to replace DEL with the definition of DEL.

Do it without extensions

I have always hated having to type file extensions in DOS, so I made the TYPE alias allow typing in only the file name. It checks to see if you gave it the name of a file that actually exists -- if so, it types that file. Otherwise, it tries to type all files with the same name by adding the wild card extension ".*". Of course, you get the first one, but you also get the others as an added benefit. The LIST command is an internal 4DOS command that works a little like Bob Bybee's READ.GO substitute for Poly's TYPE command. It allows scrolling forward and backwards until you press ESC or Ctrl-C. ESC exits the current file and displays the next (if there were more than one). Ctrl-C exits back to 4DOS.

```
ALIAS T*YPE=
'IFF EXIST %1 THEN^LIST %1^ELSE^LIST %1.*^ENDIFF'
```

This allows 4DOS to recognize TYPE in the same way the Poly recognizes it now.

Implementing the Poly LIST command is quite easy. We do a DIR and tell it to exclude Hidden and System files, and to page the display.

```
ALIAS L*IST=DIR %&/A-H-S /P
```

Two Poly external commands used in conjunction with BACKUP can be easily implemented using the ATTRIB command.

```
ALIAS CLEARNEW=ATTRIB -A %&

ALIAS SETNEW=ATTRIB +A %&
```

Executable Extensions

One of Poly's features that is still not implemented in DOS systems is the ability to type in the name of a BASIC program and have Exec start BASIC and run the program. You may recall that my Little-Ada Exec recognizes LO and AD as extensions to run the interpreter or the Compiler for Little-Ada programs. 4DOS calls these extensions "executable extensions" and provides a way to automatically execute programs with executable extensions. In Poly's Exec, we had to use Szap to modify the extension table in Exec.OV. In 4DOS that extension table is implemented as environment variables. For example, to make .BAS programs execute simply by typing in their name, we add the instructions to the environment form thus:

```
SET .BAS=C:\BS\GWBASIC.EXE
```

If BASIC is in your path, this can be shortened to just the program name. I have also found out that the extension is not needed, and executable extensions will work even with aliases.

```
SET .BAS=GWBASIC
```

I have added a number of new executable extensions. For PlanPerfect spread sheets the extension is PLN. The program name is PL.EXE, so I have an executable extension that brings up any spread sheet into PlanPerfect.

```
SET .PLN=PL
```

In a like manner, I have setup WordPerfect Office NoteBook (NB.EXE) to automatically execute when the name of a notebook file is typed.

```
SET .NB=NB
```

Here are some more "executable extensions" I have defined.

```
.FIF=FRACVIEW       Fractal Information File viewer
.GIF=VGIF           Graphics Interchange File viewer
.PCX=SHOWPIC        PCX file viewer
.PIC=SHOWPIC        PIC file viewer
.BAS=B              Start GWBASIC with an alias
.ZIP=FV             Archive viewer
.PCO=c:\pco\vpco    PC Outline files
```

I have saved talking about implementing the Poly PRINT and Printer commands till now because I have made a fairly complex batch file using a fantastic print spooler program. The alias is deceptively simple.

```
alias PR*INT=\bat\pr %&
```

But wait till you take a look at the pr.btm file. (BTM?) 4DOS allows using a different extension for batch files. Both .BAT and .BTM are legal. It's a good idea to name batch files that include exclusive 4DOS features with the .BTM extension to distinguish them from ones which will run under DOS by itself. The 4DOS batch processing language is a fairly full featured programming language. It includes a couple of types of input statements, many variables with system information, and several functions for manipulating strings.

I have already discussed the IFF statement. 4DOS also has the ability to create a temporary or "local" environment workspace which will be removed after the batch file has completed executing. This is accomplished with the SETLOCAL and ENDLOCAL commands. Another feature of 4DOS is that multiple commands may be placed on one line separated by the carrot. This works at the 4dos prompt as well as in batch files.

Ok, let me tell you about PR.BTM. I designed this batch file to look a little like Poly's Printer command as well as like the Poly's PRINT command. With the Printer command you can include a printer definition. But if you don't Poly will show you the defined printers and legal commands (SHOW, SET, <printer name>). I also like to use Printer File <file name> on the Poly, so included that with PR.BTM file. The DMP program has a number of options, including clearing the buffer (/SK), un-installing itself (/UN), showing the status of the buffer (no parameters). DMP comes with a program PF.COM that sends a file to the DMP program. It replaces use of the COPY command or the PRINT command.

Ok, here's the philosophy of the PR.BTM file. First it looks to see if it was given any parameters, and if the parameters are legal, it goes ahead and does the appropriate thing. This includes installing DMP (I), clearing the buffer (C), uninstalling DMP (U), or printing a file. If PR.BTM was given no parameters, then

it operates in menu mode and shows the choices. It then gets input from the operator to select the correct choice. In menu mode it allows a "do nothing" option if the operator presses enter or escape. But if it is given an invalid parameter, it displays the correct choices by displaying the menu. Here's PR.BTM.

```
SETLOCAL
   IFF "%1"==="" THEN
      GOSUB MENU
      INKEY %%1
 ENDIFF
    IFF "%1"=="@28" .OR. "%1"=="■" THEN
ELSEIFF "%@UPPER[%1]"=="I" THEN^ECHO.^@*DMP /COM2 R9600 702 WDSR
      /MX:4 /MXP /DF: /G+
ELSEIFF "%@UPPER[%1]"=="C" THEN^ECHO.^*DMP/SK
ELSEIFF "%@UPPER[%1]"=="S" THEN^ECHO.^*DMP
ELSEIFF "%@UPPER[%1]"=="U" THEN^ECHO.^*DMP/UN
ELSEIFF EXIST %1 THEN ECHO.^PF %1
ELSE
      IF "%2"="2" THEN ECHO.
ECHO Invalid parameter "%1"
ECHO USAGE: "PR [!|C|S|U|■file■]"
      IFF NOT "%2"=="2" THEN GOSUB MENU
SCRPUT %ROW %COL red on BLA ■file■ - file to be printed.
SCREEN %@EVAL[%ROW+1] 0
      ENDIFF
 ENDIFF
ENDLOCAL
QUIT
:MENU
SET 2=2
ECHO.^ECHO.^ECHO.^ECHO.^ECHO.^ECHO.
SET LRR=%_ROW
SET ULR=%@EVAL[%LRR-6]
SET ULC=%@EVAL[%_COLUMN+7]
SET LRC=%@EVAL[%ULC+%@LEN[S - Status of spooler buffer.]+3]
SET COL=%@EVAL[%ULC+2]
SET ROW=%@EVAL[%LRR-6]
DRAWBOX %ULR %ULC %LRR %LRC 1 RED ON BLACK FILL BLACK
SET ROW=%@EVAL[%ROW+1]
SCRPUT %ROW %COL red on BLA I - Install print spooler.
SCRPUT %ROW %COL bright red on BLA I
SET ROW=%@EVAL[%ROW+1]
SCRPUT %ROW %COL red on BLA C - Clear spooler buffer.
SCRPUT %ROW %COL bright red on BLA C
SET ROW=%@EVAL[%ROW+1]
SCRPUT %ROW %COL red on BLA S - Status of spooler buffer.
SCRPUT %ROW %COL bright red on BLA S
SET ROW=%@EVAL[%ROW+1]
SCRPUT %ROW %COL red on BLA U - Uninstall print spooler.
SCRPUT %ROW %COL bright red on BLA U
SET ROW=%@EVAL[%ROW+1]
SCRPUT %ROW %COL red on BLA ? - Choice?
SCREEN %ROW %COL
RETURN
```

4DOS is distributed as a shareware package and is available on most bulletin board systems.

Announcements

Linksys, 16911A Milikan Avenue, Irvine, CA 92714, announced a credit card sized Ethernet-Card LAN adapter and a "plug and play" Parallel to SCSI converter. For more information call 714-261-1288

The Trenton Computer Festival (TCF'93) will be held on April 17-18 at the Mercer County Community College located at the intersection of NJ 535 and Hughes Drive, (East of US 1 off NJ 533). This is the largest and longest running Computer show and flea market on the east coast. There are over 125 free workshops, acres of flea market (1000 outdoor slots) and commercial vendors (several indoor buildings including industry giants). Call 609-655-4999/4899.

Advertising

Commercial advertising rates are $50 for a full page, $25 for a half page, and $15 for a quarter page. Anything smaller is $3.00 per column inch. A column is 3-3/4 inches wide by 10 inches tall. A full page is 7-5/8 inches wide. Non-commercial adds by subscribers are free.

Wanted to buy -- any and all Poly computers. 88, 8810, 8813, twin, 8824; documentation, software, keyboards, spare parts, etc. -- Call Charles Steinhauser - Phone: (404) 739-5081 after 7 pm. EST.

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   Williamstown, MA 01267, Phone: (413) 458-3597

(Send $1.00 for a complete catalog--[free with any order].)

(Make check or money order payable to Ralph Kenyon.)

Bit Bucket

Teresa Kazachkov reminds us that Poly's are virus free. If you suffer a virus attack on your PC, you can always go back to the Poly for critical work.

Pass the Word

On February 2, 1993, ABC News reported that a doctor named Marshal from Australia has discovered that about 80% of ulcers are caused by the bacteria H Plori and that people suffering from this kind of ulcer can be literally cured by about a 2-week treatment with antibiotics and bismuth. About 1 out of 4 people carry the bacteria, and about 1 out of 10 suffers from ulcers at some time. Because the research goes so startlingly against the long held tradition, it hasn't gained wide acceptance. If you have ulcers, tell your doctor about this research; maybe you will be among the lucky 80% that can be cured. If you don't have ulcers, pass the word along.

In This Issue

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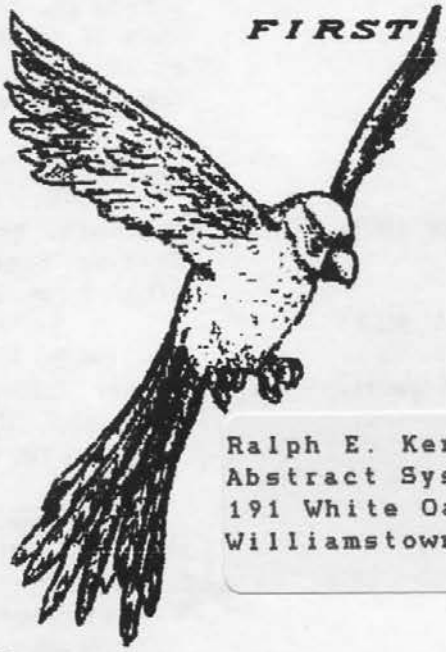

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Back volumes of *PolyLetter* (1980 through 1991) are available at reduced prices payable in US dollars to Ralph Kenyon. 1 Vol. - $15, 2 - $28, 3 - $40, 4 - $50, 5 - $59, 6 - $67, 7 - $75; Canada add $3 shipping, Overseas add $10. Individual back issues are also available (US: $3.50, Canada: $4.00, Overseas: $5.00).

PolyLetter

The System-88 Users Newsletter

Editorial

Now that I have a 386DX-40, I have upgraded to PM 2.0. It won't autostart as advertised. I get a "Bad Command." message when it starts. But I press "r" and it seems to run ok after that. I contacted Bob Bybee about this. You can read his reply below. It turns out that pressing "r" is not a good idea.

Please excuse the lateness of this issue. I have been involved writing my dissertation in Philosophy. I just finished the first complete draft and submitted to my committee chair for review. It feels good to get to that point. For the rest of the summer I will be working on fixing up changes he wants me to make before sending it on to the rest of the committee members. With any luck I'll have my Ph.D. while I'm still 50!

Keep them cards and letters coming, folks.

Letters

Dear *PolyLetter*, April 1993

I have one extra Poly 8813 I would like to get rid of. I am still using the other one. -- Gary Sterling, Hedrick, Iowa.

Dear Ralph, May 4, 1993

Thank you for your inquiry about PM/2.0 As I mentioned in my previous letter, there is a problem in the auto-run feature. Some systems will run PM properly and automatically when you type the PM command. Others will display an error message and will wait for you to type in "r" as usual.

If your system encounters this problem, you can start PM with a batch file containing the line "pm -norun" to prevent the error message. I would strongly recommend that you do this . I have examined the bug and I know that PM is altering several bytes of memory, at some random location, when it displays the error message. This could corrupt the PM program image or part of DOS. So, to be on the safe side, don't use the aut-run feature.

I apologize for this bug, but it is a relatively minor inconvenience to have to type "r" and hit ENTER. There are probably some macro-key programs available under DOS which would "push" those two keys into the keyboard buffer from a batch file. -- Bob Bybee, Poly Peripherals, Stone Mountain, GA.

[See the article *Starting PM20 with -norun* on page 5 below. -- Ed.]

Getting the DOS date into PM

I've used a date program on the Poly for over a decade now. I made it part of the INITIAL file. Now that I run PM20 on my 386, I wanted to be able to use the built in PC clock (calendar) to set the date when I start System-88 running. I did this by adding the following commands to my INITIAL file.

```
DE Date.DT
ZP
PMU
COPY C:\PM\DATE.TXT <1<Date.DT
T
Q
```

First, I deleted the Date.DT file

Second, I packed the disk.

Third, I called up Bob's PMU program.

Next, I copied a dos file from the PC into the Emulator. I told PMU the file was a text file,

and, after that, I quit from PMU. Of course, for this to work, the file DATE.TXT must have the current date set by the PC.

In 4DOS it's fairly easy to do this. One could simply echo the 4DOS variable %_Date to the file.

```
ECHO %_DATE > C:\PM\DATE.TXT
```

The only problem with this is that 4DOS keeps the date in a MM-DD-YY format, and I wanted the date in the Month, DD, YYYY format with the month written out. Ok, let's write a 4DOS batch file to convert the date to the desired format. Here it is:

```
SETLOCAL
SET M=%@SUBSTR[%_DATE,0,2]
SET DY=%@SUBSTR[%_DATE,3,2]
SET YR=%@SUBSTR[%_DATE,6,2]
   IFF %M==01 THEN^SET MO=January
ELSEIFF %M==02 THEN^SET MO=February
ELSEIFF %M==03 THEN^SET MO=March
ELSEIFF %M==04 THEN^SET MO=April
ELSEIFF %M==05 THEN^SET MO=May
ELSEIFF %M==06 THEN^SET MO=June
ELSEIFF %M==07 THEN^SET MO=July
ELSEIFF %M==08 THEN^SET MO=August
ELSEIFF %M==09 THEN^SET MO=September
ELSEIFF %M==10 THEN^SET MO=October
ELSEIFF %M==11 THEN^SET MO=November
ELSEIFF %M==12 THEN^SET MO=December
ENDIFF
ECHO %MO %DY, 19YR >! C:\PM\DATE.TXT
ENDLOCAL
```

I call this batch file PMDATE.BTM, and CALL it from my AUTOEXEC.BAT file. The current date get's written to the file each time I boot the system. Then, every time I start the Poly Emulator, the initial file shown above sets the date for the Poly system. Neat huh?

4DOS SETLOCAL COMMAND

SETLOCAL is an internal 4DOS batch file command which allows restoring the system configuration at a point. You would use SETLOCAL just before you were about to mess with stuff you wanted restored before exiting the batch file. ENDLOCAL restores the system to the configuration at the time of the SETLOCAL command. Path, environment variables, aliases, etc., are all saved to be restored upon executing the ENDLOCAL command. Here's the 4DOS Help information available on line.

```
4DOS$> 4HELP SETLOCAL
```

PURPOSE Save a copy of the current disk drive, directory, and environment variables.

COMMENTS SETLOCAL is used in batch files to save the disk drive, directory, and environment variables to a reserved block of memory. You can then change their values, and later restore the original values with ENDLOCAL. You cannot use SETLOCAL in an alias.

SETLOCAL and ENDLOCAL are not nestable within the same batch file. However, you can have multiple SETLOCAL / ENDLOCAL pairs within a batch file, and nested batch files can each have their own SETLOCAL / ENDLOCAL. 4DOS will automatically perform an ENDLOCAL at the end of a batch file.

Note that if you invoke a batch from another without using CALL, the first batch file is implicitly terminated, and an automatic ENDLOCAL performed. batch file is implicitly terminated, and an automatic ENDLOCAL performed. The second batch file will inherit the drive, directory, and environment variables as they were prior to the SETLOCAL. Do not use TSRs (memory-resident programs) from a batch file while SETLOCAL is in effect. If you do, when ENDLOCAL is executed and the memory used by SETLOCAL is released, a "hole" will be left in memory below the TSR. This is not harmful, but wastes memory.

EXAMPLE This batch file fragment saves the disk drive, directory, and environment variables, changes the disk and directory, modifies some variables, runs a program, and then restores the original values:

```
    setlocal
    cdd d:\test ^ set path=c:\;c:\dos;c:\util ^
set lib=d:\lib
    rem run some program here
    endlocal
```

4DOS %@SUBSTR[] Function

The 4DOS batch programming language is very powerful. It includes many built in functions and variables. The above batch program to save the date uses the %@SUBSTR[] function. It works somewhat like the Poly BASIC MID$ function. But the syntax is more like the PC BASIC syntax. (I guess J.P. Software hadn't heard of Poly's extended BASIC.) At any rate it

uses the zero based starting and a length to pick out a substring. Here's the 4DOS help file text on it.

%@SUBSTR[string,start,length] returns a substring, starting at the position "start" and continuing for "length" characters. If the length is negative, the start is relative to the right side. If the length isn't specified, SUBSTR will return the remainder of the string. For example, %@SUBSTR[%_time,0,2] gets the current time and extracts the hour. If the string includes commas it must be quoted with double quotes or back-quotes (" or `).

4DOS %_DATE Variable

We used the %_DATE variable in constructing our date. Here's the 4DOS help info on this variable.

%_DATE contains the current system date, in the format mm-dd-yy (U.S.), dd-mm-yy (Europe), or yy-mm-dd (Japan).

Poly's Ctrl-V in WordPerfect

I finally got tired of not having the Poly Editor Ctrl-V. I wrote a macro for WordPerfect which does the job. This macro required knowing something about how WordPerfect's MACRO command language works. WordPerfect's built in case conversion function lets you convert to all upper or to all lower case. One Blocks the text to be converted, presses Switch (Shift-F3) and then answers the question "Convert to 1 Uppercase; 2 Lowercase; 0". But we Poly users are used to pressing Ctrl-V and having the text from the cursor location to the end of the line flipped in case regardless of what it is. Getting WordPerfect to do that was not quite so easy. I decide to do it one character at a time.

The basic idea is not too difficult. We look at the character to the right of the cursor. Then we check to see if it is a letter. If it is, then we reverse the case. If WordPerfect had an XOR operator we could flip the 32 bit (20H) without checking, but it does not. Basically we must check to see if it is a lower case letter; if so we raise the case. Otherwise we must check to see if it is an upper case letter; if so we lower the case. We must also check for the end of line, end of the page, or the end of the file to see if we are done. Before we do all this we must make sure that WordPerfect is in the Typeover mode. But to be perfectly user friendly, we must keep track of what mode we were in and restore it when we are done. We must also skip over any characters (and hidden codes) that are not to be change back to where the cursor was when we started.

I know from previous experience that WordPerfect's Macro language has a {STATE} variable which will tell, among other things, whether WordPerfect is in Insert or Typeover mode. The 256 bit is used for that purpose. 0 is insert mode; 1 is Typeover mode. I've learned from experience that one doesn't get reliable results if one tries to test the {STATE} variable on the fly, so it's necessary to {ASSIGN} its value to some other variable. But that's ok, we can use that variable to keep track of what {STATE} WordPerfect was in.

The other piece of information we need to know is how to read what the character under the cursor is. That is achieved with the {SYSTEM} variable Right. The value of {SYSTEM} Right~ will be the key value of the character. For normal keys that is usually the letter itself. For other things it's something else. We can use the {KTON} (Key TO Number) function to convert these characters to their numerical values. For ASCII characters that value is just the ASCII value. But for other characters that value is some other number. The Appendix tells us that a carriage return, which shows up in Reveal Codes as "[Hrt]" has a {KTON} value of 32778. Similarly, a hard page [HPg] has a {KTON} value of 32780. By experimenting I found out that if there is nothing there, {KTON}{SYSTEM}Right~~ returns a value of 126, which I shall presume means end of file. Ok, let's build this thing from the middle out. The first thing we must do is get {KTON}{SYSTEM} Right~~ into a usable form. We do that by {ASSIGN}ing it to a variable. I used 9.

```
{ASSIGN}9~{KTON}{SYSTEM}Right~~~
```

Next we test to see if it is the end.

```
{IF}
  {VAR 9}=126|
  {VAR 9}=32778|
  {VAR 9}=32780~
  {GO}End~
{END IF}
```

(The '|' means "OR".)

Next we test to see if it's not ASCII. We can

do this by comparing it to see if it's less than 65, the ASCII value of "A", or greater than 122, the ASCII value of "z". (We'll worry about the ones between 'Z' and 'a' later.)

```
{IF}
   {VAR 9}<65¦
   {VAR 9}>122~
   {GO}EndLoop~
{END IF}
```

Now, if it's lower case then it must be less than 91 and we'll add 31 to it before replacing the character.

```
{IF}
   {VAR 9}<91~
   {ASSIGN}9~{VAR 9}+32~
   {GO}Replace~
{END IF}
```

And, if it's upper case then it must be more than 96 and we'll subtract 31 from it before replacing the character.

```
{IF}
   {VAR 9}>96~
   {ASSIGN}9~{VAR 9}-32~
   {GO}Replace~
{END IF}
```

If we need to replace the character then we take the new value of {VAR 9}, convert it back to a key and replace the existing character.

```
{LABEL}Replace~
{NTOK}{VAR 9}~
```

Ok, that's the meat of the thing. Now we must put this in a loop and keep track of how far we've gone so we can get back. I decided to do that by storing the left arrow keystrokes necessary to get back in a variable. That way I just execute that variable at the end. It will automatically have the right number of left keystrokes to get back to the starting position. There are other ways to do this but this was quick and easy. Each time we execute the loop we add a left arrow key stroke {Left} to variable 7.

```
{ASSIGN}7~{VAR 7}{Left}~
```

Ok, here's the macro in it's totality.

```
{DISPLAY OFF}
{ASSIGN}8~{STATE}&256~
{IF}{VAR 8}=0~
   {Typeover}
{END IF}

{ASSIGN}7~~

{LABEL}Loop~

{ASSIGN}9~{KTON}{SYSTEM}Right~~~

{IF}  {VAR 9}=126¦
      {VAR 9}=32778¦
      {VAR 9}=32780~
{GO}End~
{END IF}

{ASSIGN}7~{VAR 7}{Left}~

{IF}{VAR 9}<65¦{VAR 9}>122~
{GO}EndLoop~
{END IF}

{IF}{VAR 9}<91~
{ASSIGN}9~{VAR 9}+32~
{GO}Replace~
{END IF}

{IF}{VAR 9}>96~
{ASSIGN}9~{VAR 9}-32~
{GO}Replace~
{END IF}

{LABEL}EndLoop~
{Right}
{GO}Loop~

{LABEL}Replace~
{NTOK}{VAR 9}~
{GO}Loop~

{LABEL}End~
{IF}{VAR 8}=0~
   {Typeover}
{END IF}

{VAR 7}
```

The way we hook this macro into the Ctrl-V key is using the keyboard feature. Shift-F1 brings up the Setup menu. Type K or 5 for Keyboard layout. I have created one called POLYEDIT.WPK which contains all my modifications to make WordPerfect work like the Poly Editor. The above macro can be created right in the Action screen editor. Since WordPerfect's original Ctrl-V function will no longer work, we must remember to use the Ctrl-2 function. It does the same thing, but without prompts.

COM Port Problems

I have been trying to set up my PC so that I can change printers under software control. If you are among the lucky ones who installed a second printer mini-card in your Poly, you'll understand the advantage of such an arrangement. A few issues ago I wrote about my mortgage calculating program -- it printed the mortgage bill on one printer, automatically switched to the other printer, and then printed out the label. I have several command files that automatically switch between printers.

When I upgraded my PC system, I got a 120 Meg IDE drive. Include was an IDE multi I/O card which supported the hard drive controller, floppy drive controller, two serial ports, a parallel port, and a game port. I got an extra card with 2 serial ports, a parallel port, and a game port. I have been running this setup for some time, but I have only had one printer hooked up. I had my mouse on COM1, my printers on COM2, and my modem on COM3. Because the modem was on COM3, and the IDE multi I/O already had a game port, I disabled one serial port and the game port on the extra card.

COM4 has been unused, but my tickler file has had hooking the label printer to COM4 in my "to do" list. (It's amazing how long something can stay undone in the to-do list!) Recently I got another neat program. It's called Time Keeper. Time Keeper can use your modem to dial into the National Institute of Time and Technology in Boulder, Colorado and synchronize your system clock with Universal Time Coordinated (UTC). Unfortunately, the program didn't work on my system with the modem on com3. I switched the modem to com4 and it worked! But then the printer didn't work. What gives?!

After much frustration and talking to a number of individuals, I finally found out that there are some hardware compatibility problems with some of the cheap clone boards. Some of these boards implement all their functions in one large custom Application Specific Integrated Circuit (ASIC). Here's what the author of OzCIS warns:

> Some laptops and recent desktop machines use special ASIC (Application-Specific Integrated Circuit) chips for the serial port hardware, rather than the traditional NS8250-style UART chip. These ASICs vary in their compatibility with the NS8250-style chips; some are known to be real problem children, especially the ones used in the new Toshiba "SXe" series machines (I've talked to several people who can't get <u>any</u> of their comm software to work on these machines.)

It turns out that the designers of some of these ASIC chips did not do their job it true Poly fashion. (Or they did, depending upon how you look at it.) Anyway, some of these chips do not properly tri-state the interrupt bus lines. That means that when other devices share the same interrupt request line (IRQ), these devices don't let them function properly. For example, COM1 and COM3 share the same IRQ. If the hardware is designed properly and the interrupt software is correctly linked together, IRQ sharing is not a problem. But when one device issues an interrupt request and the other device responds to the IRQ the interrupt won't get processed correctly. You should make sure that your I/O cards in your PCs use 8250 style chips for serial I/O. This may mean that you have to use separate I/O cards instead of a combined one.

Starting PM20 with -norun

I have begun to run System-88 under PM20. The first time I tried to run it, I noticed that I got a "bad command" error. Bob says that when that happens we should run PM20 with the "-norun" switch and then start PM20 with the Run command. He also suggested that there might be some macro language to start it.

As Bob Bybee mentioned above, PM won't run correctly on some systems. It errors out starting and requires the use of the "-norun" switch to start it. Incidently, "-NORUN" does NOT work. After typing PM -norun at the dos Prompt, PM will load. But it must be started by pressing the "r" key (for run) and enter. Bob suggested that this was a "minor inconvenience".

I don't consider always having to type two characters to start a program a "minor" inconvenience, but then, what do you expect from a "damned perfectionist"? As Bob mentioned, there is a way around this difficulty. I tried a macro for running PM under Office Shell, but I had problems getting the macro key strokes

into PM. There seems to be some kind of interaction between the keyboard and PM that ignores pending macro keystrokes until a key is pressed. I had thought to write DOS level macros that I could activate while in PM. What's nice about this is that I can create the macro while actually running the commands. The only problem is that the PM won't listen when the macro is run later. I found that PM would get one character from the macro only when I pressed a keyboard character. I got the macro to finish by fooling around with the arrow keys. But I gave up on that possible way of making PM and DOS work together. Because of this difficulty, I decided not to try to start PM with a Shell Macro.

I heard about a DOS program called "KEYFAKE", but have not tried it. I don't know about other DOS solutions, but 4DOS has an easy way around the problem. 4DOS has a KEYSTACK command that "stacks up key-strokes" to be sent to the running program. KEYSTACK is built into 4DOS; it only requires that its TSR KSTACK be installed. I use it all the time now that I have discovered 4DOS. In 4dos syntax we start PM20 with the command:

KEYSTACK "R" 13^PM20 -norun

It's easy to define an alias to do this in one fell swoop. If we call the alias "pm" the 4DOS syntax to define it is:

ALIAS PM='KEYSTACK "R" 13^PM20 -norun'

There after one may just type in PM to get PM20 to start running and bypass the error.

PM

Of course, KSTACK.COM must be installed in CONFIG.SYS so that the KEYSTACK command will work in 4DOS.

Disk errors in PM

If PM20 is running and an IBM disk error occurs, and you get the following error message.

R(etry), I(gnore), F(ail), or A(bort)?

Pressing "A" unceremoniously dumps one back to the DOS prompt. On my system the next thing I try to do bombs the system. I either get a cold reboot or I get a locked up system and have to push the "load" button. The moral of the story is NEVER press A when you get that message because there is no telling where in hyper-space your system will go.

Pressing "R" or "I" scrolls the PC prompt down a line and repeats the error. The second time it occurs the Poly "window frame" gets scrolled up one line. This causes the Poly's 64x16 screen to be partially in the bottom color. Nothing seems to restore the original screen display.

Pressing "F" is the correct response because that returns the error back through PM to the Poly Operating System, (<u>unless</u> you are running PMU).

With 4DOS it is possible to prevent troublesome error message from ever appearing on the screen. It is much better to run PM under a secondary 4DOS shell because it can be set to make EM work more "Poly-like". The command line or batch file should be:

4DOS /F /C keystack"r"13^PM20 -norun

The "/C" part is just like DOS's /C switch for COMMAND.COM. It just means execute the remainder of the command line as a dos command and then exit from the secondary shell. It's the "/F" switch that gives real Poly compatibility. This switch tells 4DOS to always return a "fail" status to a disk access error. Instead of getting the DOS message:

R(etry), I(gnore), F(ail), or A(bort)?

when the disk is not in the drive or there is some other problem, the error will be returned as a fail to the Poly Emulator and you will get the Poly error message.

No disk in drive, or door open!

The DOS error message will never show up and consequently won't scroll the screen out of place. Much better, I say. Now back to PMU.

PMU doesn't (Cmdf abort)

When PMU is running and it receives a PC file or DISK error, then PMU reports the error, but it does not pass it back to the Poly Operating system. This bug can be potentially serious to the unwary because PMU won't abort a command file in progress.

PMU fails to abort command file mode when an error occurs.

PM Printer Bug Testing

I originally reported this bug with PM 1.3. Now that I have version 2.0, I decided to test that version to see if the problem had been fixed. I am sad to report that it has not. Here's a repeat of the story. One day I tried to **format** a long letter from within PM. I was greatly surprised to discover that some of the printing was garbled. I suspected that something was wrong with the handshaking and began testing the problem. I created a file large enough to reproduce the problem and tried different things. The first thing I did was to try redirecting the output to a DOS file. When I **PRINT**ed that file from DOS, I had no problem. Apparently, PM.EXE misses something when printing to COM ports. Poly's Sio.PM contained input and output buffers which were interrupt driven. In DOS parlance, Sio.PS is a (small) two-way COM port spooler. When Bob replaced Sio.PS to provide the DOS interface, he changed something and the buffering no longer works correctly.

BugNote: 43.0 PM Printer

Abstract Systems BugNote 43.0 09/28/92

PM Printer Loses Characters.

Bob Bybee's Poly Emulator loses characters when printing to COM ports. When the printer buffer fills up, the Poly Emulator begins to lose characters. As long as you are printing a small file the problem won't show up.

Work around: Redirect the output to a file and use DOS to print the file. There are two ways to do this.

1. Use (AIS) Print-to-a-file (fil.PS) to save the output to a Poly file, copy the file to a DOS file, and then PRINT the file.

2. Use PMU to redirect the output to a DOS file, and then PRINT the file.

Connecting Poly to a PC

I have been running with my Poly connected to my PC, and I have sent files back and forth on a regular basis. I have used DataTalk, Bit-Comm, Procomm, Qmodem, and WordPerfect Works. I haven't used DataTalk or Bitcomm recently, but have used Procomm and Qmodem. While Procomm and Qmodem both worked, I wanted to use the Communications package that comes with WordPerfect Works. But I had a problem. The (Null Modem) Direct Connect link to the Poly would not go OnLine, so I could not transfer files using WordPerfect Works.

I reported the problem to WordPerfect, and after a couple of days I got a call back from someone who suggested that I had a cable problem. Works Communications wants the carrier detect (CD) line, usually on pin 8 of the RS-232 DB-25 connector, to go high. The 8251 on the Poly CPU has output signals for Request to Send (RTS) and Data Set Ready (DSR). These signals are fed through the printer mini-card and used in the PC's for hardware handshaking. RTS goes to Clear to Send (CTS) and DSR goes to Data Terminal Ready (DTR). The Poly Printer mini-card has jumpers to allow rerouting DSR. It can be sent to pin 6 through the cc jumper, which the PC sees incoming as DTR, or to pin 8 through the cf jumper, which the PC sees incoming as Data Carrier Detect (DCD). These jumpers are near the back of the board on the right hand side (looking at the board from the front of the 8813).

I got out my trusty RS-232 indicator box and checked out the signals. Sure enough, the DCD light was neither green nor red, indicating that the signal was not being supplied by the Poly.

I got out my trusty RS-232 jumper box and test wired pins 6 and 8 together. This would allow sending the signal coming from the Poly to both pins 6 and 8 -- allowing the PC to see DCD whenever it saw DTR. Sure enough, Works began to report OnLine when I was running SM, or when I selected Printer pc, and it reported OffLine when I selected Printer Null or any other printer. Ok, obviously, my Poly wasn't sending the signal out like it should be. Time to check the printer mini-card itself. "Off with her head! (cover)", said the Red Queen!

I vaguely remember having had some printer interface card problems a while ago. I had swapped cards and chips till stuff was working, but had not checked Works. A quick inspection showed that the header was correct. But I noticed that I did not have both jumpers connected.

```
Serial          Poly      Poly      8251
mini-card       RS-232    Header    Signal
signals   BB    <-- 3 -- 1 \/ 16 --> RxD
          BA    --> 2 -- 2 /\ 15 <-- TxD
          CB    <-- 5 -- 3 \/ 14 --> CTS
          CA    --> 4 -- 4 /\ 13 <-- RTS
CC <-- 6 --c--c---------- 5 \/ 12 --> DTR
          CD  ! --> 20 -- 6 /\ 11 <-- DSR
CF <-- 8 -----f     17 -- 7  ( 10 --> Clock
                    24 -- 8  \  9 <-- Clock
```

1. Both CC and CF jumpers should be installed
2. The recommended header is wired as above.

So I got out my trusty soldering iron and connected jumper cf. That did the trick. I was OnLine using WordPerfect Works Communications on the PC and SM on the Poly.

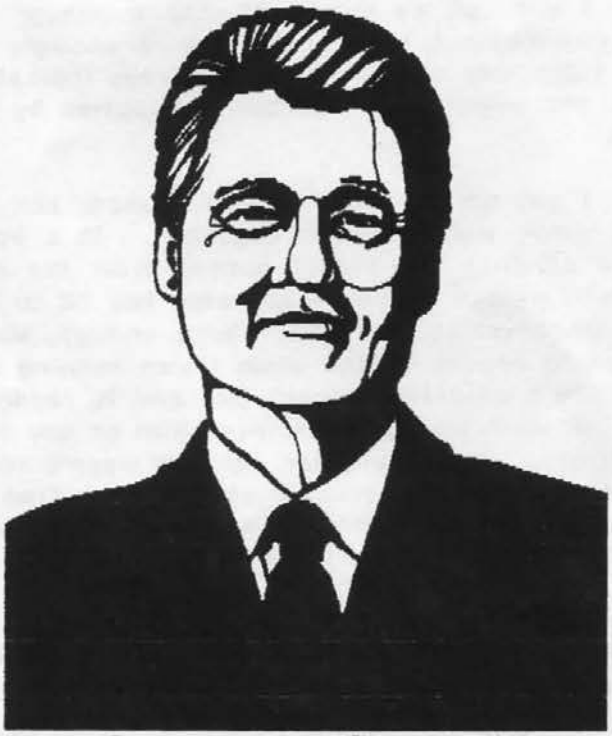
Announcements

THE WHITE HOUSE

Office of Presidential Correspondence

For Immediate Release June 1, 1993

LETTER FROM THE PRESIDENT AND VICE PRESIDENT IN ANNOUNCEMENT OF WHITE HOUSE ELECTRONIC MAIL ACCESS



Curtesy of WordPerfect Corporation.

Dear Friends:

Part of our commitment to change is to keep the White House in step with today's changing technology. As we move ahead into the twenty-first century, we must have a government that can show the way and lead by example. Today, we are pleased to announce that for the first time in history, the White House will be connected to you via electronic mail. Electronic mail will bring the Presidency and this Administration closer and make it more accessible to the people.

The White House will be connected to the Internet as well as several on-line commercial vendors, thus making us more accessible and more in touch with people across this country. We will not be alone in this venture. Congress is also getting involved, and an exciting announcement regarding electronic mail is expected to come from the House of Representatives tomorrow.

Various government agencies also will be taking part in the near future. Americans Communicating Electronically is a project developed by several government agencies to coordinate and improve access to the nation's educational and information assets and resources. This will be done through interactive communications such as electronic mail, and brought to people who do not have ready access to a computer.

However, we must be realistic about the limitations and expectations of the White House electronic mail system. This experiment is the first-ever e-mail project done on such a large scale. As we work to reinvent government and streamline our processes, the e-mail project can help to put us on the leading edge of progress.

Initially, your e-mail message will be read and receipt immediately acknowledged. A careful count will be taken on the number received as well as the subject of each message. However, the White House is not yet capable of sending back a tailored response via electronic mail. We are hoping this will happen by the end of the year.

A number of response-based programs which allow technology to help us read your message more effectively, and, eventually respond to you electronically in a timely fashion

will be tried out as well. These programs will change periodically as we experiment with the best way to handle electronic mail from the public. Since this has never been tried before, it is important to allow for some flexibility in the system in these first stages. We welcome your suggestions.

This is an historic moment in the White House and we look forward to your participation and enthusiasm for this milestone event. We eagerly anticipate the day when electronic mail from the public is an integral and normal part of the White House communications system.

President Clinton
PRESIDENT@WHITEHOUSE.GOV

Vice President Gore
VICE.PRESIDENT@WHITEHOUSE.GOV

Editor's note: I have already sent a couple of messages to the president using EMAIL. (No, they weren't about bring back PolyMorphic Systems, but that's a thought.) It turns out that they have some sort of automatic responder system. I got the same reply both times. But the header has interesting stuff.

```
Date:  09-Jun-93 23:05 EDT
From:  INTERNET:autoresponder@whitehouse.gov
Subj:  Your mail has been received

Sender: autoresponder@whitehouse.gov
Received: from whitehouse.gov by
                    ihd.compuserve.com (5.67/5.930129sam)
        id AA13250; Wed, 9 Jun 93 23:05:57 -0400
Received: by whitehouse.gov (5.65/fma/mjr-120691);
        id AA10182; Wed, 9 Jun 93 23:01:08 -0400
Date: Wed, 9 Jun 93 23:01:08 -0400
From: autoresponder@whitehouse.gov
Message-Id: <9306100301.AA10182@whitehouse.gov>
To: 71505.1406@CompuServe.COM
Subject: Your mail has been received
```

Thank you for sending in your thoughts and comments to the President via electronic mail. We are pleased to introduce this new form of communication into the White House for the first time in history. I welcome your response and participation.

As we work to reinvent government and streamline our processes, this electronic mail experiment will help put us on the leading edge of progress. Please remember, though, this is still very much an experiment.

Your message has been received, and we are keeping careful track of all the mail we are receiving electronically. We will be trying out a number of response-based systems shortly, and I ask for your patience as we move forward to integrate electronic mail from the public into the White House.

Again, on behalf of the President, thank you for your message and for taking part in the White House electronic mail project.

Sincerely,

Marsha Scott, Deputy Assistant
to the President and Director
of Correspondence

So now, instead of having some volunteer clerk type in your name on a choice of a number of standard form letters, they have a computer program that sends out the same letter to anyone who writes. Have they gone too far? Oh well, it's probably too early to expect custom letters in response. They are probably overwhelmed by EMAIL already!

Advertising

Commercial advertising rates are $50 for a full page, $25 for a half page, and $15 for a quarter page. Anything smaller is $3.00 per column inch. A column is 3-3/4 inches wide by 10 inches tall. A full page is 7-5/8 inches wide. Non-commercial adds by subscribers are free.

Wanted to buy — any and all Poly computers. 88, 8810, 8813, twin, 8824; documentation, software, keyboards, spare parts, etc. — Call Charles Steinhauser - Phone: (404) 739-5081 after 7 pm. EST, or write 5860 North Avenue, Mableton, GA 30059-3212.

FOR SALE: Poly 8810 box with power supply and mother board. $50 plus shipping. Charles A. Thompson, 2909 Rosedale Avenue, Dallas, Texas 75205-1532, (214)-368-8223.

DISKS - MODEMS - PROMS - SOFTWARE - SPELL

1. MAXELL diskettes: 5-1/4" hard sector - $10 per box.
2. Used diskettes: 5-1/4" 10 hard sector - $0.50 each.
3. Hayes Micromodem 100 (300 baud S-100 internal modem) - $20.
   (If you don't have a modem this is a cheap way to go.)
4. HayesSys modem software (for the Micromodem 100) - $10.
5. Abstract Systems Exec (Enhancements & bugs corrected) - $30.
6. Abstract Systems Proms (Enhancements & bugs corrected) - $35.
7. PolyGlot Library $6 each volume; 5 or more: $5 each; ALL: $99

Abstract Systems, etc., 191 White Oaks Road,
Williamstown, MA 01267, Phone: (413) 458-3597
(Send $1.00 for a complete catalog--[free with any order].)
(Make check or money order payable to Ralph Kenyon.)

Bit Bucket

Charles Steinhauser wants to buy your unused Poly! Can anyone help him out a bit?

Compuserve Navigator OzCIS

Thanks to an alert from Norm Shimmel, PolyLetter has discovered a Poly-Quality piece of PC software that is FREE. But it is only good for use on Compuserve. If you are on Compuserve, you should check out OzCIS. It is a free-ware navigator program that lets you do most of your stuff off-line. It makes it really easy to send and receive messages, including EMAIL, and access basic services and forums. To get OzCis, log onto compuserve and type GO IBMCOM. Then log into section 12, OzCIS support. You will need to download 4 files. These are self extracting archive files. OZCIS1.EXE, OZCIS2.EXE, OZCIS3.EXE, and OZCIS4.EXE. But once you start using them, watch out. Because everything is so much easier to find and access, you may spend more time doing it!

In This Issue

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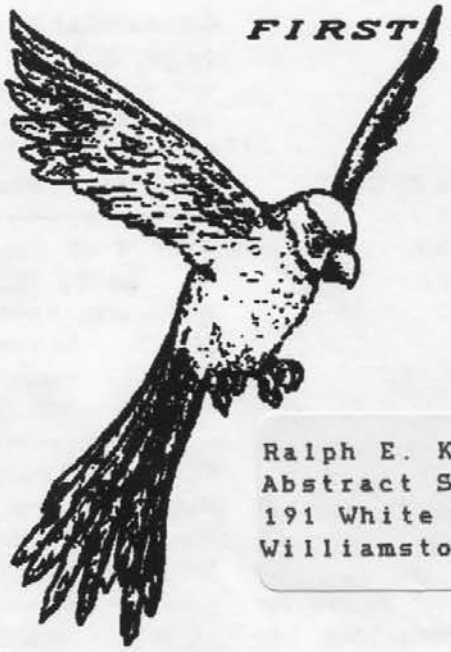
Address Correction Requested

FIRST CLASS MAIL



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