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EDITORIAL COMMENT

You may think by the feel of this issue that it has grown smaller. It has, but not in content. We removed only the eight pages of the Wyoming Software Catalog and will be issuing a separate Wyoming Software Catalog in the future.

We added over sixty new programs to the Wyoming Software Library in just this past month. More games, business and personal programs. The majority of these programs will run on older computers with limited memory. And it is our intention, as always to support those older computers by maintaining a library of programs that will operate without your having to have a computer with megabytes of memory.

These are programs that you will not find available from other suppliers who now list only the Window dominated, memory eating programs that are being fostered upon the computing public today. With notices of expensive upgrades coming out ever two months to keep you up to date.

Other mail order shareware and public domain distributors have dropped the DOS based programs that require only small memory computers to operate, and have gone to pushing CD-ROM disks which require a very expensive outlay of money for hardware to read.

Because the cost of printing, paper and postage has risen so rapidly in the past year. We are requesting two dollars to cover the postage and handling of the all new Wyoming Software catalog.

We are adding more programs to this library as rapidly as we can to give all our readers as broad a selection as possible.

DESKMATE NOTES

by Clifton N. Duval

I am the editor of our local museum newsletter. We have a mailing list of about 250 names. While I used filePro for DeskMate for my database, most file programs should work as well.

A fair number of our subscribers have both summer and winter addresses, and depending on the time of year, the newsletter needs to be sent to alternate addresses. I set the database up with all the usual fields, but also included a one character field for each of the months of the year. I designated these as simple Y(es) or N(o) fields.

When the addresses are entered these Month fields are given a Y if the address is used that month, or a N if not. Therefore, when printing the mailing labels, the labels are selected by this field.

Also, as the newsletters are sent to many different states, I have the database sort them for printing by zip code. This makes the final handling and mailing very convenient.

Hopefully, this idea may help someone with the same problem.

If anyone needs help or information concerning DeskMate please send your questions to CNPC. Both CNPC and I are willing to try to provide answers.

I would like to add my comments in favor or using older computers. As previously stated I am a DeskMate fan. It does its

intended job well, had many add on programs, and the interface is fairly simple to use.

I started with the Radio Shack Model I computer. At that time there were few commercial programs. BASIC programming was almost a necessity. When new programs became available, I always had a great desire to find what they did differently and/or better. I still have that desire although I don't indulge the desire so often any more.

If you are using an older computer, you should be still able to find very good software for it. I recently picked up a copy of pfs:FIRST CHOICE for $12.99. A few years ago this program sold for about $150. I used to recommend this all-in-one program to new computer users. It is still a good program, and would provide all the computing power that many people would need.

Need a new word processor, spreadsheet, or database? How about pfs:Write, Lotus 1-2-3 for Home, of filePro Relational Data Base, all at $30 or less.

The latest computer products are not necessarily the best, although they may be. For instance I like Quicken (DeskMate version) to keep track of my checkbook. However, of all the calendar programs that I have looked at, I still prefer "Time Manager", a program written for the Radio Shack model I/III computers. However, my choices should not dictate your selections.

We have reached a time when computer technology is advancing so rapidly that I do not believe that everyone can or needs to keep up with the latest and greatest. If your present computer equipment does the job you need done, continue to use it. When the computer and software can no longer meet your needs it will be time to buy new equipment. In the meantime save a lot of money.

-Clifton N. Duval

PRINTCHIEF - A HANDY PRINTER CONTROL PROGRAM

by Harold J. Hendriks

WHO OR WHAT IS PRINTCHIEF?

PrintChief is a "stand alone" printer control program designed primarily for use with Tandy dot-matrix printers. So, you don't have a Tandy printer? Don't give up on PrintChief so soon! Now Hear This! PrintChief also works well with Non-Tandy dot-matrix printers, PROVIDED that the Non-Tandy printer is capable of IBM mode emulation and/or EPSON mode emulation.

"Stand alone" means that PrintChief can be used independently (of the application software being used) to send to the printer all the necessary commands to activate one or more of the various built-in features of the printer such as available fonts, pitches, print enhancements, etc. PrintChief employs easy-to-use menus to make the selection of the desired fonts, pitches, enhancements, etc. simple and easy.

Have you ever leafed through the Users Manual for your dot-matrix printer and been puzzled or frustrated by all those short BASIC programs for turning on or off one or more of the various features of your printer? PrintChief offers you an easy, painless way to use the various fonts and print enhancement features of your printer without having to write a single line of BASIC!

PrintChief may be used in "Memory Resident Mode" (Terminate Stay Ready) or in "Non-Resident Mode". In the "Memory Resident Mode", PrintChief requires about 50K of memory. In order to use PrintChief from within some versions of DeskMate it is necessary to install PrintChief in the Non-Resident Mode. The Users' Manual sets out all the necessary details and instructions.

PrintChief includes a "One Line Word Processor" for the functional testing of the printer and font selections. The built-in "One Line Word Processor" is also useful for adding Headers, Footers, etc. to an existing document.

BEFORE PRINTCHIEF vs AFTER PRINTCHIEF

My favorite printer is a Tandy 24-pin DMP-300 printer which operates in either the IBM emulation mode or in the TANDY emulation mode. I have pre-programmed the DMP-300 printer to start up in the IBM emulation mode with the Courier font at 10 C.P.I. being the default font when I turn the printer on.

In the IBM emulation mode the italics type style is not available in any font. However, in the TANDY emulation mode, the DMP-300 can be programmed to print any of the available fonts in the italics type style.

Before I had PrintChief, if I wanted to toggle the DMP-300 to operate in the TANDY emulation mode and to command it to print the default Courier font at 10 C.P.I. in the Italics type style, I used to have to go into BASIC and issue the following LPRINT Commands to the printer:

```
LPRINT CHR$(27);CHR$(33)
LPRINT CHR$(27);CHR$(66);
CHR$(1)
```

Now that I have PrintChief installed on my Tandy 1000TL PC, all I have to do is call up PrintChief and make two selections from the PrintChief Menu and the job is done. It is so simple and easy to control my dot-matrix printer with PrintChief.

PRINTCHIEF IS GREAT FOR THE MULTIMEDIA DEPRIVED.

If you're a "multimedia-deprived" and/or a "Desktop Publishing deprived" computer user, and you use a dot-matrix printer with a simple, easy-to-use word processor, such as TEXT in DeskMate 3.0 or earlier, it is not

easy to produce an announcement such as the example shown in Fig. 1. If you don't have PrintChief, you have to go into BASIC and send LPRINT statements to the printer to tell the printer to print in the double-wide, plus double-high, plus Italics, plus bold modes.

BUT, if you use PrintChief, you simply select from the PrintChief menu the font and the print-enhancement features you want, and PrintChief automatically sends all the necessary control codes to the printer to set it up to the desired configuration. You then select the generic ASCII print driver in DeskMate and print out the announcement with all the desired text enhancements.

Working from within DeskMate, or from within (or independently thereof) most other software applications as well, you can use PrintChief to set up your printer to gain access to all, or at least most, of the print features your printer is capable of.

PRINTCHIEF WORKS WITH ALMOST ALL DOT-MATRIX PRINTERS

Installing PrintChief is a quick, easy and simple process using the INSTALL program. The second step in the INSTALLATION process is the selection of the printer. PrintChief provides for a choice from amongst a list of 36 different Tandy dot-matrix printers. Don't worry if your dot-matrix printer is not a Tandy. If your dot-matrix printer is capable of IBM and/or EPSON emulation, there is a Tandy printer choice that will work, and work well, with your Non-Tandy printer.

The following Tandy Printers are supported by PrintChief:

DMP-105	DMP-106
DMP-107	DMP-110
DMP-120	DMP-130
DMP-130A	DMP-132
DMP-133	DMP 134
DMP-135	DMP-136
DMP-137	DMP-200
DMP-202	DMP 203
DMP 204	DMP-240
DMP-300	DMP-302
DMP-310	DMP-400
DMP-420	DMP-430
DMP-440	DMP-442
DMP-500	DMP-2100
DMP-2100P	DMP-2102
DMP-2103	DMP-2104
DMP-2110	DMP-2120
DMP-2130	DMP-2200

Tandy dot-matrix printers such as the DMP-130, DMP-130A, DMP-132, DMP-133, DMP-300, DMP-2102, and others, can be toggled back and forth between the TANDY emulation mode and the IBM emulation mode by executing the BASIC statement,

LPRINT CHR$(27);CHR$(33)

If a Tandy, IBM/TANDY emulation mode, printer, such as the DMP-300, is to be used with PrintChief, then the printer must be pre-set so that it initializes with the IBM emulation mode being the active mode when the printer is turned on.

If PrintChief is installed with the DeskMate option on a Tandy computer with the DMP-300 printer as the selected printer, then the resultant PrintChief Menu appears as shown in Fig. 2 or Fig. 3. The emulation mode is toggled back and forth between the IBM mode and the TANDY mode each time the [ENTER] key is pressed. The active mode is indicated by the high-lighting of the active mode which is indicated by the heavy underlining in fig. 2 and fig. 3.

ATTENTION: If PrintChief is operated in the NON-RESIDENT mode with a Tandy, IBM/TANDY emulation mode, printer, the printer's emulation mode can fall out of sync with the PrintChief menu. If the printer is toggled to the TANDY emulation mode and you leave the PrintChief program to return to your application program, the printer stays set in the Tandy mode. Then the next time PrintChief is called up, the menu comes up for the IBM mode and the printer is then out of sync with the menu.

The easiest way to remedy the "out-of-sync" problem is to exit PrintChief, cycle the printer off and then on again, and then call up PrintChief again to set up the printer to the desired configuration. If a Tandy, IBM/TANDY emulation mode, printer misbehaves when used with PrintChief, chances are very good that the printer's emulation has gotten out of sync with the PrintChief menus.

EPSON EMULATION AND/OR IBM EMULATION PRINTERS

Most Tandy printers which emulate both the IBM and the TANDY modes can be toggled back and forth between the two modes by means of a software code. ON THE OTHER HAND, most makes of printers (including Tandy) which emulate both the EPSON and the IBM modes CANNOT be toggled back and forth between the two modes by means of a software code. Such printers have to be pre-set so as to start up in the desired emulation mode.

Tandy, EPSON/IBM emulation mode, printers are listed twice in the PrintChief printer selection list. For example, the PrintChief printer installation listing for the Tandy DMP-136 printer is shown as follows:

DMP-136 (Epson)
DMP-136 (IBM)

When installing PrintChief to work with an EPSON/IBM emulation printer (whether Tandy or some other make), a Tandy DMP printer with the added notation of "(Epson)" or "(IBM)" must be selected from the PrintChief Printer Selection list.

If PrintChief is installed with, for example, the selection of the "DMP-136 (Epson)" printer choice, then the PrintChief Menu will appear as shown in Fig. 4. Note

that the PrintChief Menu shown in Fig. 4 contains no option or provision for toggling or switching the printer back and forth between the EPSON and the IBM emulation modes as is the case with Tandy, IBM/TANDY emulation, printers.

USING PRINTCHIEF WITH NON-TANDY PRINTERS

Most Non-Tandy dot-matrix printers can be pre-programmed to operate in either the EPSON emulation mode or in the IBM emulation mode. However, some printers can operate in only one or the other of the two modes. PrintChief can be used with such printers.

The PrintChief printer INSTALLATION listing for Tandy, EPSON/IBM emulation mode, printers includes the following Tandy printers:

DMP-135	(Epson),	9-pin
DMP-135	(IBM),	9-pin
DMP-136	(Epson),	9-pin
DMP-136	(IBM),	9-pin
DMP-137	(Epson),	9-pin
DMP-137	(IBM),	9-pin
DMP-240	(Epson),	24-pin
DMP-240	(IBM),	24-pin
DMP-302	(Epson),	24-pin
DMP-302	(IBM),	24-pin
DMP-2103	(Epson),	24-pin
DMP-2103	(IBM),	24-pin
DMP-2104	(Epson),	24-pin
DMP-2104	(IBM),	24-pin
DMP-2130	(Epson),	27-pin
DMP-2130	(IBM),	27-pin

The DMP-135, DMP-136 and DMP-137 are nine-pin printers. All the other printers shown in the above listing are 24-pin printers except for the DMP-2130 which is a 27 pin printer.

If you wish to use PrintChief with your non-Tandy, nine-pin, EPSON and/or IBM emulation mode, printer which you have pre-programmed to operate, for example in the EPSON mode, then select (for a starter) the "DMP-135 (Epson)" choice from the printer selection list when installing PrintChief.

PrintChief will work with your Non-Tandy printer. BUT, depending upon the range of features that your Non-Tandy printer provides, and the Tandy Printer selected to emulate your Non-Tandy printer, PrintChief may not provide access to quite all of the fonts or all of the enhancement features that your particular Non-Tandy printer is capable of delivering.

If such should be the case, try installing PrintChief with the "DMP-136 (Epson)" or the "DMP-137 (Epson)" choice, and see how well PrintChief works with your printer. Then use the PrintChief Installation with the printer selection that results in your being able to make the fullest possible use of the features of your particular printer.

Page 2 of the PrintChief Menu includes a "DEMO" option. You can use the "DEMO" option to test how well PrintChief works with your particular printer with the printer choice you selected when installing PrintChief.

For example, I frequently use a Panasonic KX-P2180 nine-pin dot-matrix printer which I have pre-programmed to operate in the EPSON emulation mode on start up. In using PrintChief to work with my Panasonic printer, I found that the Tandy DMP-136 (Epson) selection works very well. Using PrintChief, I can access nearly all of the fonts and/or enhancement features that my nine-pin Panasonic printer is capable of.

If you wish to use PrintChief with your 24-pin, non-Tandy, EPSON and/or IBM emulation mode, printer, then try any selection from the above printer list except for the DMP-135, DMP-136, DMP-137 and the DMP-2130. You will find that one of the "24-pin" choices will be a good fit for the capabilities of your printer.

In general, PrintChief will work very well with your Non-Tandy printer. Using PrintChief, you should be able to use all, or nearly all, of the fonts, pitches, and enhancements, including color modes, that your Non-Tandy printer is capable of. Depending upon your particular Non-Tandy printer, there may be a few unusual fonts, print enhancements etc., that may not be available on the PrintChief menu associated with the Tandy Printer that you selected to emulate your Non-Tandy Printer.

PrintChief can be installed on a floppy disk in a floppy drive, and you can operate PrintChief from a floppy drive. However, if possible, I recommend that you install PrintChief in directory C:\CHIEF on your hard disk. You can install as many versions of PrintChief as you wish; a different version for each printer that you wish to use with PrintChief.

If PrintChief is installed with the DMP-300 printer selection, for example, a program file, PC300.EXE, will be automatically installed in the C:\CHIEF directory. You call up the DMP-300 version of PrintChief by entering the command, PC300. The "PC" stands for PrintChief.

If PrintChief is installed with a second printer selection, the DMP-136 (Epson), for example, a program file, PC136E.EXE, will be automatically installed in the C:\CHIEF directory. You call up the DMP-136 (Epson), version of PrintChief by entering the command, PC136E. The "E" stands for the EPSON emulation mode.

A POSSIBLE INSTALLATION PROBLEM

PrintChief's Installation program uses a lot of memory. If your computer has only 384K of memory or less, you may encounter problems trying to run the Installation program. If you want to use PrintChief with a computer such as the Tandy 1000HX, for example, you will not be able to run PrintChief's memory intensive installation program. However there

is a way around the problem.

Mr. E. Ray Smyth, the "Father" of PrintChief and the genial and helpful "Big Chief" of Arrowhead Productions, Inc., the producer of PrintChief, is ready, willing and able to give technical support and assistance to all legitimate, registered users of PrintChief. Be sure to mail in your Registration Card. If you need help, you can contact the "Big Chief" at Arrowhead Productions, Inc.

IN SUMMARY

PrintChief is an easy-to-use program for controlling your dot-matrix printer, including easy access to its color capabilities. Using PrintChief, you can do many things with your printer that you find difficult to do, or cannot do, with your applications software alone.

PrintChief makes it possible to easily avail yourself of the full capabilities of your Tandy dot-matrix printer and to make much better than usual use of your non-Tandy printer. I recommend PrintChief to all users of dot-matrix printers.

SIGN OFF TIME!

I close with my best wishes to all loyal readers of "CN-PC" for Happy, effective and enjoyable Computing. I hope that the "Dog Days" of summer will not sap all your energy and enthusiasm for computing.

When the long, hot days of August roll around, can Christmas be very far away? If you have any doubts about it, just look at the displays and promotions in the malls and the department stores. I don't want to "rush the season". So, instead of wishing you "Merry Christmas", I will just say "Goodbye, Good Health and Happy Computing."

-Harold J. Hendriks

To Order PrintChief send $24.95 and $4.00 Shipping and Handling to Computer News PC

WRITING PROGRAMS FOR DESKMATE

by Jeffrey L. Hayes

I recently completed my first program for DeskMate 3.0x, Dmgif.pdm, a GIF and JPEG picture file viewer. It took me about four months to write. These are my impressions of what it is like to write a program for DeskMate. DeskMate is quite a powerful system, and it makes many things easy. Mouse support, the main menubar, and dialog boxes are pretty much built in. It would be much more difficult to produce a program as easy to use, and with the same functionality, for DOS. That is why I chose to use DeskMate. On the other hand, it has its pitfalls, its bugs (documented and otherwise), and the high-level nature of the interface makes some things quite difficult.

STRUCTURE OF A DeskMate PROGRAM

DeskMate is what is known in computer circles as a "graphical user interface," or GUI. Microsoft Windows is probably the most common program of this type; some others are OS/2 Presentation Manager, and Unix XWindows. All programs for GUI's are the same, in that they consist of "event loops." There is at least one main event loop and possibly some minor event loops. Programs for DOS are different in that they generally just go from start to finish. Here is what a DeskMate program looks like inside:

```
Bind to resources.
Set up program defaults.
Display main menubar.
Repeat:
  Get an event.
  Process the event.
... until the event is a "quit"
event.
Release resources.
Exit.
```

People who have used DeskMate on a floppy-only system (versions prior to 3.05) will be familiar with the "Bind to resources" phase. Resources are the files with the .RES extension that you are asked to insert the disk for. They are like DOS device drivers (some of them are, in fact, device drivers), but unlike DOS device drivers, DeskMate resources don't stay in memory all the time. When a program needs a resource, it asks the Desk Executive (DESK.EXE or DESK.COM) to load the resource and give the program a pointer to the resource. Now, it may happen that the resource is already loaded, for example if a previous program used it and it hasn't been unloaded yet, and in that case the Executive just passes a pointer. If you have two programs and you're task switching between them, and they both use the same resource, only one copy of the resource is loaded, and both programs share it.

Two resources are almost always needed: DMCSR.RES and DMGUF.RES. DMCSR, the "Core Services Resource," provides the program with access to low-level stuff in the DeskMate kernel, like memory allocation, task switching, the clipboard, and simple video. DMGUF, the "General User Functions" resource, handles the menubar, dialog boxes, and most file I/O. Every program will also need to access the video driver resource, DMVD*.RES or DMVS*.RES.

Other resources may be needed by a particular program. Dmgif, for instance, uses DMFORM.RES, which DeskMate uses to manipulate graphic data. Other programs also have their own special resources that they use.

The program defaults that need setting depend on the program. Displaying the menubar in DeskMate is just a matter of one function call (you have to make a description structure).

When a program "gets an event," what's an event? Well, a keypress is an event. A mouse click is an event. When you press drag the mouse, there will be a "mouse

button down" event, then every so often a "mouse move" event will occur, and when you release the mouse button, a "mouse button release" event will happen. Every GUI has these events. DeskMate also has "command" events. These happen when you select something off the menubar, or when you do something in a dialog box. DeskMate takes these and "boils them down," so to speak, so the program just gets told the menu item you picked, not every mouse or keyboard action you took to do it. There are also "application" events. The program gets these when you run an accessory or task switch. Finally there is a "null" event. DeskMate gives the program one of these when there isn't any real event. When an event happens, DeskMate saves it until the program asks for it. The program can also tell DeskMate to throw the event away, or create its own event, which DeskMate will save like a real event.

Once an event happens, and the program gets it, it has to decide what to do with it. Many times, events can be ignored, and in that case you just get the next event. Hitting letter "K", for instance, doesn't do anything in Dmgif. On the other hand, the event might do something, like hitting the <down arrow> key in Dmgif. Dmgif takes this event as a command to move the screen window down (pan the image up) one "character extent," or the height of a character.

This goes on over and over, get event, do something, etc., until there's a "quit" event. You know what these are: hitting the <escape> key, selecting "Exit" from the menu, or selecting "Run ..." from the menu and running another program.

The last thing a program does before it exits is "release" the resources it uses. DeskMate keeps a count of the number of programs using each loaded resource, and when the count gets to zero, it knows the resource can be unloaded if more memory is needed. If a program doesn't release its resources, they stay useless in memory until DeskMate exits. Sometimes a program aborts for some reason, but doesn't release its resources. That's when you get the message "Resource FOO had use count 1" when you leave DeskMate.

WHAT YOU NEED

To write programs for DeskMate, you need a C compiler, some experience writing programs for DOS, and the DeskMate Development Kit.

DeskMate programs have to be written in C or assembler, though probably everyone who ever wrote for DeskMate used C. C is a powerful computer language that allows you to convert between different data types freely, and it tends to produce pretty fast programs. Most people start out with Pascal (if they learned in college) or Basic. C is harder than Pascal in that it doesn't have much of any "safety net" - almost anything is permitted, whether it makes sense or not. C is better organized than Basic, and things like loops and subroutines are simpler to do. Dmgif is written in C, with some parts that need to be really, really fast done in assembler.

Before you write for DeskMate, you also need to have some experience writing for DOS. You need to know about things like the DOS filesystem, character codes, and near and far pointers.

But the main thing you need is the DeskMate Development Kit, and I'm sorry to say you probably can't get it. It used to cost $295 back when it was being sold, and even then it wasn't something that your local Radio Shack would carry. I lucked into a used copy. You can try, for sure, but expect it to take several months and don't be too hopeful. Local Radio Shacks probably won't know what it is. I have heard of one company that used to make DeskMate programs that was willing to sell their copy, though.

THE DeskMate SDK

The Development Kit is usually called the SDK, for "software development kit." It comes as several disks and two large manuals. The first manual contains general information about the SDK and DeskMate, and describes some of the extra stuff that comes with it, like example programs and programmer's utilities. The second manual describes the actual kit, which is a set of functions (subroutines) that a program can use to access DeskMate. The subroutines are made to be used with C.

The first thing in the first manual is the DeskMate Style Guide, a long list of rules and regulations that a DeskMate program must follow. And back in the days when Tandy was promoting DeskMate, there was enforcement - a program had to be submitted to Tandy for approval before it could bear the DeskMate logo or be sold in Radio Shacks. This Style Guide, and the enforcement mechanism, were the main reasons why DeskMate is so easy to use. They guaranteed that every DeskMate program would work the same, the same menu items would do the same things, the same hotkeys would be used, the same clipboard, and so forth. Tandy closed down its DeskMate work in 1991, and since then there's no enforcement, but I tried to follow the Style Guide wherever possible, since that's what people expect.

The first manual also contains a set of example programs, which are pretty trivial. The idea with them is that you will take one and expand it to make it a real application (which is what I did). Following that, there is some documentation describing the programmer's utilities that come with the SDK. There is a menubar builder, a dialog box maker, a help file editor, a tutorial maker, and some other stuff. One of these, a utility to convert Draw .FIG files to clipart, has been released into

the public domain.

Perhaps the most important utility is DESKHDR.EXE, which converts an .EXE file to .PDM.

The second manual describes the SDK itself, the actual subroutines that a DeskMate program uses to deal with the environment. There are subroutines to run dialog boxes, to get events, to put stuff on the screen, to print stuff, to load files, and many, many more (100's of them). They are divided according to function, printing for instance, or keyboard handling.

PROBLEMS

The problems I had came from three sources. First, there are some bugs in DeskMate, and some in the SDK. Second, there were cases where I needed to do something that DeskMate just wasn't designed to do. Third, memory was a problem.

Bugs: DeskMate may not correctly identify VGA to the program, though the video driver is VGA (this is documented). There's a function to test whether a string is a file, a directory, or neither, but it doesn't work with the root directory. DeskMate won't open a file unless you convert it to uppercase first. In some circumstances, DeskMate can crash if there are more than 50 files in a directory. There are also a couple bugs in the SDK header files (you know what these are if you know C). All of the utilities in the SDK have limits, and none of them (so far as I can see) fails gracefully when its limits are exceeded.

The worst bugs, though, are in printing. Every version of DeskMate, it seems, screws up printing in its own unique way. Every version of DeskMate lies to the program about the printer's capabilities, and every version tells different lies. Printing has to follow a very strict protocol, which is not completely laid out in the SDK, and any deviation can cause the system to crash.

When I had to do something that DeskMate didn't want to let me do, it mainly was a result of the fact that bitmaps, though part of DeskMate from 3.00 onward, are basically an afterthought. Bitmaps are provided for so that programs can have pretty icons, not so that you can fill the screen with different-colored pixels. DeskMate provides a standard bitmap format for programs to use, and bitmaps are automatically rescaled for the display. This is fine for icons, but very bad for dithered graphics, where precise placement of pixels is paramount.

Sometimes, bitmaps were just not though of. The DeskMate Style Guide states, for example, that the space bar should "highlight the graphic element at the current cursor location." Obviously, this makes no sense with a screenful of pixels, as you have with Dmgif. I deviate from the Style Guide in several places because of stuff like this.

I managed to get around the automatic rescaling on the screen, but you have to disable pretty much everything to do it, and DeskMate lies about the screen aspect ratio on every card. When printing, I think the dots per inch information is correct, but there it's worse since there is no way to disable the automatic rescaling, and you have to figure out how to make it rescale automatically in such a way that it will wind up not rescaled.

Finally, memory is a serious problem in a DeskMate program, and not because of the 640k limit. Everything DeskMate sees, along with the program stack, has to fit in 64k; you know this from the size of files you can edit in Text. The reason is that this enables DeskMate to move programs around to make room for other programs, taking advantage of certain features of the Intel processors. At the same time, the same processor features make this 64k the fastest memory for the program to use. This "near" memory therefore becomes a very precious resource, and it has to be used carefully.

CONCLUSION

In spite of the problems, I liked working with DeskMate. Microsoft keeps sending me advertising for the Windows development kit, but it requires a 986DX200 with 512MB of RAM (not really) and costs $500 (really). The DeskMate SDK would work fine on an 8088 with 512k RAM, and it's great on my 286.

Dmgif is what it is because of DeskMate and the nice interface it offers. I wanted a program for the Tandy 1000TL that supported dithering, rescaling, zooming, panning, and color adjustment without VGA, and I got one. I didn't have to worry about the user interface too much; DeskMate took care of most of that.

There's at least one more DeskMate program in my future: a .MOD player for the TL sound. It should be possible to play 4-channel MOD's at 22kHz on the Tandy chip with a 286, 6- and 8-channel MOD's somewhat slower.

I'll see you again in 4-6 months!

-Jeffrey L. Hayes

(NOTE) The program DMgif along with program documentation and history is available on disk #10460 from Wyoming Software.

We thank Mr. Hayes for his program and his contribution to the readers of CNPC.

A ROYAL PAIN IN THE WRIST AND RACING WITH A COMPUTER

by Rita Laws, Ph.D

RSI and CTS are acronyms for two of modern computing biggest health concerns: Repetitive Stress Injuries (RSI) and Carpal Tunnel Sundrome (CTS). They result from too much typing and the use of other input devices that are not wrist-friendly. Three steps toward recovery include: seeing a physician, pacing yourself, and using ergonomic hardware and accesories.

After trying the Ergoware WristSaver by LB Innovators (619) 423-6644/ 800-745-2383), the first word out of your mouth might be, "Ahhhhh." Starting at $14.95 for the mini size, the unusual double wave shape is designed to keep the wrist comfortably cradled and elevated while using a keyboard, mouse or trackball.

The Mouse Mitt is a new and clever idea. This snug padded half-glove supports the wrist, but is more flexible than a wrist brace. You can buy one ($10.95) or a pair (for $19.95) in the Computer Glove or the double-support Keyboarder styles. Mouse Mitts are doctor approved, washable, and come in several sizes. Voice: 408-335-9599 or fax at 408-335-9598.

Ergono mic split or slanted keyboards designed to more naturally and effectively accommodate the human hand and wrist are not common in retail stores yet, but there are more brands sporting lower prices every year. Here are just four companies that sell healthy keyboards in a wide variety or styles and prices:

* Ergonomic Keyboard- Dalco Electronics- 513-743-8042- $76.80

* Microsoft Natural Keyboard- Microsoft- 206-882-8080- $99.95

* MyKey Keyboard- Ergonomixx- 703-771-1047- $275.00

* DataHand System Keyboard- Industrial Innovation- 602-860-8584$2,000.00

Finally, an ergonomic trackball called Trackball Pro is manufactured by CH Products (619)598-2518 for $129.95. Many RSI/CTS sufferers find that a stationary trackball is easier on their wrists and arms than a mobile mouse. One of the people who works at CH Products, told me that he uses his trackball in conjunction with the Ergoware Mousepad WristSaver. I tried this combination myself, and, while it took some getting used to, my right wrist liked it.

VROOM!: COMMERCIAL AUTO RACING GAMES AND STEERING DEVICES

Have you ever wondered what it would feel like to race a Corvette, or to compete at Indy or in the Monaco Grand Prix? If you have a computer, you can find out! You can get off the Information Highway and on to a different kind of road, a race course, with computer racing games.

Keyboar d "driving" requires a practiced hand, and is challenging for all ages, but many people prefer an input device other than the keyboard. There are several to choose from: mice, trackballs, Nintendo-like gamepads, joysticks, and yokes. Joysticks and yokes are popular because they create a more realistic simulation. Yokes have U-shaped half-wheels for steering.

My husband, who is a former racer, was able to drive 20% faster using a yoke called the G-Force than he had been with a keyboard or gamepad. This is because the yoke has more realistic steering capabilities. The better you steer, the faster you can drive without wiping out. The G-Force pivots if you're playing a flying game, and locks if you need to turn it to steer in a driving game. SunCom, (708) 647-4040, sells the G-Force for $69.99 or, for $78.00, a combo pack with a G-Force plus one flight and two racing software games.

The ultimate car racing software device may be the Formula T1 (SRP is $179.95) by Thrustmaster (503) 639-3200. Unlike yokes which are usually designed for flight games and then adjusted for auto racing, this is created for car racing software. It is made up of two parts that plug into your computer: a sturdy, realistic looking steering wheel with gearshift for the desktop, and a separate unit for the floor with gas and brake pedals!

Here are five different computer racing games plus one more just for kids:

1. INDY CAR RACING

Indy Car Racing is a popular favorite among car racing game players.You have eight tracks to choose from, and the choice to play against the computer or against other people in modem-to-modem play. Watch instant replays with the action replay option. The crashes will make you flinch. Perhaps best of all, you must really practice to become good. You'll need to fine tune your car to the track you're on, and you'll need to work at it.

Indy Car Racing (DOS) is made by Papyrus Software at 800-836-1829 and sells for $54.95. Two different expansion packs with extra race tracks are available for $29.99 each.

2. MEGARACE

MegaRace is an intense futuristic sci-fi racing game with 15 different tracks and a talking online guide named Lance Boyle.

You are a competitor in a

deadly nationally televised car race. This is anything goes racing. The other 5 drivers, all virtual vehicular vigilantes, are armed and dangerous.

The maker is Mindscape and the phone number is (415) 883-3000.

MegaRace comes in CD-ROM for DOS format only. Its SRP is $69.95, but I have seen the street price on this game as low as $20.00.

3. NASCAR RACING

NASCA R Racing is a new realistic- looking game for the stock car racer in all of us. There are nine different tracks to run on. Choose the competition, pick your car, fine-tune it- even paint it- in your own garage. Drive from the inside of your car, or from the outside for that "radio-control" feeling. The outside view is lots of fun and is a driving advantage because you can see who is coming up on you. The viewing angles are just like the camera angles you see on a televised race.

The price of this game will vary between 45 and 55 dollars and is available on disk or CD-ROM. You'll need a PC running at least DOS 5.0. Papyrus Software can be reached at 800-836-1829.

4. TURBO MATH, A Racing Game for Kids

This program is a combination of race game, math tutor and math drill. Your kids, ages 5 and up, have to earn the fun. First, they choose from among 5 difficulty levels and which type of math to practice: addition, multiplication, etc.There are tutorials to help with the hard stuff like borrowing and carrying numbers. Correct answers are rewarded with sound effects, animation and prize money that can be spent on race cars. After shopping for and purchasing one or more cars, your child can then race against Turbo Tom. Most will be able to jump right into this game without help from parents or the manual.

Made for Mac or Windows, you'll need at least a 386 PC. Nordic Software is located in Lincoln, Nebraska at (402) 488-5086. The Suggested Retail Price is $49.95.

5. VETTE!

Vette! is a street racing game, and what streets! You'll be chased in your beautiful Corvette all over San Francisco, up and down steep hills, across the Golden Gate Bridge, and through the heart of downtown.

If you have Prodigy, jump SOFTDISK and you can download VETTE! for $19.95. If you don't have Prodigy, you can buy the game on disk by calling VETTE!'s maker, Spectrum Holobyte Software, at 800-695-GAME.

6. WORLD CIRCUIT

World Circuit by MicroProse, (410) 771-1151, is a Grand Prix simulation. You can choose between 16 championship circuits and practice, single race, or championship. You'll execute hairpin turns in a field of 26 cars, pit stop, make fine-tuning decisions, and watch replays of the action. Track conditions and weather vary so you never get tired of the course.

The average retail price is $42.95. DOS is required.

(Note: the actual street price of all of these products can be 10 to 50% lower than the Suggested Retail Price or SRP.)

-Rita Laws

ALL ABOUT PUMPS

EDUCATIONAL SOFTWARE

by Fred Blechman

Have you ever tried to get through a day without using a mechanical pump? You probably don't realize how MANY pumps effect your life every day.

When programmer and artist Russell D.Hoffman first started his research to produce an animated educational software tutorial on pumps, he thought there would be about 17 different pumps. By the time the project was completed, he had animated over 50 pumps!

"ALL ABOUT PUMPS" ($34.95) is the result of nearly two years of research and development by Hoffman. It is designed for everyone who uses pumps -- and we all use them, every day. Specifically, it is designed for schools, pump manufacturers, distributors, and homeowners.

Is there really a need for this? Author Hoffman surely thinks so. "During my research for this project I found a book on inventions, published by the Smithsonian Institute. There was no mention of pumps. Yet, there are close to 400 pump manufacturers in the nation and thousands of distributors," he points out. "Every home, every car, boat, office building, factory -- all have pumps."

ALL ABOUT PUMPS is a DOS program that requires a fairly powerful IBM PC or compatible. Although it works fine on my 386, a 486 with 1 megabyte SVGA video graphics (VESA 1.2) and 4 megabytes EMM or XMS is recommended. You'll also need about 25 megabytes of hard disk space. Since it runs in DOS, it can take full advantage of the hardware without the burden of Windows, resulting in large, smooth, and fast animations.

The authoring system employed

to create ALL ABOUT PUMPS is called "RUSSELL'S P11 ANIMATION MACHINE," also written by Russell D.Hoffman. "P11 began in 1984 when I was asked to program a tutorial about the human heart, titled 'The Engine of Life.' I needed a powerful tool to illustrate blood flow, EKG simulations, vein grafts, and more. There was nothing available to do the job, so I designed and developed P11. It is written entirely in Assembler language with over 100,000 lines of code," he reports. (See sidebar.)

ALL ABOUT PUMPS was written because Hoffman recognized several relevant factors. First, there were no other tutorials available on this subject. The big software houses tend to create dozens of tutorials that cover about four types: An encyclopedia, a dinosaur tutorial, a human body tutorial, and an automotive tutorial.

Second, Hoffman believes that high qquality products can have a long enough shelf life to allow them to return the significant development costs if they "push the envelope" now. Screen resolutions and machine speeds have reached a significant developmental stage. Hoffman believes that Screen Mode 261 (1024 by 768 dots, 256 colors) is adequate for a product expected to remain useful for years to come.

Third, pumps really are fascinating. They contain anywhere from zero to hundreds of working parts, work on many different mechanical and phyical principals, are made of dozens of different materials and, of course, pumps are everywhere.

Fourth, and finally, pump motion is generally cyclic. This made it particularly appropriate for the P11 development system Hoffman had written.

INSTALLATION

ALL ABOUT PUMPS comes on four hi-density 3.5-inch floppy diskettes, which install one at a time - oddly enough, in any sequence! Each disk contains the installation driver, and all you do (while in DOS) is type INSTALL B: C: (that is, source drive and hard drive) for each diskette. Although you must enter this INSTALL command for each disk, the advantage is that it doesn't make any difference if you get the diskettes out of order. A shortcut, after entering the first INSTALL command, is to just press the F3 key to repeat the command after changing diskettes.

All together, it takes about 12 minutes for the four diskettes to install 229 files (19,368,858 bytes!) all into a single directory (P11) with several levels of subdirectories. This includes a simple batch file to start the program. Since new pumps and screens are being added with each new update, plan on 25 megabytes of hard disk space.

PUMPS AWAY!

All you do to start the program is type RUN PUMPS and hit the Enter key. An attractive title screen appears quickly, with a RUNNING HORSE. It just keeps running and running - like the Eveready Rabbit - until you press the Enter key to continue. (This same neat running horse appears on many screens throughout the program.)

The screen changes to the Main Menu, which describes the simple navigational controls to move between major screens. Function key F5 takes you to a listing of all the pumps (52 in all - see Table I), from which you can select any of the pumps.

F10 always takes you back to the Main Menu, where F1 takes you to two help screens that explain some additional key commands. This is all so well done that you actually don't need any documentation to use this program! I'm impressed!!

On the Main Menu screen is a list of eight main program choices: Where Pumps Are Used; How Pumps Work; Types of Pumps; Measuring Pump Performance; The Right Pump for the Job; Historical Background and Some Famous Pumps; The Most Amazing Pump of All; Exit to DOS. Move a floating finger-pointing hand to any topic with your mouse, click, and you're there.

ALL ABOUT PUMPS is organized into sections, subsections, and then screens, with simple navigation between sections and subsections. Within each relatively small subsection you press the Enter key to advance. Unfortunately, you can't "rewind" to a previous screen when in a subsection, which vary from one to twelve screens, but you can jump to the beginning of each subsection with the PgUp and PgDn keys.

Most screens have a large box with descriptive information, and the subject animated pump in motion. You can speed up or slow down the pump using the up or down arrow keys. For more information on a particular pump, just press F5 and select the pump you want from the list of pumps.

I haven't counted the total number of screens in ALL ABOUT PUMPS, but there seem to be about 200! They are all colorful, easy to read, and those with animation operate quickly and smoothly even on my 80386 clone.

I wish more programs were this easy to use! When was the last time you used a program where only two help screens tell you ALL you need to know to use the program effectively, where only a few keys are used for navigation, where no typed commands are

required - and where you can learn so much about a useful topic with so little effort? Russell D.Hoffman should receive awards for this program - it's great!

SOURCE

"ALL ABOUT PUMPS" is available directly from The Animated Software Company at $34.95 per copy. P.O. Box 188006, Carlsbad, California 92009. Phone:(800) 551-2726, (619) 720-7261; Fax:(619) 720-7394; Internet: russelldh@aol.com or 71333,721@compuserve.com; America Online: RUSSELL DH Keyword: ANIMATED SOFTWARE; CompuServe: 71333,721 Keyword: GO ANISOFT

RUSSELL'S P11 ANIMATION MACHINE

The authoring system used to produce ALL ABOUT PUMPS -- and all Animated Software Co. products -- is called RUSSELL'S "P11" ANIMATION MACHINE. It is the result of over 10 years of development.

In 1984, Russell D.Hoffman was asked to develop a human heart tutorial. That tutorial needed lots of animation as well as an ability to place text on the screen and to get input from the user. Further, the tool needed to be designed in such a way that the application developer could modify, rearrange, add, delete and change the tutorial as they designed it.

To accomplish this, Russell D.Hoffman wrote a development system in ASSEMBLER language. Originally designed to run in DOS on 8088-based IBM-PCs, it is compact, powerful, and fast. P11 combines a multi-frame picture editor with a text editor and player for a complete developer's environment. Hoffman used it to develop THE ENGINE OF LIFE, a human heart tutorial.

In 1984 very few software companies were developing animation tools for the PC. GRASP was probably not out yet, AUTODESK ANIMATOR was several years from its first release, and nothing else was available. P11 was therefore not a copy of anything, and it took a unique approach to the problem of allowing the user the ability to develop interactive animated educational software.

What is unique about P11 is the tight combination of animation capabilities and interactive commands. For example, virtually all animations can easily be sped up or slowed down, even single-stepped forward or back. This allows the user to run it at a comfortable pace, to understand the action. Timing control is accurate to about 1/584th of a second. A form of "fuzzy logic" is used to set the speed: about 1/5th of the current frame rate is added or subtracted with each speed change keypress. This allows fairly quick speed changes from very slow to very fast.

P11 is a continually growing thing, and was last upgraded in November, 1994. It is available through numerous BBS's and online services, shareware disk, and CD-ROM distributors.

RUSSELL'S "P11 ANIMATION MACHINE" (also known as P11) can be ordered directly from The Animated Software Co. (See the end of the main article for address and phone numbers.)

Just send $4.95 plus $4.00 shipping and handling (s/h), plus sales tax in California. For Canada and Mexico, s/h is $5.00. Foreign orders please add $6.00 for s/h. If you choose to register the program, the disk cost may be deducted from the $25.00 registration fee!

"The Engine of Life" about the human heart is also available, last upgraded in November, 1994. It is used by thousands of hospitals, schools, doctor offices, and so on. Several other products have been created with P11 by the author and others over the years. Call

800-551-2726 (Pacific Time) for a free catalog.

TECHNICAL SPECS FOR "P11":

Hardware requirements: PC with MS-DOS and color graphics. Program can run on original PC's with 256K of RAM, or use a "Pentium" with EMM or XMS memory for larger images and faster processing. Screen modes: CGA through SVGA. Highest resolution is VESA mode 261, 1024 by 768 dots, 256 colors, supported by virtually all VESA video cards. Demos: Dozens of exciting and educational demos are included. Animation control: Frame timing is variable from less than 1/1,000th of a second to forever. Animate up to 8,000 images in one continuous stream. Sequences can run forward, backward, back-and-forth, or single-step. Follow drawn or mathematical paths in any size window anywhere on the screen. Animate from disk, RAM, Expanded or Extended memory, or CD-ROM. Raster and vector frames are supported. Animation complexity: Over 100 individual windowed animations can be active at one time. Output supported: Screen, built-in PC speaker. 8-bit Sound Blaster cards are also supported. EXECUTE command. HP Laserjet Printer Utility included. Input supported: Any MS-mouse, joystick, or Summagraphics 1201-style digitizer. Touch screens and other input devices can easily be incorporated into your applications. PCX files can be imported. Powerful SCREEN CAPTURE UTILITY. Available commands: Over 85, including graphics (show, draw, line, circle, run); math (add, subtract, multiply, divide); sequencing (if-then-else, jump, call, return); I/O (print, display, read, write);

data storage (build, convert, move, length). Documentation: Full online documentation. Font support: Over 75 screen fonts supplied with product. Font editor allows creation of special characters and additional fonts. Source language: Written entirely in Assembler (about 100,000 lines!) for incredible power and speed in a small size.
-Fred Blechman

(Editor's Note) All About Pumps is also available on CD-ROM $49.95.

HILITE YOUR CHOICE

by Danny C. Mullen

For those of you inclined to write some QBasic programs I'm presenting a couple of routines you may find valuable to add to your secret code box.

The routines are HILITE and UNHILITE. (See Program listing number one.) They perform the action of drawing a highlighted bar on a string of text. The sample program, HILITE.BAS, will show you what I mean if you run it.

The sample program, which grew a little larger than I planned, is a short, yet functional utility written in QBasic. It has four choices of actions which are in the form of a menu centered on the screen. When the program starts, the top choice is shown with a highlight bar on it. You can make other choices by using the up and down cursor keys then pressing the ENTER or RETURN key. The sample program uses three built-in QBasic commands to make a directory, remove a directory, delete (kill) a file, or quit. Note that pressing the escape key will also allow you to quit. (Always try to give a user more than one way to quit a program!)

In the program, I've used a screen color of white letters on a blue background. These become the dfc (default foreground color) and dbc (default background color). Any text printed on screen will have these attributes. In order to highlight the text, a different combination of colors must be used. I chose to use just the opposite - blue characters on a white background. You could choose yellow on red or whatever is appealing to your tastes. If you get too wild, however, your users may balk (or worse!) To un-highlight, change back to the original fore- and background colors.

That's one part of the task in using this approach. The other is keeping track of what selection is highlited so you can un-highlight it prior to making the next selection. If you look at the CASE UP & CASE DN statements I call UNHILITE first, adjust a position indicator, then call HILITE.

HILITE and its partner UNHILITE take five parameters when calling them. You must tell them the X (row) position, the Y (column) position, the colors of the foreground and background (dfc & dbc), and the actual string of text to print there.

There are two other routines that can prove useful and adjustable; BORDER and USERIN.

BORDER's purpose is to draw a border on the screen. You can use different characters or adjust it to just draw a small box. USERIN is to allow a user to input the name (or other data) after you've prompted that input is required. After input, the line used is erased to present a clean screen.

The error handler routine is something you should always use to ensure actions executed with an error have a way to gracefully tell you about it and keep the program from locking up. The one in the program is by no means complete, but may help you remember to add one to your programs. Enjoy.
-Danny C. Mullen

PRINT AT

by Danny C. Mullen

One of the small functions I miss from the BASIC language that the Radio Shack machines had is PRINT@. This function allows a row and column and text to be entered in one statement. Under MS-DOS's basic (GW-BASIC and QBasic) you must use the LOCATE statement and then the PRINT statement.

Well, I decided to simulate as closely as possible the PRINT@ method in the file named PAT.BAS (see listing).

What it does is defines a subroutine named PRINTAT that encapsulates the LOCATE and PRINT commands which can tidy up any programs you may decide to write yourselves. As long as the length of any text string is equal to or less than 80 characters, it will perform the two-step process just mentioned. If the string is greater than 80 characters, you'll get whatever the computer decides is appropriate.

I've improved on the PRINT@ method by including a method to center the text (from left to right) or print it at the extreme right of the screen. I felt this was a handy tool to keep you from counting the length of a text message and manually figuring the correct location. Also,it's assumed you are using the default 80 column by 25 line text screen. You would have to adjust the subroutine for any other screen modes.

To use PRINTAT, copy the subroutine as listed into your own program and call it as I've done in

the sample program (PAT.BAS). The parameters to pass it are the row (X), column (Y), and the text to be printed (S$). The program does all the hard work for you. The demo will simply print three messages at various locations to show you the technique. You can add to the idea by writing the code to center from top to bottom, so why not give it a try? Ensure you do give it valid input for row and column values. You could add some code to check for correct values - I didn't in the demo so as to make it easier to follow. Enjoy.
-Danny C. Mullen

TRANSPORTER (XPORT) A REVIEW

by Danny C. Mullen

What to do when your kids inherit your old DOS machine with no CD-ROM for the latest games and you dare them to touch your shiny new hot rod? Well, that dilemma just struck FORTRESS MULLEN. I had installed 2 games from a CD and life was good for the kids, but not for me. After trying the floppy disk transfer for about 28 megabytes of game files, I had enough. But no alternatives existed and the game wouldn't run anyway! I needed a way to transfer files via a serial cable to the other machine.

I happened across a little gem of a program named XPORT, a shareware offering. This tool is designed for just the situation described. Instead of copying disk after disk, just run this program on both machines and it does almost the whole task except for picking files to transfer and pushing a couple of keys! It's as true as its documentation states. It will automatically search both machines for any serial ports and set the proper (fastest) baud rate with no help from you. There are times when having a modem may confuse it, but my machine has a modem and it presented no problems whatsoever.

You use XPORT by installing a copy on both computers and then run the program. It starts its searching and testing and in just a few seconds, it's ready to serve you. It can be operated from either machine to send or receive files, and you can view or change directories on either machine. Selecting files to transfer is as easy as pressing the spacebar to tag a file, or pressing F1 to tag all files in the current directory. When finished selecting, just press the ENTER key. It will ask if you want to overwrite any files of the same name in the destination directory before it sends anything too.

Another feature is the ability to print to a printer that's hooked to the remote computer. This eliminates the step of transferring a file to the machine that has a printer then printing it. The full version allows you to create directories on the remote machine to match those on the sender. Also on the registered version are a file viewing tool and a wildcard file selection mask that can help eliminate or reduce manually selecting files. The latest registered version, 3.3, even has a scripting ability. You can set up a list of files to transmit, then run XPORT without pressing another key. You can only send, not receive, with the script method.

The only hardware you will need is a null modem cable. You may also need a gender-changer unless you can buy the cables already made with proper male/ female connectors. On typical machines, you need a female connector on both ends if using a cable with the DB-25 connectors or both male ends if using a DB-9 connector. Check your machine carefully before you head to the store. CN-PC can supply you with a null-modem cable for $6.95. If you're the adventurous type, there are even diagrams in the documentation file on how to set up your own cable.

Another thoughtful tool included with XPORT is XCLONE. Its purpose is to transmit XPORT to a remote computer that may have an incompatible disk drive setup. Run XCLONE after setting up both machines as instructed, and in a flash, XPORT is copied to the other system.

Finally, the registration price is $24.95 + $2.50 shipping. Not a bad deal considering what more 'glossy' brands charge. I gladly sent my money to get the registered version, since the authors definitely put a lot of effort into making it easy to use. It performed flawlessly in my case and I will relish it more as the kids get more CD games. Order the shareware version from WYOMING SOFTWARE.

-Danny C. Mullen

REALEST/BAS

Danny C. Mullen has also submitted a free realestate program that will calculate mortgage affordablity, ballon payments, and other scheduals. (See Program Listing Number Three on page 17. All of these programs will be on the CN-PC disk series for this issue for those who do not wish to type them in.

REMINDER

If your mailing label ends in 95/07 this is your last issue. Time to get your renewal in the mail.

MOVING ?

Remember to send us your change of address.

HILITE/BAS PROGRAM LISTING NUMBER ONE by Danny C. Mullen

```
'MOVING BAR MENU
'PUBLIC DOMAIN by Danny C. Mullen

'-- declare some subroutines

DECLARE SUB UNHILITE (row%, col%, fc%, bc%, s$)
DECLARE SUB HILITE (row%, col%, fc%, bc%, s$)
DECLARE SUB BORDER ()
DECLARE SUB USERIN ()

'-- set up default values

ON ERROR GOTO ErrorHandler
OPTION BASE 1                          'all array subscripts start at 1
DEFINT A-Z                             'make all integers for speed/size
DIM C$(5)                              'room for 5 strings
DIM SHARED IN AS STRING                      'place for user input
UP = 72                                'some constant values for arrow keys
DN = 80
LF = 75
RT = 77
dfc = 7                                'default foreground color
dbc = 1                                'default background color
x = 10                                 'starting row
y = 30                                 'starting column
hpos = 0                               'horizontal position counter
vpos = 0                               'vertical position counter
choice = 1                             'choice pointer

'-- start execution

COLOR dfc, dbc                         'we'll use the default colors
CLS                                    'clean slate to work on
CALL BORDER                                'draw a screen border
C$(1) = "  DELETE  A  FILE   "         'strings of displayed choices
C$(2) = "  MAKE A DIRECTORY  "
C$(3) = " REMOVE A DIRECTORY "
C$(4) = "        QUIT        "
z = x                                  'use z and save x value
FOR I = 1 TO 4                           'number of choices
 LOCATE z, y                           'cursor to correct location
 PRINT C$(I);                          'print it
 z = z + 1                             'bump counter z by one for next row
NEXT I                                 'continue for all choice strings

CALL HILITE(x + hpos, y, dbc, dfc, C$(choice))     'highlight default choice

'-- start main loop

DO
  DO                                       'start double DO LOOP
    response$ = INKEY$                     'loop till a key is pressed
  LOOP WHILE response$ = ""
  Resp = ASC(response$)                    'get its ascii value
```

Cont'd on the next page.

```
  IF LEN(response$) > 1 THEN                    'if it's an extended code..
    scancode = ASC(MID$(response$, 2, 1))       'use the scan code
  ELSE
    scancode = Resp                             'else just use regular code
  END IF
  SELECT CASE scancode
    CASE UP                                                  'up arrow?
      IF hpos > 0 THEN
        CALL UNHILITE(x + hpos, y, dfc, dbc, C$(choice))
        hpos = hpos - 1                                     'move up
        choice = choice - 1                                 'adjust a pointer
        CALL HILITE(x + hpos, y, dbc, dfc, C$(choice))
      END IF
    CASE DN                                                  'down arrow?
      IF hpos < 3 THEN
        CALL UNHILITE(x + hpos, y, dfc, dbc, C$(choice))
        hpos = hpos + 1                                     'move down
        choice = choice + 1                                 'adjust a pointer
        CALL HILITE(x + hpos, y, dbc, dfc, C$(choice))
      END IF
    CASE LF                                                  'left arrow?
      vpos = vpos - 1                                       'move left
    CASE RT                                                  'right arrow?
      vpos = vpos + 1                                       'move right
    CASE 13, 10                                             'return or enter?
      SELECT CASE hpos
        CASE 0                                              'if first choice
          CALL USERIN
          IF IN <> "" THEN
            KILL IN                                         'delete file
          END IF
        CASE 1                                              'if second choice
          CALL USERIN
          IF IN <> "" THEN
            MKDIR IN                                        'make a directory
          END IF
        CASE 2                                              'if third choice
          CALL USERIN
          IF IN <> "" THEN
            RMDIR IN                                        'remove directory
          END IF
        CASE 3                                              'if fourth choice
          Resp = 27                                         '  same as escape
        END SELECT
    CASE ELSE                                               'any undefined keys
  END SELECT
LOOP UNTIL Resp = 27                                        '27 is escape char

END                                                         'program end

ErrorHandler:
  errNum = ERR                                  'always try to have error routine
  IF errNum = 75 THEN                           '  when a user can input data!
    LOCATE 23, 5
    COLOR 14, 4
    PRINT " Directory exists or unable to create ";
```

Cont'd on the next page.

```
    PRINT "or already file with that name. ";
  END IF
  IF errNum = 76 OR errNum = 53 THEN
    LOCATE 23, 23
    COLOR 14, 4
    PRINT " Directory or file was not found. ";
  END IF
    LOCATE 24, 26
    PRINT " PRESS A KEY TO CONTINUE... ";
    LOCATE 25, 70
    COLOR 0, 7
    PRINT USING "Error ###"; errNum;
    BEEP
    DO
    LOOP UNTIL INKEY$ <> ""
    LOCATE 23, 2
    COLOR 7, 1
    PRINT STRING$(78, " ");
    LOCATE 24, 2
    PRINT STRING$(78, " ");
    LOCATE 25, 70
    COLOR 7, 1
    PRINT STRING$(9, 219);
  RESUME NEXT

SUB BORDER
 LOCATE 1, 1
 PRINT STRING$(80, 219);
 FOR I = 2 TO 25
   LOCATE I, 1
   PRINT CHR$(221);
   LOCATE I, 80
   PRINT CHR$(222);
 NEXT I
 LOCATE 25, 1
 PRINT STRING$(80, 219);
 LOCATE 25, 2
 COLOR 0, 7
 PRINT "ESC to QUIT";
 COLOR 7, 1
END SUB

SUB HILITE (row, col, fc, bc, s$)
 LOCATE row, col
 COLOR fc, bc
 PRINT s$;
 COLOR dfc, dbc
END SUB

SUB UNHILITE (row, col, fc, bc, s$)
 LOCATE row, col
 COLOR fc, bc
 PRINT s$;
END SUB

SUB USERIN
```

Cont'd on the next page.

```
  LOCATE 20, 10
  COLOR 7, 1
  INPUT ; "Directory name :", IN
  LOCATE 20, 2
  PRINT STRING$(78, " ");
END SUB
```

PAT/BAS PROGRAM LISTING NUMBER TWO by Danny C. Mullen

```
'PAT.BAS -- a 'print at' function (and demo)
'PUBLIC DOMAIN by Danny C. Mullen

DEFINT A-Z                              'integers are fast
DECLARE SUB PRINTAT (X, Y, S$)          'declare our print at sub
COLOR 7, 1                              'white on blue
CLS                                     'erase the chalkboard

ctr = 255                               'some constants make life easier
lft = 1
rht = 254
top = 1
bot = 25
mid = 13

PRINTAT top, lft, "TESTING FOR TOP LEFT"      'print some test messages
PRINTAT mid, ctr, "TESTING FOR MID CENTER"
PRINTAT bot, rht, "TESTING FOR BOTTOM RIGHT"
DO                                      'wait for a keypress
LOOP UNTIL INKEY$ <> ""

END

SUB PRINTAT (X, Y, S$)                  'we will receive 3 values (X,Y,S$)
 IF LEN(S$) > 80 THEN RETURN            'if too big, forget it
 IF Y = 255 THEN                        '255 means print center (left to right)
   LOCATE X, (80 - LEN(S$)) / 2         'find middle of screen
 ELSEIF Y = 254 THEN                    '254 means all the way on right side
   LOCATE X, 81 - LEN(S$)               'find proper point
 ELSE
   LOCATE X, Y                          'or just print where told
 END IF
 PRINT S$;                              'now print that message
END SUB
```

REALEST/BAS PROGRAM LISTING NUMBER THREE by Danny C. Mullen

```
'Real Estate Programs
'Danny C. Mullen
'Free for CNPC readers
CONST FALSE = 0, TRUE = NOT FALSE
ON ERROR GOTO trap
```

Cont'd on the next page.

```
 an% = 0
KEY OFF
COLOR 7, 1
again:
CLS
GOSUB logo
GOSUB menu

IF an% < 1 THEN an% = 0: GOSUB choice: GOTO again
IF an% > 9 THEN an% = 0: GOSUB choice: GOTO again
IF an% = 1 THEN GOSUB pmt
IF an% = 2 THEN GOSUB sched
IF an% = 3 THEN GOSUB rembal
IF an% = 4 THEN GOSUB accpmt
IF an% = 5 THEN GOSUB balloon
IF an% = 6 THEN GOSUB afford
IF an% = 7 THEN GOSUB mort2
IF an% = 8 THEN GOSUB rent
IF an% = 9 THEN GOTO quit
GOSUB another
IF an% = 255 THEN GOTO again

quit:
END

rent:
GOSUB clrcenter
LOCATE 8, 25: INPUT "Amount borrowed"; am!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Annual Interest Rate"; in!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Term of loan (years)"; yr!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Annual Insurance"; ai!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Annual taxes"; at!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Annual maintenance"; mt!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Monthly income"; mi!
LOCATE 8, 1: PRINT STRING$(80, 32);
GOSUB calcpmt
p# = INT(p# * 100 + .5) / 100
cf! = mi! - p# - (ai! + at! + mt!) / 12
LOCATE 9, 25: PRINT "RENTAL PROPERTY ANALYSIS";
LOCATE 10, 25: PRINT USING "Monthly Payment  : $$#######,.##"; p#
LOCATE 11, 25: PRINT USING "Monthly Cash Flow: $$#######,.##"; cf!
RETURN

mort2:
GOSUB clrcenter
LOCATE 8, 25: INPUT "Purchase price"; pp!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Cash available"; ca!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "First mortgage"; fm!
```

Cont'd on the next page.

```
 LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "First rate"; fr!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "First term"; ft!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Second rate"; sr!
LOCATE 8, 1: PRINT STRING$(80, 32);
am! = fm!
in! = fr!
yr! = ft!
GOSUB calcpmt
p# = INT(100 * p# + .5) / 100
LOCATE 9, 25: PRINT "MORTGAGE WITH SECOND";
LOCATE 10, 25: PRINT USING "Payment (first) : $$#######,.##"; p#
IF ca! < pp! - fm! THEN GOTO skip
LOCATE 11, 25: PRINT "Second Mortgage not required": RETURN
skip:
p2! = (pp! - ca! - fm!) * sr! / 100 / 12
p2! = INT(100 * p2! + .5) / 100
LOCATE 11, 25: PRINT USING "Payment (second): $$#######,.##"; p2!
LOCATE 12, 25: PRINT USING "Total Payments  : $$#######,.##"; p# + p2!
RETURN

afford:
GOSUB clrcenter
LOCATE 8, 25: INPUT "Annual Interest Rate"; in!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Term of loan (years)"; yr!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Buyer Annual Income"; inc!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Estimated Annual Tax and Insurance"; tx!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Percent of Income for Payments"; ip!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Percent Down Payment"; pd!
LOCATE 8, 1: PRINT STRING$(80, 32);
p# = ip! / 100 * inc / 12 - tx / 12
in! = in! / 100 / 12
n1! = 12 * yr!
v! = 1 / (1 + in!)
am! = p# * (1 - v! ^ n1!) / in!
am! = INT(am! * 100 + .5) / 100
ah! = INT(am! / (1 - pd! / 100) * 100 + .5) / 100
LOCATE 9, 25: PRINT "AFFORDABLE HOUSE";
LOCATE 10, 25: PRINT USING "Amount Financed : $$#######,.##"; am!
LOCATE 11, 25: PRINT USING "Affordable House: $$#######,.##"; ah!
RETURN

balloon:
GOSUB clrcenter
LOCATE 8, 25: INPUT "Amount borrowed"; am!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Annual Interest Rate"; in!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Term of loan (years)"; yr!
```

Cont'd on the next page.

```
 LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Year Loan Due"; n
LOCATE 8, 1: PRINT STRING$(80, 32);
n = 12 * n
GOSUB calcpmt
GOSUB calcbal
p# = INT(p# * 100 + .5) / 100
am! = INT(am! * 100 + .5) / 100
LOCATE 9, 25: PRINT "BALLOON PAYMENT";
LOCATE 10, 25: PRINT USING "Monthly payment : $$#######,.##"; p#
LOCATE 11, 25: PRINT USING "Balloon payment : $$#######,.##"; am!
RETURN

accpmt:
GOSUB clrcenter
LOCATE 8, 25: INPUT "Amount borrowed"; am!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Annual Interest Rate"; in!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Term of loan (years)"; yr!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Year of Increase"; n
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Extra amount paid"; ex!
LOCATE 8, 1: PRINT STRING$(80, 32);
am1! = am!
am2! = am!
n1! = n
GOSUB calcpmt
n = 12 * n - 12
GOSUB workdisp
FOR j = 1 TO n
 i1! = in! / 12 / 100 * am!
 p1! = p# - i1!
 am! = am! - p1!
 ti! = ti! + i1!
 tp! = tp! + p1!
NEXT j

FOR j = 1 TO 12 * yr!
 i2! = in! / 12 / 100 * am2!
 p2! = p# - i2!
 am2! = am2! - p2!
 ti2! = ti2! + i2!
NEXT j

j = 0

j0:
i1! = in! / 12 / 100 * am!
ti! = ti! + i1!
p1! = p# + ex! - i1!
tp! = tp! + p1!
am! = am! - p1!
j = j + 1
IF am! > 0 THEN GOTO j0
```

Cont'd on the next page.

```
yr! = INT((n + j / 12 - 1) * 100 + .5) / 100

ti! = INT(ti! * 100 + .5) / 100
ti2! = ABS(INT((ti2! - ti!) * 100 + .5) / 100)

LOCATE 9, 25: PRINT "ACCELERATED PAYMENTS";
LOCATE 10, 25: PRINT USING "Years to pay off:     #######.##"; yr! - 65
LOCATE 11, 25: PRINT USING "Total Int Paid  : $$#######,.##"; ti!
LOCATE 12, 25: PRINT USING "Interest saved  : $$#######,.##"; ti2!
RETURN

rembal:
GOSUB clrcenter
LOCATE 8, 25: INPUT "Amount borrowed"; am!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Annual Interest Rate"; in!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Term of loan (years)"; yr!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Payment Number"; n
LOCATE 8, 1: PRINT STRING$(80, 32);
GOSUB calcpmt
GOSUB calcbal
p! = INT(p! * 100 + .5) / 100
LOCATE 9, 25: PRINT "REMAINING BALANCE";
LOCATE 10, 25: PRINT USING "Monthly Payment Amount   : $$######,.##"; p#
LOCATE 11, 25: PRINT "Balance after"; n; USING "payments: $$######,.##"; am!
RETURN

pmt:
GOSUB clrcenter
LOCATE 8, 25: INPUT "Amount borrowed"; am!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Annual Interest Rate"; in!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Term of loan (years)"; yr!
LOCATE 8, 1: PRINT STRING$(80, 32);
GOSUB calcpmt
p! = INT(p! * 100 + .5) / 100
LOCATE 9, 25: PRINT "MONTHLY PAYMENT";
LOCATE 10, 25: PRINT USING "Amount Borrowed:  $$#######,.##"; am!
LOCATE 11, 25: PRINT USING "Annual Int Rate:        ##.##"; in!
LOCATE 12, 25: PRINT USING "Monthly Payment:  $$#######,.##"; p#
RETURN

sched:
GOSUB clrcenter
LOCATE 8, 25: INPUT "Amount borrowed"; am!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Annual Interest Rate"; in!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Term of loan (years)"; yr!
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Show what year (0 for all)"; n
LOCATE 8, 1: PRINT STRING$(80, 32);
LOCATE 8, 25: INPUT "Send to printer (y/n)"; pr$
```

Cont'd on the next page.

```
LOCATE 8, 1: PRINT STRING$(80, 32);
eq! = am!
GOSUB calcpmt
IF n <> 0 THEN
  n = 12 * n - 12
  c = 12
ELSE
  n = 0
  c = yr! * 12
END IF

GOSUB calcbal
IF UCASE$(pr$) <> "Y" THEN
  GOTO sched1
ELSE
  GOTO sched2
END IF

sched1:
LOCATE 3, 1
FOR i = 3 TO 22
 PRINT STRING$(80, 32);
NEXT i
LOCATE 5, 1
PRINT TAB(15); "MONTH   PRINCIPAL    INTEREST     BALANCE      EQUITY"
FOR j = 1 TO c
 i1! = INT(in! / 12 * am! + .5) / 100
 p1! = INT(100 * (p# - i1!) + .5) / 100
 am! = INT(100 * (am! - p1!) + .5) / 100
 PRINT TAB(15); USING " ### #######,.## #######,.## #######,.## #######,.##";
n + 1; p1!; i1!; am!; eq! - am!
 n = n + 1
 IF j MOD 12 = 0 THEN
  DO
  LOOP UNTIL INKEY$ <> ""
  LOCATE 6, 1
 END IF
NEXT j
GOTO schedend:

sched2:
GOSUB workdisp
LPRINT TAB(15); "MONTH   PRINCIPAL    INTEREST     BALANCE      EQUITY"
FOR j = 1 TO c
 i1! = INT(in! / 12 * am! + .5) / 100
 p1! = INT(100 * (p# - i1!) + .5) / 100
 am! = INT(100 * (am! - p1!) + .5) / 100
 LPRINT TAB(15); USING " ### #######,.## #######,.## #######,.## #######,.##";
n + 1; p1!; i1!; am!; eq! - am!
 n = n + 1
NEXT j
schedend:
RETURN

calcpmt:
n1! = 12 * yr!
```

Cont'd on the next page.

```
 i1! = in! / 100 / 12
v! = 1 / (1 + i1!)
p# = am! * i1! / (1 - v! ^ n1!)
RETURN

calcbal:
FOR i = 1 TO n
 am! = am! - p# + in! / 12 / 100 * am!
NEXT i
RETURN

menu:
LOCATE 6, 1
PRINT TAB(20); STRING$(40, 196);
LOCATE 7, 1
PRINT TAB(30); "1. Monthly Payment Amount"
PRINT TAB(30); "2. Mortgage Schedule"
PRINT TAB(30); "3. Remaining Balance"
PRINT TAB(30); "4. Accelerated Payments"
PRINT TAB(30); "5. Balloon Payment"
PRINT TAB(30); "6. Affordable House"
PRINT TAB(30); "7. Mortgage with Second"
PRINT TAB(30); "8. Rental Property Analysis"
PRINT TAB(30); "9. Quit"
PRINT TAB(20); STRING$(40, 196)
DO
 response$ = INKEY$
LOOP WHILE response$ = ""
LOCATE 24, 1: PRINT STRING$(80, 32);
an% = VAL(response$)
RETURN

another:
LOCATE 19, 30
PRINT "Do another run (y/n)? ";
DO
 response$ = INKEY$
LOOP WHILE response$ = ""
LOCATE 19, 1: PRINT STRING$(80, 32);
IF UCASE$(response$) = "Y" THEN an% = 255 ELSE an% = 0
RETURN

choice:
LOCATE 17, 24
COLOR 14, 4
PRINT " Invalid choice -- press any key ";
BEEP
COLOR 7, 1
DO
 response$ = INKEY$
LOOP WHILE response$ = ""
LOCATE 17, 24: PRINT STRING$(32, 32);
RETURN

logo:
PRINT STRING$(33, 177); " REAL  ESTATE "; STRING$(33, 177)
```

Cont'd on the next page.

```
 LOCATE 25, 1
PRINT STRING$(35, 177); " Ver  1.0 "; STRING$(35, 177);
LOCATE 3, 1
RETURN

workdisp:
LOCATE 9, 25
PRINT "Working ..."
RETURN

trap:
device$ = ERDEV$
recoverable% = FALSE
SELECT CASE ERR
CASE 27
 message1$ = " Printer is out of paper"
 message2$ = "Load paper and press any key. "
 recoverable% = TRUE
CASE 57, 25, 24, 68
 message1$ = " Printer I/O error. "
 message2$ = " Check that printer is on line and press any key."
 recoverable% = TRUE
CASE ELSE
 message1$ = " A type" + STR$(ERR) + " error occurred."
END SELECT

IF NOT recoverable% THEN
 COLOR 14, 4
 message1$ = message1$ + " Aborting program. Press any key. "
 LOCATE 24, 40 - (LEN(message1$) \ 2)
 PRINT message1$; : BEEP
 COLOR 7, 1
 r$ = INPUT$(1)
 LOCATE 23, 1: PRINT STRING$(160, 32);
 RESUME quit
ELSE
 LOCATE 23, 40 - (LEN(message1$) \ 2): COLOR 14, 4: PRINT message1$;
 message2$ = message2$ + " Press ESC to quit program. "
 LOCATE 24, 40 - (LEN(message2$) \ 2): PRINT message2$; : COLOR 7, 1
 BEEP
 r$ = INPUT$(1)
 LOCATE 23, 1: PRINT STRING$(160, 32);
 IF r$ = CHR$(27) THEN RESUME quit
 RESUME
END IF

clrcenter:
LOCATE 7, 1
FOR i = 7 TO 15
 PRINT STRING$(80, 32);
NEXT i
LOCATE 7, 1
RETURN
```

Sell your used equipment with a classified ad in Computer News PC
$1 per line of 35 Characters or spaces. $ 6 minimun.
Classified ads in CN-PC bring results.

BIRTHDAY PARTY FOR GOOD OLD JOE

SIZZLER STEAK HOUSE
123 Broadway

Saturday, June 10, 1995
7:00 p.m.

Sizzler's Famous Buffet Dinner
ALL YOU CAN EAT!
$12.95 Including tips.

Casual dress
Jacket and/or Tie Optional

R.S.V.P. - On or before June 8.

Phone: 432-6548

Yo'all Come!

Fig. 1. Announcement Printed with PrintChief and Deskmate 3.0

```
                                                    [   PrintChief   ]
                                                    <-┘  Mode: IBM  Tandy
                                                    [R]  Reset to Normal
                                                    [A]  Babyface (Microfont)
                                                    [B]  Bold
                                                    [C]  Condensed
                Specially Created for               [D]  Double Strike
                                                    [F]  Form Feed
              Tandy Dot-Matrix Printers             [L]  Line Feed
                                                    [V]  Reverse Line Feed
                      and                           [H]  Double Height Ltr.
                                                    [N]  Near Ltr Quality
                   DeskMate                         [P]  Proportional NLQ
                                                    [S]  Skip Page Break
                                                    [T]  Twelve C.P.I.
                                                    [U]  Underline
                                                    [W]  Wide (Elongated)
                                                    [=]  Superscript
                                                    [-]  Subscript
                  PrintChief                        [F6] 1/6"  Line Spacing
                 Version 342-1.0                    [F7] 7/72" Line Spacing
              (c) Copyright 1988,91 by              [F8] 1/8"  Line Spacing
             Arrowhead Productions, Inc.
        Titusville, Florida - All Rights Reserved   Command:> [F10] or [ESC]
```

Fig. 2. PrintChief Menu - Tandy DMP300 (IBM/Tandy Modes) - IBM Mode.

```
                                                    [   PrintChief   ]
                                                    <-┘  Mode: IBM  Tandy
                                                    [R]  Reset to Normal
                                                    [A]  Babyface (Microfont)
                                                    [B]  Bold
                                                    [C]  Condensed
                Specially Created for               [I]  Italics
                                                    [F]  Form Feed
              Tandy Dot-Matrix Printers             [L]  Line Feed
                                                    [V]  Reverse Line Feed
                      and                           [H]  Double Height Ltr.
                                                    [N]  Near Ltr Quality
                   DeskMate                         [P]  Proportional NLQ
                                                    [S]  Skip Page Break
                                                    [T]  Twelve C.P.I.
                                                    [U]  Underline
                                                    [W]  Wide (Elongated)
                                                    [=]  Superscript
                                                    [-]  Subscript
                  PrintChief                        [F6] 1/6"  Line Spacing
                 Version 342-1.0                    [F7] 1/12" Line Spacing
              (c) Copyright 1988,91 by              [F8] 1/8"  Line Spacing
             Arrowhead Productions, Inc.
        Titusville, Florida - All Rights Reserved   Command:> [F10] or [ESC]
```

Fig. 3. PrintChief Menu - Tandy DMP300 (IBM/Tandy Modes) - Tandy Mode.

```
[ PrintChief ]

≡≡≡ Font Selection ≡≡≡          ≡≡≡ Paper Selection ≡≡≡

[A] Babyface (Microfont)        [F] Form Feed
[B] Bold                        [L] Line Feed
[D] Double Strike               [V] Reverse Line Feed
[H] Double Height Ltr.          [S] Skip Page Break
[I] Italics
[N] Near Ltr Quality            [F5] 4 Lines Per Inch
[Q] Quadruple Height Ltr.       [F6] 6 Lines Per Inch
[U] Underline                   [F7] 8 Lines Per Inch
[=] Superscript                 [F8] 7/72" Line Spacing
[-] Subscript                   [F9] Double Line Spacing

≡X≡ Other Options ≡≡≡           ≡≡≡ Pitch Selection ≡≡≡

[1] Roman                       [5] 15 - C.P.I.
[2] Courier                     [6] 12 - C.P.I.
[3] Sanserif                    [C] Condensed
                                [P] Proportional
[4] Reverse Print Mode          [W] Wide (Elongated)

[R] Reset to Normal             Command:> [F10] or [ESC]
```

Fig. 4. PrintChief Menu - Tandy DMP136 - Epson Mode

Computer News PC Product Guide

PROGRAMS

PACK - MS-DOS Version $ 18.95 (Z)
BASIC Program Packer by David Goben.

MS UTILITIES by David P. Miller $ 30.00 (Z)
Transfer files between TRS/LS DOS disks and MS-DOS disks. Format MS disks on a model 4.

SAVE & GO by David Goben $ 18.95 (Z)
MS-DOS Directory Utilities (see Vol 3.1)

DISKETTES

American Made - Bulk Platinum Brand by Syncom.

FLOPPY DISKS DOUBLE DENSITY
5-1/4 DS/DD 360k. $ .38 (Z)
100% Error Free Lifetime Guarantee with Paper Sleeves, Labels & Read/Write Tabs.

3-1/2" DS/DD 720k $ .59 (Z)
Premium Quality complete with labels, 100% Error Free, Lifetime Warranty.

FLOPPY DISKS HIGH DENSITY
5-1/4 DS/HD 1.2meg $ .58 (Z)
100% Error Free Lifetime Guarantee with Paper Sleeves, Labels & Read/Write Tabs.

3-1/2" DS/HD $ .69 (Z)
Premium Quality complete with labels, 100% Error Free, Lifetime Warranty.

5-1/4" TYVEK SLEEVES (25 per pk) $ 1.25 (W)

COLOR CODED DISK LABELS
Five Color 5.25 Write-On Disk Labels
10 labels w/10 read-write tabs per sheet
100 per package $ .50 (W)

FLOPPY DISK MAILERS
Self-Sealing Mailer package of 10 $ 3.35 (Z)
Holds one or two 5-1/4 floppy disks.

SELECTOR SWITCHES

A-B SWITCH, PARALLEL $ 14.75 (Z)
With three female 36 conductor centronics connectors.
A-B SWITCH, SERIAL, RS232 $ 12.75 (Z)
With three DB25 Female connectors.
THREE POSITION SERIAL SWITCH $ 16.95 (Z)
w/4 DB25 Female connectors

CABLES REQUIRED BETWEEN AB SWITCH and PRINTER

Printer to Selector Switch 6' M-M $ 13.49 (Z)
Printer to Selector Switch 10' M-M $ 15.95 (Z)
Printer to Selector Switch 15' M-M $ 18.95 (Z)

RS232/MODEM CABLES

Serial Cable 6 ft. DB-25 M TO DB-25 F $ 6.95 (Z)
Serial Cable 6 ft. DB-25 M TO DB-25 M $ 6.95 (Z)
Serial Cable 3 ft. DB-9 F TO DB-25 M $ 6.00 (Z)
Serial Cable 6 ft. DB-9 F TO DB-25 M $ 6.95 (Z)

NULL MODEM Cable 6 ft DB-25 M TO DB-25 F $ 6.95 (Z)
Connect two computers together.

PRINTER CABLES

For PC IBM/Compatible Computers to Parallel Printers.
Round 6 ft. Parallel Printer Cable $ 9.05 (Z)
Round 10 ft. Parallel Printer Cable $ 10.35 (Z)

For Tandy 1000 Computers to Parallel Printers.
Flat Ribbon 6' Parallel Printer Cable $ 12.95 (Z)
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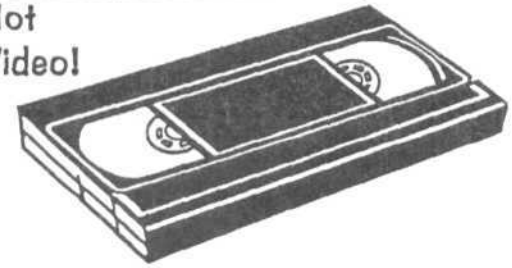

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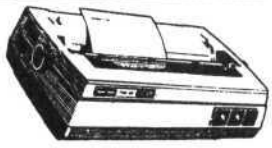

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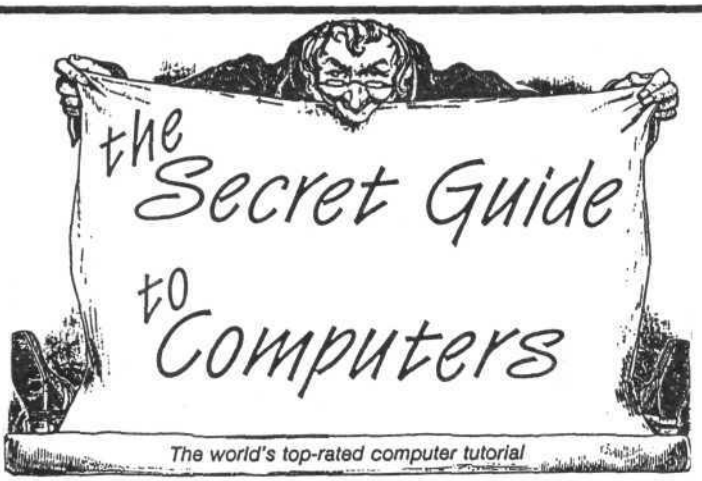

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