

Computer News 80

P.O. BOX 680/CASPER, WYOMING 82602-0680

307-265-6483

JANUARY 1995 VOLUME 8 NUMBER 1

\$4.00

INDEX

THE PRINTER MARKET by CN80	Page 2
EXPORTING PROFILE 4 PLUS DATA by Harold J. Hendriks	Page 3
LIST/CMD PAGINATION PATCH by Henry H. Herrdegen	Page 10
HOW I USE MODEL 4's by Charles Harris, MD	Page 11
HI-RES SLIDE SHOW PROGRAMS by Gary W. Shanafelt	Page 12
DATA SELECTOR SWITCHES by CN80	Page 14
DICEROLL/BAS by Clifton N. Duval	Page 15
A TALE OF 3 COMPUTERS PART 1 by Jack E. Willson	Page 16
PROGRAM LISTINGS	Page 18
PROFILE4 PLUS EXAMPLE FIGURES	Page 19
TRS-80 SHOPPERS GUIDE	Page 21
CLASSIFIED	Page 21
CN80 PRODUCT GUIDE	Page 27

EDITORIAL COMMENT

Here we are opening our eighth year of support for the Radio Shack Model 1, 3, and 4 computers. Much has changed in the computer industry over the past seven years and much has changed in the world of electronic technology. Some of it good and some of it just a remake of what was already there. Like in all things these changes bring about market shifts and many promises of a better future, with ease of use, with increased productivity, more power, faster engines and sexier looking products. But many of the promises prove to be as empty as most of the Madison Avenue advertising hype is.

What advantage is a more powerful word processor, built into a top of the line, technologically the fastest computer on the market - if the learning curve is over a year to master the program and its many promised features. How much efficiency in the work place is gained, if the majority of your time is taken up in learning one program with one function, only to find out after you have "half-mastered" the current version that a "new release" has already made the version you are learning obsolete.

Recently a subscriber sent us a newspaper clipping from the New York Daily News that stated "City schools had 62,245 computers for students as of the fall of 1993 - less than a third of what state education officials recommend." And goes on to say that "At least 41,224 of the student computers are obsolete." Many of those schools who did have computers had them still in their original cartons, stored in closets because there was no teachers available who could teach their use, or willing to learn how to use them.

Tomorrows kids entering into the work force will *have to know* or have some experience with computers. Because computers of *some type* will be in use in every office, hospital, production plant, retail store and supermarket. Perhaps most students will get their first exposure to computer use at McDonalds, or Holiday Inns. And as Richard Devin of West Babylon, New York said in his note

JANUARY
1995

attached to the article which he so kindly sent to us. "This may be the last big stash of TRS-80s around."

The article had a picture of a Model 3 on sitting on a desk with a room full of Model 3s or 4s in the background. The caption read "Bottom of the line: Relic from the 1980s." A second picture showing a closet full of Macintosh computers had the caption "Top of line: Macintosh computer sit unused." The point of the article was summed up in a graph showing - Newer models 21,021 Obsolete models 41,224.

The sad part is that the authors of the articles really did not know much about their subject. No computer is obsolete - or even better turn it around and say that every computer is obsolete! The day you buy a computer it is already obsolete or the software bundled with it is the older version. We recently purchased a 14,400 bps modem, which was advertised complete with operating programs for our MS-DOS computer. The kicker was that to upgrade the software to the latest version all you had to do was send in another \$80 so that you were operating with the latest version of the program.

The point here is that no matter what computer your children learn on in school when they enter the work force they will encounter computers and programs that are nothing like what they learned on. The important thing is that once they have been introduced to the basics of using a computer - any computer - they will have an easier time of adapting to the computer their employer hands them. The computer used by their employer just might be and old "obsolete" Trash 80 Model 4!

If your school does not provide computer training for you children or grandchildren, then invest in a good used model ("obsolete") computer - they certainly don't cost much on today's used market. And it doesn't take a super computer to get on the information superhighway (Internet) that we are all reading about in almost every newspaper and magazine you pick up. Or to send an electronic message around the world. And the software for these "obsolete" computers costs even less.

It won't keep the billionaire software companies going with your cash, but it will educate your children, - and maybe yourself - in the use of computers and their applications.

Correction

Last month we reported that Chicago Syslink Bulletin Board's annual fee was \$20.00, it should have said \$30. This is still relvantly inexpensive if you consider all that they have to offer.

708-795-4442 Main BBS number

Give them a call and be sure to tell them that Computer News sent you.

You can Email us at:

stan.slater@syslink.mcs.com

If you tried this Email address from last months issue we had an extra 's' on the end of Syslink that should not have been there. Sorry - our fingers got ahead of our brain.

The Printer Market

by CN80

There have been some dramatic changes in the printer market in the past few months. Some Laser printers are being offered for around \$500. Companies are dropping production of their low priced nine pin dot matrix printers, and 24 pin dot matrix printers have dropped in price to the \$200 level.

Sheikosha printers the printer we have always offered because it was the manufacturer of printers for Radio Shack dot matrix printers with the Radio Shack and Tandy name on them has notified us that they are no longer going to produce the low priced nine pin or 24 pin printers.

Because of this we have had to find another manufacture to replace the Sheikosha line. The printer we are now offering is the Panasonic KX-P2023, 24 pin dot matrix printer (The price is \$200, plus \$6 shipping and handling.)

We have used several Panasonic High Speed printers here in the office for several years, and our Laser printers are also Panasonic. We have always found them to be very reliable printer, and fully compatible with the Model 4 computers.

The print emulation of the Panasonic KX-P2023 is EPSON LQ-850 AND IBM PROPRINTER X24E, so that it is compatible with either the Radio Shack

Computers or with the IBM/PC clones, with a draft print speed of 192 characters per second and 64 characters per second.

The printer has buffer capacity of 14K as it arrives from the factory, but a 32K chip is available to expand your unit's memory capacity to 46K. The size of the printer buffer controls the printers ability to load a document into its memory and allows you to continue doing other things while the printer prints out your document.

We have tested this printer with SuperScripsit and Scripsit Pro, using the FX80 print drivers by David Goblen and have confirmed that the printer functions with all the normal commands such as bold printing, underlining. And it does the standard screen dump and basic program printing or ASCII printing like any other printer. It will also print script, hollow fonts along with (see David Goblen's review of the Seikosha SL-90 printer in CN80 Vol. 5 No. 7 page 3) this printer prints his 24 pin printer Demo disk without a hitch.

Built in Fonts that are available from the control panel are Courier, Prestige, Bold PS and Script. There is also quite a nice feature called "Super Quite Mode" which reduces the printing noise, even though the printer is extremely quite for a dot matrix to begin with, this feature makes it even quieter.

From all indications we think that we have found a superior printer for the Model 4 computers. From the outward appearance of the Panasonic line of printers have always had a heavy-duty construction look to them.

Of course you can order your printer ribbons for both the Seikosha or the Panasonic from CN80.



EXPORTING PROFILE 4 PLUS DATA

By Harold J. Hendriks

PROFILE 4 PLUS and pfsFILE

PROFILE 4 PLUS and pfsFILE are excellent data base programs that have been, and still are, favorites amongst many users of the TRS-80 Model 4 series of computers.

In ever increasing numbers, present and former users of the TRS-80 Model 4 series of computers are now using MS-DOS computers and MS-DOS data base programs. The increasing intermix of TRS-80 and MS-DOS computers and data bases has brought about for many of us, including myself, a pressing need, or, at the least, a nagging desire. That desire, or need, is to have part or all of the many years of data that we have so laboriously entered into our Model 4 data base files available for use in our MS-DOS data base programs.

If you used pfsFILE on your Model 4, 4P or 4D computer, and you are using its present-day descendent, Professional File, on your MS-DOS computer, you're in luck. It is an easy job to transfer your Model 4 pfsFILE data to Professional File on your MS-DOS computer.

Transferring your pfsFILE data is especially easy to accomplish if you are using David Miller's MS-Utilities on your Model 4. If you want to know how to do it, read "Professional File, a Review" by the "Computer News PC" staff. This informative article was published in the July/August 1993 issue of "Computer News PC", Vol. 1, No. 2.

On the other hand, if you opted for PROFILE 4 PLUS, as I did, the job of transferring your PROFILE 4+ data over to an MS-DOS data base file is not quite as easy or direct. However, it can be done, and the job really isn't as difficult or complex as it might appear to be at first sight.

PROFILE 4 PLUS CAN DO IT!

The words, "Export" or "Exporting", much less the entry, "Exporting PROFILE 4 PLUS data", do not appear in either the "TABLE OF CONTENTS" or the "Index" in the PROFILE 4+ User's Manual! You can search the pages of the User's Manual line by line and you will not find one word about the ability to export PROFILE 4+ data to another data base program.

The "Introduction" section in the User's Manual for

PROFILE 4 PLUS lists a number of significant features of the program. One of the features listed is the ability to "Create spin-off files to be used by Model 4 SuperSCRIPSIT".

The "spin-off file" feature was designed by the creator of PROFILE 4+ to generate a special form of file that can be used by SuperSCRIPSIT to merge PROFILE 4+ data into SuperSCRIPSIT documents or to create form letters using the data. This ability of PROFILE 4+ to "Create a spin-off file" offers a hint that PROFILE 4+ data can be exported to another data base program.

The "SuperSCRIPSIT Selections" option in PROFILE 4 PLUS provides a means for extracting data contained in selected fields in selected records in a PROFILE 4+ data file. The program generates a "spin-off file" in the form of a "CARRIAGE RETURN" or "ENTER" delimited ASCII file which contains the extracted data. If done correctly, the data "Spin Off" process does not delete or alter in any way the data in the source data file.

PROFILE 4 PLUS AND SuperSCRIPSIT

Don't let the implied, exclusive association of the so-called "Spin Off Files" for use with SuperSCRIPSIT throw you off the track. IMPORTANT: Although the "ENTER" delimited ASCII file which the program can "spin off" from a PROFILE 4+ data file was intended primarily to support the form letter feature in SuperSCRIPSIT, the ASCII data file which the program generates is NOT limited to use by SuperSCRIPSIT only!

The very same "ENTER" delimited ASCII file can be used, as is, by the Model 4 SCRIPSIT Pro word processor. SCRIPSIT Pro can use this file to create form letters using data extracted from a PROFILE 4+ data file, or to merge PROFILE data into SCRIPSIT Pro documents. SCRIPSIT Pro permits the user to choose the character to be used as the field demarcation specifier, be it the "@" character used by SuperSCRIPSIT, or the exclamation mark "!", etc. Refer to the chapter on "Form Letters" in the SCRIPSIT Pro Manual.

The same "ENTER" delimited ASCII file can be used for merging PROFILE data into ALLWRITE documents or for creating form letters using ALLWRITE. A bit of minor "massaging" of the file is required, but this can be done quite easily with the "SEARCH" and "REPLACE" functions in ALLWRITE. Refer to the section on "Form Letters" in the ALLWRITE Manual.

As is pointed out in the next section which is entitled, "ENTER" DELIMITED ASCII DATA FILES, such files can be transferred to an MS-DOS computer. On the MS-DOS computer the "ENTER" delimited ASCII data file generated by PROFILE 4+ for use with SuperSCRIPSIT can be used with various MS-DOS word processors to create form letters or to merge data into documents.

If you use PC WRITE, for example, this very same ASCII data file can be used with very few changes to create form letters. The necessary changes can be made very easily and quickly with the "SEARCH" and "REPLACE" functions of your word processor. All that is necessary is that the word processor be able to search for and/or to replace the "ENTER" character, ASCII 013. PC-WRITE and other MS-DOS word processors can do this.

"ENTER" DELIMITED ASCII DATA FILES

In an "ENTER" delimited ASCII data file each field in a record is placed on its own line, and each line is terminated by the "ENTER" character, ASCII 013. In addition, the records are separated by "ENTER" characters. Consequently, the last field in a given record is separated from the first field in the next record by two consecutive "ENTER" characters. An example of three consecutive records in such a file might appear as follows:

```
Mike Hammer<
Carpenter<
567-0123<
<
Tom Green<
Lawn mowing<
567-9876<
<
Bill Brush<
Painting<
567-5678<
<
```

The "less than" symbol "<" is used in this example to indicate the "ENTER" character, ASCII 013. NOTE the presence of the second "ENTER" character after the the last field in the last record. This final "ENTER" character is necessary because in an "ENTER" delimited ASCII file two consecutive "ENTER" characters mark the end of each record, including the final record in the file.

"ENTER" delimited ASCII files are not difficult to transfer or to move from the TRS-80 Model 4 platform over to the MS-DOS platform. The transfer can be most readily accomplished if you

have and make use of David Miller's MS-DOS Utilities which are easy to use and quite inexpensive. This very useful and convenient program can be obtained from either "Computer News 80" or "Computer News PC".

In the absence of David Miller's MS-Utilities program, a null modem, a serial cable and the ability to use the communications programs on the Model 4 computer and the MS-DOS computer provide a way to transfer the ASCII file from the Model 4 to the MS-DOS computer. The procedures for making such transfers have been described in several articles published in past issues of "Computer News 80" and in "Computer News PC".

After the "ENTER" delimited ASCII data file has been successfully moved over to the the MS-DOS computer, importing it into an MS-DOS data base is quite easy. Many MS-DOS data base programs provide a utility and/or a MENU option for the direct importation of data in the form of "ENTER" delimited ASCII files into the MS-DOS data base.

Some MS-DOS data base programs require that the data file must be in the form of a "Comma" delimited ASCII file in order to import the data into the MS-DOS data base. If your word processor (either TRS-80 or MS-DOS) can search for and/or replace the "ENTER" character, ASCII 013, then you can use your word processor to "massage" the "ENTER" delimited ASCII file into the form of a "comma" delimited ASCII file. More about this process later.

EXPORTING DATA? KNOW YOUR FIELDS!

IMPORTANT: You need to know the structure of the PROFILE 4 PLUS data file from which you wish to extract data to be exported. You **MUST** KNOW the "Field Number" for each PROFILE field from which you wish to "spin off" data.

Assume that you have a PROFILE 4+ data file, "CHEKKBK93", for example, and that the file contains eight fields in each record. Note that there is a "Field Number" associated with each named field:

1. ACCOUNT
2. CHECK NO.
3. DATE
4. CHECK CODE
5. TAX CODE
6. AMOUNT
7. PAYEE
8. CHECK MEMO

If you kept a print out of the "CHEKKBK93/MAP" that you created in the initial steps in setting up the file structure, then you have the necessary field number information.

If you didn't make a hard copy of the MAP, or if you didn't keep it, you can go to PROFILE'S "Run Time Menu" and select the "Inquire, Update, Add" option from the MENU. Answer the prompt for the filename of the desired file, "CHEKKBK93", for example.

When you are asked for the "Record Number", DON'T enter a "Record Number", simply press [ENTER] and PROFILE's "INQUIRE, UPDATE, ADD" Screen pops up. This screen lists the field names with the associated "Field Numbers".

The "Field Names" and the order of the fields in the new "ENTER" delimited ASCII data file which PROFILE will "spin off" for you do not have to be the same as in the PROFILE 4+ data file from which you are extracting the data. It is the "Field Numbers" of the corresponding data fields in the PROFILE 4+ data file that are important.

IMPORTANT: The ORDER of the fields in the new "ENTER" delimited ASCII data file which PROFILE will "spin off" MUST be the SAME as the ORDER of the corresponding fields in the MS-DOS data file into which you are going to import the data.

Assume that you wish to extract data from fields 2, 3, 6, 7 and 8 in the "CHEKKBK93" data file and "spin off" that data into the following fields in the new "ENTER" delimited ASCII file which PROFILE 4+ will create:

CK. NO.	(2)
DATE	(3)
AMOUNT	(6)
PAYEE	(7)
MEMO	(8)

The number in parentheses next to each Field Name is the number of the corresponding field in the PROFILE 4+ data file, "CHEKKBK93", from which the data is being extracted. Refer back to the second paragraph in this section. Keep this information at hand as you work through the example presented in this article.

The next two sections outline two sets of simple steps by which you can instruct PROFILE 4+ to "spin off" an "ENTER" delimited ASCII file which contains data extracted from selected fields in selected records of a PROFILE data file,

"CHEKBK93", for example.

CREATION of SuperSCRIPSIT SELECTION MAP

From PROFILE'S "Creation Menu" select the option, "Defining Selections (S)". The "(S)" denotes SuperSCRIPSIT. Do not choose the next option on the "Creation Menu", "Defining Selections (V)". The "(V)" denotes VisiCalc.

Having chosen the "Defining Selections (S)" option, answer the prompts. You will need to enter the name of the PROFILE 4+ data file, "CHEKBK93", for example, from which you wish to extract the data.

If you have not created any previous SuperSCRIPSIT Selection "Maps" for the current file, then at the "Enter Selector Number" prompt enter "1". Don't enter the quote marks! At the "New Format (Y/N)" prompt enter "Y".

Answer the prompt for the drive that the "Selector Map" is to be placed on. If you have a two-drive system, the PROFILE 4+ data disk should be in Drive 1 and it should have enough free space to accommodate the new "ENTER" delimited ASCII file which will be created. A good "Rule of Thumb" is that the free space remaining on the data disk should be at least equal to the size of the file from which you wish to extract the data. If you are using a two-drive system, then place the "SELECTION MAP" on drive 1.

Next, the "DEFINE SELECTIONS" Screen appears. The screen is divided into two columns. The "Field Names" of the new "ENTER" delimited ASCII data file which is to be created should be entered in the left hand column. The "Field Number" of the corresponding PROFILE 4+ data field from which the data is to be extracted should be entered in the right hand column. In the example presented in this article, the new file field names and the corresponding PROFILE 4+ data file field numbers would appear as follows:

DEFINE SELECTIONS (S)

New File Field Name	Profile File Field Number
CK. NO.	: 2
DATE	: 3
AMOUNT	: 6
PAYEE	: 7
MEMO	: 8

After checking for typo errors and checking that the information as entered is correct, press [SHIFT][CLEAR] to record the "Selection Map" or format.

In the example presented in this article, PROFILE creates the "MAP" or "Format" file, "CHEKBK93/SL1", and places it on the data disk in drive 1. PROFILE 4+ makes use of this file to create the new "ENTER" delimited ASCII data File which will contain the data extracted from the CHEKBK93 FILE.

SELECTING RECORDS FOR SuperSCRIPSIT

By the creation of the SuperSCRIPSIT selection map (See the above section.), we told PROFILE 4+ to extract data from fields 2, 3, 6, 7 and 8 ONLY in the records in the "CHEKBK93" data file. Now we must tell PROFILE 4 PLUS which records we want to extract the data from.

From PROFILE'S "Run Time Menu" select the option, "Select Records (S)". The "(S)" denotes SuperSCRIPSIT. Do not choose the next option on the "Run Time Menu", "Select Records (V)". The "(V)" denotes VisiCalc.

Having chosen the "Select Records (S)" option, answer the prompts. You will need to enter the name of the PROFILE 4 PLUS data file, "CHEKBK93", for example, from which you wish to extract the data. The "INQUIRE, UPDATE, ADD" Screen pops up.

Answer the prompts that are presented. In the example presented in this article I wanted the data to be sorted by "Check Number" so at the "Sort" prompt I entered the "Field Number" 2.

In the example presented herein we chose to select records by date. Consequently at the prompt for selecting records I entered the "field Number" 3 for the "Date" field.

Finally I specified a limited range of dates to keep the size of the example and consequently of this article reasonable. I selected the "Range" option and entered "01/01" as the starting date and "01/31" as the end date.

It should be noted that you have the option to chose all fields and all records in the file if you wish. If this is your choice, it is recommended that you export the file in limited blocks of data by limiting the extent of the range selection so that each block of exported data is not too large.

Small blocks of data can be more easily "massaged" without overloading the working memory of the word processor. Also, if you work with blocks of data that are not too large and you make a mistake in the "massaging" process, you don't lose too much in time and effort. Experiment and let experience be your guide.

The final step is to enter the drive number on which the resultant "ENTER" delimited ASCII data file is to be placed, for example, drive 1. PROFILE begins the process of reading the requested data from the selected fields in the selected records in the source file, "CHEKBK93", and "Spins off" that data into a new "ENTER" delimited ASCII data file to which PROFILE gives the filename, "CHEKBK93/SR1".

PROFILE WORKING AND SPINNING

As the PROFILE 4+ program generates the ASCII file, two counters at the lower right side of the screen shows the number of records searched and selected. A final message indicates the total number of records selected.

In the example presented in this article several hundred records were searched, but only six records were selected because of the limited range of dates that were specified in the "Selection of Records" process.

When the program has completed the generation of the new ASCII data file, the file is placed on drive 1 with the file name, "CHEKBK93/SR1". The program then returns control to the Run Time Menu from which the user can EXIT the PROFILE 4+ program and return to DOS ready.

If the "Spun Off" ASCII data file is to be used by SuperSCRIPSIT to generate form letters, the name of the file with the extension "/SR1" must be left unchanged.

If you don't plan to use this file with SuperSCRIPSIT, or some other word processor, then you can rename the file to "CHEKBK93/PT1", for example. The file extension "/PT1" could stand for "Part 1" and could denote the first block of data that is being transferred to the other data base.

The balance of the work involves "massaging" the resultant ASCII data file. This work is best done with a word processing program or a text editor.

"MASSAGING" THE "ENTER" DELIMITED FILE

The word processor or the text editor that is used to "massage" the "ENTER" delimited ASCII file must have the capability to search for the "ENTER" character, ASCII 013, and/or to search for say two consecutive commas "," and then replace the set of commas with the "ENTER" character, ASCII 013.

The ALLWRITE Word Processing program and Mark Reed's text editor, "ED-IT", for the Model 4 can search for and or replace such things as the "ENTER" character.

If you wish to do so, the resultant "ENTER" delimited ASCII data file generated by PROFILE 4+ can be transferred, as is, to your MS-DOS computer and an MS-DOS word processor or text editor program can be used to "massage" the file on the MS-DOS computer.

Your MS-DOS word processor or text editor must be able to search for and/or to replace the "ENTER" character, ASCII 013. The MS-WORKS word processor, PC-WRITE and other MS-DOS word processors have this capability.

Figures 1 through 4 illustrate the steps in the process of "massaging the "ENTER" delimited ASCII data file.

Figure 1 shows the ASCII data file of selected records generated by PROFILE 4 PLUS for use with SuperSCRIPSIT. The "@" symbol is the field demarcation specifier that is required by SuperSCRIPSIT in order for the data in the file to be merged with SuperSCRIPSIT. This same file can be used by SCRIPSIT Pro.

In the file shown in Fig. 1, the first record in the file contains the five fields which is the list of "Field Names". The first record containing the "Field Names" along with the "Field Specifier" character, "@", are required by SuperSCRIPSIT and SCRIPSIT Pro in order to create form letters or form documents.

The first record containing the five "Field Names" in the file shown in Fig. 1 is not required if you wish to export the PROFILE 4+ data and import it into another data base file. Load the "ENTER" delimited ASCII data file, "CHEKBK93/PT1", for example, into your word processor or text editor. Block the first six lines in the file shown in figure 1 and then delete the block using the DELETE function.

Figure 2 shows the same file with the first record of the five fields which hold the "Field Names" deleted. To import this data file into the data file of another data base it will be necessary to delete the "@" field demarcation specifiers. This can easily be done using the "Search" and "Replace" functions of your word processor or text editor. DO NOT replace the "@" symbol with a "SPACE". Figure 3 shows the file with the "@" field demarcation specifiers deleted.

In order to import data into some data base programs, the data file to be imported must be in the form of a "Comma" delimited ASCII data file. In such a file the fields are separated by commas and the records are separated by the "ENTER" character, ASCII 013. An example of three records in a simple "Comma" delimited ASCII file appears as follows:

```
Mike Hammer,Carpenter,567-0123<
Tom Green,Lawn mowing,567-9876<
Bill Brush,Painting,567-5678<
```

The "Less than" symbol "<" is used to denote the "ENTER" character, ASCII 013.

If you look at the file shown in Figure 3 you will note that Field 5 in Record 2, and also in Record 6, contains a comma. The presence of a comma within a field does not confuse PROFILE 4 PLUS. HOWEVER, if your data base requires the IMPORT ASCII file to be in the form of a "Comma" delimited ASCII file, the presence of any comma within a field will cause problems.

To avoid problems with commas within fields, such commas should be deleted or else replaced with some other character. Use the "Search" and "Replace" functions in your word processor or text editor to search for commas and replace them with, for example, semicolons. Figure 4 shows the resultant "ENTER" delimited ASCII data file.

If your data base has the ability to import data in the form of an "ENTER" delimited ASCII data file, your "massaging" work is done. The ASCII file, in the form shown in Figure 4, can be imported, as is, into your other data base. Simply follow the procedure outlined in your data base manual for the importing of data in the form of an "ENTER" delimited ASCII data file.

If your data base requires the imported data to be in the form of a "Comma" delimited ASCII data file then a bit more "massaging" of the file is necessary.

CREATING THE COMMA DELIMITED FILE

With the data file in the form shown in Figure 4 loaded into your word processor or text editor, search for and replace the "ENTER" characters, ASCII 013, with commas. The resultant (intermediate) "Comma" delimited ASCII data file is shown in Figure 5. Note that the fields are separated by commas and that the records are separated by double commas. IMPORTANT: Note that a double comma combination "," appears at the end of the last record.

Most data base programs which are capable of importing data in the form of a "Comma" delimited ASCII file require that the records be separated with the "ENTER" character, ASCII 013.

Use the "Search" and "Replace" functions of your word processor or text editor to search for the occurrence of sets of double commas and replace each set of them with an "ENTER" character, ASCII 013.

The resultant "Comma" delimited ASCII data file is shown in Figure 6. Most modern data base programs can import data in this form. Simply follow the procedure for importing "Comma" delimited ASCII data files into your data base.

"MASSAGING" THE ASCII FILE FOR IMPORT INTO MS-WORKS DATA BASE

The following discussion relative to MS-WORKS applies primarily to the earlier DOS versions of MS-WORKS, such as version 1.05, for example.

I do not have access to later DOS versions of MS-WORKS, such as version 3.0, for example. Consequently, I have reservations about the following information applying 100 percent to such later DOS versions of MS-WORKS. Nothing that is contained herein is meant to apply to the "MS-WINDOWS" versions of MS-WORKS.

To import the data extracted from your PROFILE 4 PLUS data file into the data base in MS-WORKS on your MS-DOS computer, transfer or move the ASCII data file from the Model 4 platform over to the MS-DOS computer.

The ASCII data file must be in the form of a "Comma" delimited ASCII data file, and it must be in the form shown in Figure 6. In order to import the file into the Data Base in MS-WORKS a bit more "massaging" of the file is necessary.

Start the Word Processor in MS-WORKS with the

"OPEN" file command and load the "Comma" delimited ASCII data file in the form shown in Figure 6 into the WORKS Word Processor. When WORKS opens a NEW Word Processor file the tab stops are set at the default positions at every 0.5 inches. These default tab stops are O.K. Don't change them!

The versions of MS-WORKS that I am familiar with, that is the earlier DOS versions, require tabbing marks rather than commas as the field separators or delimiters in the file to be imported into the WORKS data base. The WORKS Word Processor displays the tabbing mark character as a small, short right arrow.

Use the WORKS' Word Processor's "REPLACE" function to search for commas and to replace each comma with the tabbing mark character. Type a "comma" into the "Search For:" box. Enter "^t" in the "Replace With:" box. DO NOT type the quote marks. The caret symbol "^" is entered by depressing the key combination [SHIFT][6] on the MS-DOS keyboard. The "t" must be a lower case "t". DO NOT include a space between the caret symbol and the lower case "t".

In the resultant "Tab" delimited ASCII data file the fields are separated by the little tab marking characters and the records are separated by the "ENTER" character, ASCII 013. Don't worry about the "spaced out" appearance of the fields in the resultant file. Each field has been moved to the next tab position. This is O.K.

Now that the file is in the form of a "TAB" delimited ASCII file, with the records separated by "ENTER" characters, you are ready to import the data into your WORKS data base file.

IMPORTING THE FILE INTO AN EXISTING MS-WORKS DATA BASE FILE

NOTE: When I use the word "window" in connection with MS-WORKS, I'm not referring to MS-WINDOWS. The older, PRE-WINDOWS versions of MS-WORKS will run on older XT type computers such as the Tandy 1000TL, etc.

The PRE-WINDOWS versions of MS-WORKS has the ability to work with several WORKS files resident in working memory at the same time. WORKS can switch these files into and out of the WORKS "window". The "windowing" feature in the earlier versions of MS-WORKS should not be confused with MS-WINDOWS!

If you wish to append the data in the imported ASCII file onto an existing WORKS data base file, the ORDER of the fields in both files must be the SAME.

The "TAB" delimited ASCII data file which you are importing should be resident as a Word Processor document in the WORKS window 1. Open, in a second WORKS "Window", the existing data base file, the one to which you wish to append the imported data file. From the "OPTIONS" MENU choose the "View List" option. The records in the data base are displayed, listed in the form of a table similar in layout to a spreadsheet.

I assume that the reader knows how to navigate around in WORKS. Simply block and copy the entire "TAB" delimited ASCII file document in the word processor "window" and then switch to the data base "window" and copy it to the data base.

If you are appending the data to existing data, be sure that the cursor is at the end of the original data file before you append the file from the word processor.

If all has gone as it should, you have now successfully exported selected data from a PROFILE 4+ file and imported that data into an existing WORKS data base file.

IMPORTING THE FILE INTO A NEW MS-WORKS DATA BASE FILE

The "TAB" delimited ASCII data file which you are importing should be resident as a Word Processor document in the WORKS window 1. To import the data into a new WORKS data base file, open a NEW data base file in a second WORKS "window". WORKS will give the new data base file the temporary name, "DATA1.WDB". You can change the file name later.

WORKS will present you with the "FORM DESIGN" screen with the request that you type the Field Names. Enter:

CK. NO.:<
DATE:<
AMOUNT:<
PAYEE:<
MEMO:<

Note that each "Field Name" must end with a colon ":". The "less than" symbol, "<", represents the "ENTER" character.

After entering the last field name followed by the colon, exit the "FORM DESIGN" screen by pressing [F10]. You are now presented with the data entry form. Do NOT import data into the single record form screen.

From the "OPTIONS" Menu choose the "View List" option. The rows, representing records, will be numbered on the left side of the screen. The columns will be headed at the top of the screen with the "Field Names" entered on the "FORM DESIGN" screen.

Pull down the "Window" Menu and select the Word Processor file in "Window 1". Block copy the entire "TAB" delimited file document displayed in the Word Processor "Window". Pull down the "Window" Menu and select the Data Base file in "Window 2". Place the cursor on row 1 at column 1 and press [ENTER]. The file is copied to the data base file.

You can adjust the column widths, if necessary, to more appropriate widths by using the "WIDTH" option on the "Format" Menu.

You have now successfully moved data from your PROFILE 4+ data file to a new data base file in MS-WORKS. Try it. It is easier than you think. By the time you move a few blocks of data, you will be an old hand at the job. Once you get "the hang of it" the entire "export-import" process moves along quite smoothly and quickly.

CONCLUSIONS

The User's Manual for PROFILE 4+ says nothing about exporting PROFILE 4+ data and importing that data into another data base. The Manual, by its silence on the subject, may leave the user with the impression that PROFILE 4+ data cannot be exported to another data base program. Nevertheless, data can be exported. Although the first impression may be that it is a complex and involved procedure, it really is not difficult to do.

By using the straight forward procedure outlined in this article you can quite easily export data from your PROFILE 4+ data files and import that data into another data base. You do not have to retype all that data!

This is GOOD NEWS, indeed, for all of us long-time users of PROFILE FOUR PLUS who now find that we need some or all of the data in our PROFILE 4+ data base files for use in our MS-DOS data base program.

-Harold J. Hendriks

LIST/CMD PAGINATION PATCH

A TRSDOS 1.3 PATCH written by Richard Snow

Reviewed by Henry H. Herrdegen

I have long regretted that Andy Levinson, "Mister Patch for the TRSDOS 1.3," did not include a patch to paginate the screen display of the LIST/CMD, as he did for the DIR. He did write one which switched the screen space gobbling original HEX display to ASCII default, published in one of his "Patchwork" articles in '80micro', and which is included as PATCH12 in the PUP collection, and is a pre-requisite for Richard's LIST patch.

I had dropped soft hints about the need for this patch for quite a while, and finally Richard did tackle the challenge. I don't know if he realized what he was getting into when he started it, but the outcome was a monumental, 68 lines long, almost 20% re-write of the *11 DOS overlay. Thank you, Richard!

To type 68 patch lines, that means over 1000 2 digit bytes, nooo-body wants to do that! So, this gem will not appear in print, you will have to wait for the disk it will be on, so you can copy it onto your PUP disk. It is now PATCH20/BLD, after 18 and 19, published in Vol 3 No 7, and on disk #10. Remember that the patch number in the opening banner is updated correctly only if all numbered patches have been made consecutively. If the last patch line results in a STRING NOT FOUND, then there is one or more missing!

I include another of Richard's patches he gave to me, a means to use lower case letters for CMD"X"s in BASIC. It's not a number patch, but called PATCHBCL/BLD (the additional line at 53CA makes it compatible with PATCH10), as well as a patch to improve the CONVERT/CMD, by having it ask Y/N for each file. It may have come from Northern Bytes, but I am not sure, it's name is CONVERT1/BLD.

There may be one more coming, Richard is working on a patch for the PUP DOS, deleting the "TRSDOS Ready" message after every patch line shows on the screen. Not very significant, but it will save some time, applying the patches.

REM line 999 of the PATCHSC program instructs how to add file listings to its Patch List, but depending on which version you have, and if you have added listings, it may or may not be literally correct anymore. Just remember to add any new numbers before line 710, and, after every 5 lines, the "GOSUB 100: PRINT @576,;" line has to be there. But end the last one to five inserted lines

with the line 710. And, if you have added all the so far published patches, including 18, 19, 20, PATCHBCL and CONVERT1, then update the version to PUP1.3/3, 10/31/94.

In Vol. 3.7 is a short instruction how to add new patch lines to the PATCHES list, using my ALPHALST program, but 68? Actually 71 with the REM & No update lines. I will have to add them to my list anyway, so I may as well include a new list file, for CN80 to put it on the disk together with the patch file, now listing 341 patch lines. It has no other use then give a quick, sorted reference of all patch lines contained in the different PUP patch files, in order to ascertain if a particular patch line is covered.

I always thought that the LIST paginating is the only missing piece to make the TRSDOS 1.3.3 a truly friendly DOS, with all the features the average user would need, and without the confusing multitude of sometimes exotic features, only few may use and appreciate. There have been patches published which I thought fall into this category, such as changing stepping rate, modify to 42 or 80 tracks, DUMP below 5FFF, etc. If you are interested in other than the PUP patches, drop me a line thru CN80, and I will be glad to try to find them for you, maybe in the 80+ lines I have not included.

When I read David Goblen's remark in the re-print of his "Inside TRSDOS 1.3" article about the February 20 1984 date on some TRSDOS disks, I remembered that I had never seen an explanation printed. After I wrote patch changes to accommodate this date, also printed in 3.7, I found out from Tandy Canada that it was no new release, just a "Disk mass duplication date", that Bulletin 15 was the last one issued for TRSDOS 1.3, and no new patches were on the Feb. 20 disk. Some changes did happen though, the "Rummy Buzzard" is gone from the HERZ50/BLD file, it's now only one record long. Have you not seen Joe, the Rummy Buzzard yet? LIST your HERZ50/BLD file, if it's 2 records long, and you'll scratch your head over some programmers at TANDY! But anyway, that change was hardly a subject for a service bulletin!

Keep the 80 humming!
-Henry H. Herrdegen.

HOW I USE MODEL 4's.

by Charles Harris, MD

I am the cluttered owner of about 6 model 4/4ps, several Model 100s one with a 120k ram bank, 2 MAC's and an old Road Runner AT MS DOS machine. I have accumulated them over a period of about 10 years. One of my MACs has a DOS emulator. So I have all possible worlds, but the best of all these worlds might be the Model 4s, and the relationship between Mod 4, Mod 100, Multidos and Lazywriter. Were I to rate them from my personal utilitarian aspect, the Mod 4/100's vie with MACs as overall best, the MAC having an edge because of simplicity of use for Compuserve and graphics.

I get the most mileage from Lazy Writer on either LSDOS or Multidos 4. The Multidos version is the more complete of the two, and the better of the two. Multidos is a Model 3 system (as I understand it) which takes advantage of the Model 4 utilities. The Multidos Memdisk is easier (for me) to use than the Model 4, and with a little JCL stuff the VFU file can be used to run Lazy Writer word processor into the Memdisk. In the Memdisk it runs as fast as a 386.

The Model 4 version runs under TRSDOS or LSDOS, and I also have a Megamem (1 meg of Ram) board formatted for these DOSs, which allows LW as well as Profile 4 plus and Visicalc to be run side by side, and you can rapidly flash from one to another when using the one meg of ram. LW on Multidos accesses the Model III communication program, so I can null modem my Mod 100 text into LW which formats it except for paragraphs.

I can send printer commands via LW and create stationary. As you might guess, I have dedicated computers, one for addresses and letters and other written stuff; one for labels printed via Profile 4 plus; one for labels created by Postmaster. In my office after studying the efficacy of keeping records on DOS or MAC machines, I decided on Profile 4 Plus, a meg of memory, which can be used for caching or as volatile memory. If LW permitted endless file length I would have used it as a WP with its find module. With translators, files can go from a Mod 4 to Mod 100, and then uploaded to a WP on a Mac.

LW can access a calculator module to be called up during writing text.

Profile 4 Plus, in case you have forgotten, can interact with Visicalc and Superscript and Scripsit. LW is the best WP for editing a manuscript I have ever seen. Blazing fast in the memdisk, it can do

everything except write in columns. One neat feature is if you see a word you want to edit, you can get to it by pressing </> and a letter in the word or a unique letter in the area. In fact you can mark your text with periodic <*> or a numeral and skip through the text like a toe dancer.

The printing menu is ridiculously simple. To change margins, <m and margin spaces>; for downfeeds, <d and number of lines to skip> to justify, toggle <J> etc. It has a word counter, and formatter. Back and forth from text to edit is a toggle. You can move forward a letter (spacebar) a word <w> a paragraph <p> to the end of text <enter enter> to top of text <shift up arrow>. To the end of a line <@>. To go in the opposite direction simply press spacebar in front of the above commands. It has block and move commands, you name it.

Using a Modem I have accessed the National Library of medicine and done plenty of useful work via LW in Multidos. I cannot do it in the Model 4 LW because the Comm is so complicated.

For those of you who can get hold of Multidos and LW and a mod 100, you will have the best of all possible computing worlds.

What you should remember is that the Mod 4 has only 64K of addressable memory, so the programs were crisp and took only a little space. They were well designed, and many of their modules were put into memory, so that they ran quickly. The DOD programs with Windows run slowly even on a Pentium. So don't be too quick to unload Mod 4s, in fact buy others for spare parts.

I'll be glad to answer any specific questions the readers might have. I've sure gotten my money's worth and pleasure over the years from these sturdy machines, and use them preferentially for most things I do.

-Charles Harris MD

(Editor's Note) The latest version of MultiDos for Model 4 is available for \$ 29.50, plus \$4 (S&H) from CN80.

Lazy Writer is no longer being published or supported by its author and has not been available for several years except on the used market. Everyone has "their favorite" word processing program, just like they have their favorite spreadsheet, or data base. But many of the "favorites" mentioned in the columns of CN80, like Lazy Writer, MultiPlan and Profile-Plus, can not be purchased except on the used market any longer. And like any other item that is purchased used, be

it a lawn mower, or computer program you can not expect the seller to supply you with on-going support.

If you are looking for a word processor for the Model 4, that comes complete with on-going support by CN80, then consider Scribes Pro. It has more features than any other word processor ever written for the Model 4s, and its editing will match or outstrip any of the older word processing programs that were ever written for the Model 4.

But again we are not giving advice to start a "which is best" war. We do publish articles about any of the older programs in an attempt to help those who already own and use these products. But if you are looking to upgrade your ability to perform certain tasks, we can only recommend products that are currently available and which we can supply full support to the user in his application of those products. -Ed.

HI-RES SLIDE SHOW PROGRAMS

by Gary W. Shanafelt

You've probably spent time in computer stores watching the graphics displays, where you stand before a bank of PCs with SVGA or better monitors and watch them switch from one 256-color photo to another. And maybe you've wondered, Why can't a Model 4 with a hi-res card do that? Maybe not with 256 separate colors, but a respectable monochrome graphics slide show ought to be possible given some of the fine hi-res picture files now available for the TRS-80 -- particularly since Frank Slinkman's GIF4MOD4 opened the door to the treasure trove of CompuServe GIF format graphics.

Well, it IS possible. In this article, I'll review three public domain or shareware programs you can use for multiple hi-res graphics displays on your Model 4. All have some common features, but each gives you slightly different options in creating a hi-res slide show on your system.

The earliest, and simplest, of the three is ZSLIDE/CMD by R.J. Meyers, on disk M4HRZ14 in The File Cabinet. There is no documentation beyond what you see on the opening screen, which describes the program as a "simple utility to scroll multiple high resolution pictures on the TRS-80." Basically what the program does is load and display one hi-res file after another, with a time delay between each picture. With any word processor that

can save a file in normal ASCII format, you create a list of files to display. The list begins with a number indicating the number of file names that follows. You then save the list to disk, in ASCII format. A file to display three pictures might look like this:

```
3
picture1/hr
picture2/hr
picture3/hr
```

When you run the program, you're prompted for the name of your list of pictures, the time delay between each display, and the amount of times you want the sequence repeated. The advantage of this approach is that you can view as many pictures as you can have on line at any one time on disk. The disadvantage is that every time you view a new picture, it has to be loaded from the disk, so if you run the program all day you put a lot of wear on your disk drives. Finally, it handles only the original HR format hi-res files, not the later compressed formats.

The basic approach of ZSLIDE is elaborated in Mike Harrow's Hi-Res Demo, DEMO/CMD. The latest version, 1.3.0, can be found on File Cabinet disk MD4HRZ20. While DEMO/CMD still loads hi-res files one at a time from disk, Mike has created a simple scripting language to vastly increase the options available to you. In addition to simple loads, you can invert (negate) the hi-res screen, merge a second hi-res file over one already on the screen, clear the screen, or pause execution entirely until the viewer presses a key. Further, as far as I can tell, DEMO/CMD is the only one of the three programs here that allows you to exit to DOS manually before completion of the command string, by hitting the "X" key for "exit." A second distinction is that it supports both HR and CHR format hi-res files.

DEMO/CMD also handles BUF format files. These are low resolution text/block graphic files created with Mel Patrick's Design screen editor (on disk M4UTIL46 in The File Cabinet). In case you're wondering why anyone would want text in BUF format rather than from a fancy typeface on a hi-res screen, the answer is that while a HR file is 19500 bytes long, a BUF file requires only 3K -- a considerable saving of disk space, especially for people with single-sided floppies. DEMO/CMD allows you to have a HR graphics image on the hi-res screen and a BUF text file on the text screen and to toggle between them. A command list file for DEMO/CMD might look like this:

```
@clear
@erase
```

```
@text "text/buf"
@load "picture1/hr"
@display
@keyin
@view
@quit
```

The above program would clear both hi-res and alpha screens, load a text screen file and a hi-res file, display the text screen until the viewer hit a key, then view the hi-res screen, and finally quit back to DOS.

A much different approach is taken by David Miller in his High Resolution Presentation System (HRPS/CMD on File Cabinet disk M4HRZ19). While files are processed in the same way as with the two programs above, that is, the program reads in a series of scripted commands from a separate ASCII text file, the way they are loaded varies considerably. In the previous programs, every time you load a new hi-res file you have to pull it off the disk. David, however, seems to have figured that this was a waste of good memory -- particularly if you have a Model 4 with 128K -- not to mention a strain on your disk drives and excessive loading time.

While HRPS/CMD does allow you to load a hi-res file directly into the hi-res screen, it also allows you to load multiple files into different areas or "pages" of memory. On a 128K machine, you can have one image on the screen and five more in memory, for a total of six initial images. (On a normal 64K machine, the figure is three images, one on the screen and two in memory: another reason to upgrade to 128K if you haven't already done so!) Once an image is in memory, it can be easily moved to the screen -- quickly, without a disk access. You can set HRPS/CMD to display images over and over again without ever exercising your disk drive once the initial files are loaded into memory. Or, if you get tired of looking at the same five images (for the sixth, on the screen, is overlaid when you switch with one of the other five in memory), you can set the program to load in a new combination of pictures. Another nice feature: a pause command is included in the scripts, which allows you to vary the pause duration between each picture if you wish. The other programs here allow only a single pause value for the entire sequence of images: you can't display one picture longer than another. A sample script file demonstrates the options HRPS/CMD offers you:

```
vload picture1/hr
pload picture2/hr,1
pload picture3/hr,2
cls
```

```
do 5
show 1
wait 10
show 2
wait 10
loop
exit
```

This command sequence would load picture1 to the screen and, while it was being displayed, picture2 and picture3 to pages 1 and 2 of memory (you need a 128K system to access pages 3-5). Then it would clear the screen and set up a loop for five sequences of displaying the two images in memory, with a pause of 10 between each image switch. Finally, at the end of the loop, it would exit back to DOS. Unfortunately, only HR format files are supported by the program.

Finally, a personal note. My interest in slide show programs began when Dale Hill prompted me to modify a screen toggle program I wrote a year ago, called HRSLIDE/CMD (available on disk MD4HRZ25 of The File Cabinet). He described it in the October issue. Since MDRAW II and MagicDraw both allow you to toggle three hi-res screens on a normal 128K Model 4, HRTOGGLE did the same thing -- but from the DOS level, so that you could switch screens for use with other programs without having to rerun MDRAW or MagicDraw.

One thing then led to another, and the result is that Matthew Kent Reed and I ended up producing our own hi-res slide viewing program. The goal was a utility that would allow seven screens in memory at the same time on a 128K Model 4, manual control from a menu instead of a complicated, scripted command list, and the ability to load other file formats than just the HR ones. Of course, the result would be freeware, to make it easy for other people to use it (and, I suppose, to feed our egos). Stay tuned for next month's exciting issue of this magazine, when we present HRSLIDE/CMD ...
-Gary W. Shanafelt

SELECTOR SWITCHES

by CN80

Selector switches or A-B switches as they are commonly called all are listed as "Data Transfer Switches" - but they are not all the same.

There are many things that you can accomplish with a typical A-B or two position selector data transfer

switch. One of the most used applications is to connect two printers to one computer or connect two computers of different types to one printer. Each one of these applications are accomplished with the proper cable and using the type of A-B switch box that has parallel centronic connectors on it.

Centronic connectors found on all printers today are 36 conductor connectors, while the number of lines used by the Model I, 3, and 4s for printing is only 34 conductors and is an card edge connector sticking straight down from the bottom of the computer. Our printer cables are the flat ribbon type that connects the TRS-80 computers to the printers without any special adaptors or additional cable to get from the bottom of the computer to the printer. This same cable is used when connecting an A-B switch to the TRS-80 computer because the three centronic connectors on the back of the A-B switch are all female type, just the same as on a printer. But - because they are all female connectors you need two cables with male connectors on each end to go from the A-B switch to each printer, if you are connecting two printers to one computer.

If you were connecting one printer to a Model 4 computer and a IBM/PC type computer then you would need two printer cables each with a male centronic connector on one end and appropriate connector for the different computers on the other end. You would also need only one cable with male centronic connectors on both ends.

Sound confusing? Not really. If you draw a sketch of your planned layout and mark each cable as to type you will get a better idea of the cable arrangement that you would require for various applications.

To connect a modem and a mouse to a Model 4 you would need to purchase a serial type selector switch. The only real difference in these switches is the type of connector used on the back side to connect your cables to. A serial for use with the Model 4 will have DB-25 (RS-232) connectors. An A-B serial switch for an IBM/PC may have only DB-9 connectors. The DB-25 or (RS-232) connector provides 25 conductors while the DB-9 has only 9 conductors or pin holes. It is very easy to tell the difference between the two types because of the size and number of pin holes.

Recently there has been a major problem creeping in the A-B switches being sold on the market today. Some of the A-B switches, while still being labeled as DATA TRANSFER SWITCH, do not have all the conductors connected or switched. We assume

that manufacturers are doing this to make the product cheaper. Although the lines inside the box will possibly be the only ones required to connect two printers to an IBM/PC, it requires that all 34 conductors be wired and switched to make it a true DATA TRANSFER SWITCH. The very cheap variety of A-B switches being sold have only about half the conductors that are required for the standard "all lines switched" and therefore do not work on many data transfer applications.

We for example have some of our workstations with two external disk drives connected to them. One external disk drive has two 3-1/2" 720K floppy drives and the other external disk drive has two 7-1/2" external disk drives connected to it. Using a standard A-B switch with parallel centronics connectors works just fine to switch between both external drives.

We recently shipped an A-B selector switch to a subscriber who wished to have the same type of setup in his business so that he could switch between external disk drives of the type just described. We even used his old Radio Shack Mini-Disk drives to install the new disk drive in thus saving him \$40 by using the power supply and metal enclosure that he supplied. The single sided old full height drives that were in the cases had long since bit the dust.

Now back to the point of this story. You could not do this if the A-B switch was one of the new "cheap" kind that had only half the connector pins wired. In fact we received a shipment from our regular supplier that came through with this type of wiring. On the bottom row where pin 2 through 36 are located only pin 2 and 36 were wired and on the top row six or seven pins were not wired. Pin 2 thru 34 are the critical pins that control the signals for operating a disk drive so with these missing the switches were useless. Although they looked the same as we had always received, and the cost was the same when we opened one up, the whole shipment was promptly returned. The supplier who is one of the most reliable in the business, said that their technical department was aware that these switches did not have all lines wired through, but all the lines *required for today's computers* were wired!

Again we have the blatant disregard by manufacturers of those people who have a lot of dollars invested in equipment that was sold to them just a few years, a few months or few days ago.

Even though it may take a little longer to locate products and suppliers of products that provide the proper equipment for our TRS-80s rest assured that

all the products provided by CN80 have been checked out and proven to work properly with the systems that you and we use.

-CN80

DICEROLL/BAS

by Clifton N. Duval

DICEROLL/BAS is a program to generate and print random number tables. These random numbers are from 1 to 6, the same as the roll of a die. The sheets of numbers generated are for use in playing games by mail when dice rolls are needed in the game.

In playing a game by mail, the person playing his or her turn writes down the moves he or she is making on the game board. When a die roll is needed a reference is made to random number sheet being used by the opponent. For example: perhaps four die rolls are needed. The person making the game turn might indicate A2,A5,A6,A9 as his or her choices. When the opponent receives the game turn in the mail he or she looks on the number sheet being used and finds the corresponding die roll for the indicated choices. These might turn out to be A2=5, A5=1, A6=6, and A9=6. These numbers are then used to resolve the needed die rolls of the first person's turn.

The second player would now make his or her turn, write it down, indicate die rolls in the same manner and return to the first player. The second player would also cut the column of numbers used from the sheet and return it also to the first player. Each column is thus used only once in resolving die rolls.

The table of numbers contains an even distribution of the numbers, 1 through 6. 50 of each number is generated by the program.

The on screen display was originally written just to have something to watch while the program is running. However, if you watch the display of numbers as they are generated, you may find one number being produced much faster or much slower than the others. In this case, you may wish to skip printing this number sheet and rerun for another one. This program is for Model 4 MULTIDOS. It was originally written on a Model I. If line 20 is eliminated, and the CMD"V80" is removed from line 360, I believe the program should run on any Model I or III DOS.

-Clifton N. Duval

A TALE OF 3 COMPUTERS

PART 1. THE MODEL 1.

by Jack E. Willson

16 years ago, in the fall of 1978, I decided to purchase a computer, but it would be several months before I could commit myself to go ahead. At the time I owned a Manufacturers Representative Company and determined that a computer could be very useful in the business for keeping sales records, mailing lists, bookkeeping, taxes, correspondence and many other business records. There was also the possibility that I could someday obtain a line of computers and accessories to represent. I knew nothing about computers so it was with great fear and trepidation that I set out to make the initial purchase.

At the time there were many manufacturers of computers. Most of the companies were small and basically unknown. An engineer with an idea would start up a company to build his design of what a computer should be. Standards were unknown. Each type of computer had its own operating system and programming. At the time there were four companies who appeared to be able to produce a product that would be widely marketable. These were Apple, Texas Instrument, Commodore and Radio Shack. The rest of the lines appeared to be mainly for hobbyists and computer hackers.

Several of my customers were selling computers of one type or another. I had been selling several of the lines I represented to the Radio Shack in Boston. At the time they appeared to be the most stable of computer suppliers, not withstanding their then current inability to supply enough of the product line. I would find out later how badly off they really were.

The next step was to determine what to buy. After a lot of comparing it boiled down to Apple or the TRS-80. The decision was made to buy something from Tandy. The only product available from Radio Shack at the time was the TRS80 Model 1, in several versions. The only computer in stock at the local Shack store was the Model 1, level 2 with 16K Ram. This was the upgrade of the Level 1 with expanded basic and additional Ram.

Additional add-ons were available. These included an Expansion Interface, an RS-232-C Serial Interface Board that mounted in the Expansion Interface (And was susceptible to heat and corrosion of the silver contacts as were all of the connectors), Disk Drives and Telephone Handset Interfaces. There were many kits of parts and solutions available to eliminate the silver corrosion. The most important

one was the rubber desk eraser.

The entire original package consisted of the CPU/Keyboard with 16K Ram, black and white Video Monitor, Cassette Recorder, Manual, Game Cassette and Power Supply. The price was \$988.00. I was anxious to get started so the sale was made.

Following the very good instructions the computer was set up. The only program I had was the game cassette consisting of Backgammon and Black Jack that came in the package. I loaded them with the recorder and nothing happened. On advising the store of the problem I received another cassette and tried again. The same results. The programs would not load.

I then decided that the next step would be to start at page one of the Basic Manual and go through each section. Incidentally the Basic Manual supplied with the computer was very easy to understand and use. I also typed in some of the programs found in the Manual and was finally able to use the computer.

The next step was to save these programs on tape so that I could use them again without retyping. Although the programs were apparently saved on the tape they could not then be reloaded back into the computer. Again complaining to the store I was then advised that all of the cassette recorders supplied with the computers were defective and were being recalled. Apparently they could save a program but when it was loaded back into the computer a glitch in the recorder destroyed some of the information on the tape. This defective recorder caused me to lose several commercial software programs. The supplier of these was not happy about replacing them. The recorder was replaced and worked very well except for the fact that it was difficult to make every tape load properly the first time.

By now I was ready for the next step, an Expansion Interface with a Disk Drive. This was easier said than done. One had to get on a waiting list for both the Expansion Interface and Disk Drive. After many weeks of waiting I was informed that the Expansion Interface had come in. I had gone all the way and ordered it with 32K Ram. This gave me a grand total of 48K Ram in the computer. The EI had a compartment to hold both the CPU and EI power supplies. The price of this purchase was \$697.00. Total cost was now \$1,685.00.

There was another waiting list for the Disk Drive. These were almost impossible to obtain. Rather than wait for several months I perused the

magazines and decided to buy one via mail order. I found that I could save a little money and get immediate delivery of a Percom drive. The only type available was a 180K one sided. This was ordered at a cost of \$458.95. The computer was now getting quite expensive, \$2,143.95. But what the heck it was for business and could be depreciated.

I was advised that when using the Disk Drive it must be kept well clear of the monitor. The magnetic fields generated would erase the disks. It was to be kept to one side or other. I don't remember which. I mounted it on a shelf under the desk.

The next was to obtain several programs so that I could take care of the business requirements. From the Peripheral People I ordered Electric Secretary and Mailroom+. From Micro Architect, IDM IV a data base program and from The Software Exchange, Small Business Bookkeeping. This was the basis of a software library. Later many other programs were obtained from magazines and software suppliers. I stayed away from RS programs because they contained many errors and always seemed to require modifications.

The drives were only 180K so that one drive could barely hold TRSDOS 2.1. Not content with one Disk Drive, several months later another Percom drive was purchased at a cost of \$326.50. The total cost for hardware was now \$2,470.00

We could now compute but were unable to obtain printouts. A line printer from Radio Shack cost a minimum of \$1,299.00 and with tractor feed \$1,559.00. Although we considered a printer a necessity this price could not be justified.

There was a lot of hardware available in surplus about this time. A Datel printer was purchased from a nearby surplus outlet, in late 1979, built around an IBM typewriter that seemed adequate for the job. This cost was \$545.00. It was used for several years in spite of the fact that it was slow. The total cost of hardware was now \$3,015.45. The Datel was replaced with an Okidata Model 83 in 1981 at a cost of \$853.00 when we needed a wide carriage printer.

From the same surplus house we purchased a desk to hold all of the equipment. It had sturdy legs and a 1 1/2" top. To reduce heat problems the area under the Keyboard/CPU and the Expansion Interface were routed out for ventilation. Because the units were light weight they were held in place with circular recesses for the feet. The same computer desk is being used today with a new solid top.

The Datel was put aside in 1984 for a better letter quality printer. We next acquired a Dynax DX-15, made by Brother, together with a plug in keyboard so that it could be used as a typewriter. We still use this combination in the office as a typewriter.

One drawback to the Model 1 was the fact that it displayed upper case characters only. Lower case characters were accepted but not displayed. Several modifications were available both in hardware and software to overcome this. The hardware modifications required a plug in unit or a modification of the circuitry. Hardware would change the display to both upper and lower case.

I opted to use software with the Datel printer. The supplied printer driver was modified to accept both upper and lower case. I could type normally using upper and lower case but the display was upper case only. The software would then supply the proper characters to the printer. This sometimes produced weird printouts if you were not careful when typing.

We subscribed to or purchased several monthly magazines devoted to the TRS80. There were lots of advertisements for both hardware and software in every issue. Our library continued to build up with business and utility programs.

It was exciting to wait for the next issues of the magazines so that we could see what corrections had to be made so that programs from previous issues would actually run. There were many, many mistakes in the printouts. These were made with dot matrix printers and the reproductions were poor. In fact all of the publications suggested that when submitting programs for publication that you install a new ribbon on the printer before making the printout. *

The Model 1 was used successfully until 1985 in the Manufacturers Representative business and later when we expanded into the commercial real estate business. The computer was repacked in it's original cartons and put away. Later the Model 1 was sold to a collector for \$200.00. That was the end of the story for the Model 1.

Notes:

1. Most of the information for this section was obtained from the authors memory and records of purchases and lists of equipment kept as capital investments in the business.

2. Models, prices and other basic information on the Model 1 computer was taken from early computer catalogs including #RSC-2 and other catalogs from circa 1978.

-Jack E. Willson

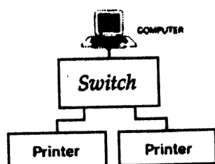
DICEROLL/BAS PROGRAM LISTING NUMBER ONE by Clifton N. Duval

```

10 REM - DICEROLL by Clifton N. Duval
20 CMD"V64":CMD"FORMS (I,M=5,W=75)"
30 D=0:E=0:F=0:G=0:H=0:I=0:W=0
40 CLS : RANDOM : PRINT"PROCESSING" : DEFINT A-Z : DIM N(300)
50 PRINT@128,"1s 2s 3s 4s 5s 6s Tot."
60 FOR A=1 TO 300
70 R=RND(6)
80 IF R=1 AND D=50 THEN 70 ELSE IF R=1 THEN D=D+1
90 IF R=2 AND E=50 THEN 70 ELSE IF R=2 THEN E=E+1
100 IF R=3 AND F=50 THEN 70 ELSE IF R=3 THEN F=F+1
110 IF R=4 AND G=50 THEN 70 ELSE IF R=4 THEN G=G+1
120 IF R=5 AND H=50 THEN 70 ELSE IF R=5 THEN H=H+1
130 IF R=6 AND I=50 THEN 70 ELSE IF R=6 THEN I=I+1
140 N(A)=R
150 W=W+N(A)
160 PRINT@192,USING"## ## ## ## ## ## ####";D;E;F;G;H;I;W
170 NEXT A
180 PRINT:PRINT"Press P to print, any other key to, not print"
190 Z$=INKEY$ : IF Z$="" THEN 190
200 IF Z$<>"P" AND Z$<>"p" THEN 330
210 FOR X=1 TO 6:LPRINT:NEXT X
220 FOR A=2 TO 0 STEP-1
230 ON A+1 GOSUB 320,310,300
240 FOR B=1 TO 100
250 LPRINTTAB(4)INT((B-1)/10);"=";N(A*100+B); : IF B/10 = INT(B/10) THEN LPRINT
260 NEXT B
270 FOR C=1 TO 4 : LPRINT : NEXT C
280 NEXT A
290 END
300 LPRINTTAB(5)"--A-- --B-- --C-- --D-- --E-- --F-- --G-- --H-- --I-- --J--" : RETURN
310 LPRINTTAB(5)"--K-- --L-- --M-- --N-- --O-- --P-- --Q-- --R-- --S-- --T--" : RETURN
320 LPRINTTAB(5)"--U-- --V-- --W-- --X-- --Y-- --Z-- -AAA- -BBB- -CCC- -DDD-" : RETURN
330 PRINT:PRINT"Do you wish another (R)un or (E)nd?"
340 A$=INKEY$:IF A$="" THEN 340
350 IF A$="r" OR A$="R" THEN RUN
360 IF A$="e" OR A$="E" THEN CMD"V80":END
370 GOTO 340

```

January 1995 Special



A-B Data Selector Switch, two position - all lines switched \$ 11.00 (Z)

Cable between switch and printer Male-Male Centronics 6ft. \$ 9.00 (Z)

Prices good till February 3, 1995 only.

FIRST FOUR STEPS IN THE PROCESS OF EXPORTING PROFILE 4 PLUS DATA TO ANOTHER DATA BASE

"ENTER" or "CARRIAGE RETURN" (ASCII: 13) Delimited ASCII Files

@CK. NO.<			
@DATE<			
@AMOUNT<			
@PAYEE<			
@MEMO<			
<			
@3652<	@3652@<	3652<	3652<
@01/07<	@01/07<	01/07<	01/07<
@87.20<	@87.20<	87.20<	87.20<
@MIDSTATE GAS CO<	@MIDSTATE GAS CO<	MIDSTATE GAS CO<	MIDSTATE GAS CO<
@NOV, DEC<	@NOV, DEC<	NOV, DEC<	NOV; DEC<
<	<	<	<
@3653<	@3653<	3653<	3653<
@01/12<	@01/12<	01/12<	01/12<
@53.90<	@53.90<	53.90<	53.90<
@PENNY<	@PENNY<	PENNY<	PENNY<
@SLACKS, TIE<	@SLACKS, TIE<	SLACKS, TIE<	SLACKS; TIE<
<	<	<	<
@3654<	@3654<	3654<	3654<
@01/15<	@01/15<	01/15<	01/15<
@35.00<	@35.00<	35.00<	35.00<
@UPTOWN DENTAL<	@UPTOWN DENTAL<	UPTOWN DENTAL<	UPTOWN DENTAL<
@CHECK UP<	@CHECK UP<	CHECK UP<	CHECK UP<
<	<	<	<
@3655<	@3655<	3655<	3655<
@01/16<	@01/16<	01/16<	01/16<
@98.81<	@98.81<	98.81<	98.81<
@TELEPHONE CO<	@TELEPHONE CO<	TELEPHONE CO<	TELEPHONE CO<
@DECEMBER<	@DECEMBER<	DECEMBER<	DECEMBER<
<	<	<	<
@3656<	@3656<	3656<	3656<
@01/17<	@01/17<	01/17<	01/17<
@50.00<	@50.00<	50.00<	50.00<
@CASH<	@CASH<	CASH<	CASH<
@PETTY CASH<	@PETTY CASH<	PETTY CASH<	PETTY CASH<
<	<	<	<
@3657<	@3657<	3657<	3657<
@01/19<	@01/19<	01/19<	01/19<
@163.76<	@163.76<	163.76<	163.76<
@BIG & TALL<	@BIG & TALL<	BIG & TALL<	BIG & TALL<
@SLACKS, SHIRTS<	@SLACKS, SHIRTS<	SLACKS, SHIRTS<	SLACKS; SHIRTS<
<	<	<	<

Fig. 1. File
of Selected
Records Generated
By Profile 4 Plus
For Use With
Super Scrpsit

FIG. 2. Same File
But With Field
Header Section
Deleted.

Fig. 3. Same As
Fig. 2, but
with the "@"
Field Specifiers
Deleted

Fig. 4. Same As
Fig. 3 But
With Commas
Replaced With
Semicolons

Figures 1 through 4. First Four Steps In The Exporting of Profile 4 Plus Data

NOTE: The Less Than Symbol "<" Denotes a "CARRIAGE RETURN" or "ENTER", ASCII, 013.

STEPS 5 AND 6 IN THE PROCESS FOR EXPORTING
PROFILE 4 PLUS DATA TO ANOTHER DATA BASE

STEP 5.

```
3652,01/07,87.20,MIDSTATE GAS CO,NOV; DEC,,
3653,01/12,53.90,PENNYS,SLACKS; TIE,,
3654,01/15,35.00,UPTOWN DENTAL,CHECK UP,,
3655,01/16,98.81,TELEPHONE CO,DECEMBER,,
3656,01/17,50.00,CASH,PETTY CASH,,
3657,01/19,163.76,BIG & TALL,SLACKS; SHIRTS,,
```

Fig. 5. The "ENTER" or "CARRIAGE RETURN"
Characters (ASCII, 013) in the File, Fig. 4,
Replaced With Commas.

STEP 6.

```
3652,01/07,87.20,MIDSTATE GAS CO,NOV; DEC<
3653,01/12,53.90,PENNYS,SLACKS; TIE<
3654,01/15,35.00,UPTOWN DENTAL,CHECK UP<
3655,01/16,98.81,TELEPHONE CO,DECEMBER<
3656,01/17,50.00,CASH,PETTY CASH<
3657,01/19,163.76,BIG & TALL,SLACKS; SHIRTS<
```

FIG. 6. The Comma Delimited ASCII File.
The Double Commas, ",", in the File, Fig. 5
Above, Replaced with the "ENTER" or "CARRIAGE
RETURN" (ASCII, 013).

NOTE: The Less Than Symbol "<" Denotes a
"CARRIAGE RETURN" or "ENTER", ASCII, 013.

Panasonic
Office Automation
KX-P2023



Put an end to printer set-up hassles with Panasonic's economical KX-P2023. This 24-pin printer makes high-quality printing a cinch—thanks to its EZ Set operator panel. EZ Set remembers more than 20 functions—including font, pitch, form length and emulation. At the touch of a button, the KX-P2023 recalls the most often used printer functions. Imagine the time you'll save printing your next brochure, form letter or report. For added versatility, Panasonic included advanced features like a 360 dpi resolution, seven LQ fonts, automatic loading and a flat belt tractor for simple fanfold paper loading. But best of all, it has the feature you've been waiting for—a low price.

Features:

- 24-pin LQ printing
- 160-240 cps draft/53-80 cps LQ
- 43.5 dBA noise level
- IBM Proprinter X24E and Epson LQ-850 emulations
- 11.7" mid-sized paper carriage
- 360 dpi
- Seven resident bit-mapped fonts
- EZ Set operator panel
- IBM PC-compatible set-up disk
- 14K print buffer
- Two year manufacturer's warranty

\$ 200.00 Plus \$6 S&H

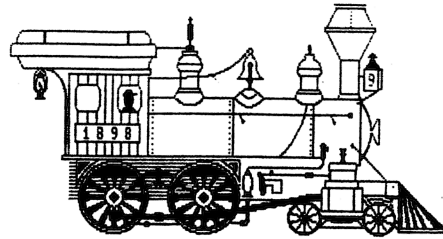
Uses CN1040 Ribbons

CLASSIFIED

FOR SALE: Model 4, 128K, 2-360K drives; DMP400 printer; PTC-64, 32k printer buffer; cables, switch box, books, software. Call: R-Yves Brenton [I'm on the East Coast] at 514-768-5905; or via Internet ryb1989@cam.org or on C.I.S at 73511,234

WANTED TO BUY: Tandy DMP-300 24 pin Dot Matrix Printer in good to excellent condition. Will also consider a DMP-300k that needs on a new print head to put it in good working condition. Write to me giving details of printer and price. Harold J. J Hendriks, 906 So. Viola St., Milbank, SD 57252, (605) 432-6548

Classified ad rates \$1.00 per line of 35 characters or spaces. \$6 Minimum



HIGH RESOLUTION BOARD

For the Model 4/4D/4P

The Grafyx Solution high resolution board provides 153,600 pixel elements which are arranged in 640 x 240 matrix on a Model 4 computer.

Easy plug on installation. Full instructions, complete with Test Program and Operation Programs.

Hundreds of business, personal, engineering, and educational applications. View thousands of high resolution files on your computer screen and print to your printer.

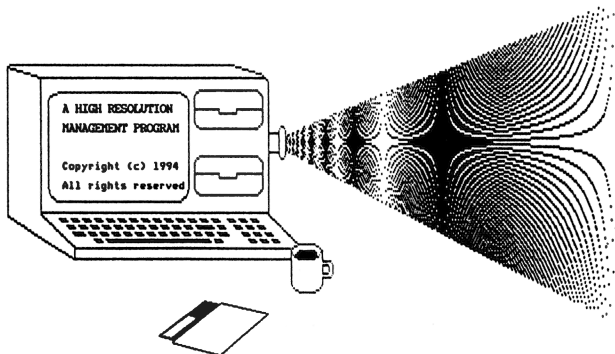
Use in conjunction with PostMaster, MagicDraw, High Resolution Utilities, and Magic Lantern to create and view your own fantastic designs.

\$66.00 + (Z) S&H

Magic Lantern

by Richard G. Snow

Published and Distributed by
COMPUTER NEWS 80



High Resolution Utility Programs by Richard G. Snow

Use your /HR & MAC high resolution files
for your own slide show.
\$ 16.00 + (Z) S&H

MODEL 3 AND 4 HARDWARE

Model 4 Non-Gate Motherboards	\$ 49.95 (Z)
Model 4 Non-Gate Motherboards with 128 K upgrade kit added	\$ 70.90 (Z)
Model 4 Sound Board Kits	\$ 10.00 (Z)
Floppy disk controller board	\$ 39.95 (Z)
4P Internal 300 Baud Modem	\$ 15.00 (Z)
New Model 4D Keyboard	\$ 15.00 (Z)
New Model 4D Bezel	\$ 15.00 (Z)
New Model 4 Keyboard Cable	\$ 16.75 (Z)

For other hardware repair items see
CN80 Product Guide or call for prices.

Note: Model 4D keyboards will work with any model 4 except the Model 4P. Keyboards do not have the cable connector soldered to them. To have us solder the cable to the keyboard - Add \$10 to the above price.

Computer News 80
REPAIR AND UPGRADE SERVICE
FOR MODELS III, 4, 4P AND 4D

- **UPGRADE INSTALLATIONS**
- **MEMORY EXPANSION TO 128K**
- **HIGH RESOLUTION BOARDS**
- **RS232 COMMUNICATION BOARDS**
- **DOUBLE SIDED DISK DRIVES**
- **OTHER UPGRADES AVAILABLE**

We give you a firm quotation on all work to be done prior to doing the work. If you do not approve your computer is returned to you. A small diagnostic fee and return shipping costs will be charged.

You supply your own shipping carton and ship the computer to us for repair, via United Parcel Service. Please remember to insure your shipment. Return packaging and shipping costs will be included in our quotation for any repairs or installation charges.

For more details call
307-265-6483

Our shipping address is:
Computer News 80
1220 Jamaica Drive
Casper, WY 82609

RESTORATION SERVICE

If you have an original application program disk that needs to be restored, send it and \$5.00 to cover the postage and handling. Please remember that it must be an original, legally owned by you, master disk. We will not restore copies of original program disks. There are many commercial games and other programs that we will not have in the archives, so it is best to call first and check.

FILE TRANSFER SERVICE

If you want to have your files transferred from one media to another. Such as having your files transferred from 5-1/4 disks to 3-1/2 we can do that for you. If you want to have files transferred from an IBM (MS-DOS) format to a TRSDOS/LS-DOS format, or from TRS-80 to IBM (MS-DOS) we can provide that service. However we do not have the equipment to handle 8" disks. Call or write for further details concerning the transfer service.

CP/M

Now only \$140. Pickles & Trout CP/M-2.2m for your Radio Shack TRS-80 Model-II, -12, -16, or -6000 computer.

Still running "less-than-the-best?" We can upgrade your existing CP/M software (Lifeboat, P&T, ATON, Whatever) to the latest Pickles & Trout CP/M-2.2mH release, only \$65. [Includes new manuals, full screen editor, full utilities, double sided disk support, and more.]

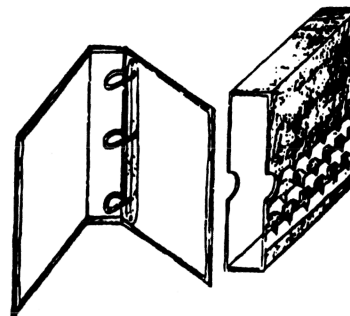
RAMD — Let your P&T CP/M use the 68000, memory as a super-speed disk drive, only \$49.

REFORMATTER — Your TRSDOS system can read/write CP/M diskettes, only \$49.

Looking for a CP/M program? WordStar, dBASE?
Give us a call.

TriSoft

1825 East 38 1/2
Austin, TX 78722
1-800-531-5170
1-512-472-0744



THREE RING BINDER WITH SLIPCASE

Perfect to store your Radio Shack
8-1/2 x 6-1/2" Manuals.
Grey cloth covered.

\$ 3.00 each (Y) S&H
\$ 10.00 Maximum S&H per order
of 4 or more binders.



2400 Baud External Modem

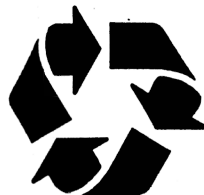
from Computer News 80

\$ 78

Plus \$4 S &H

2400 baud transmission speed
Hayes compatible
Compatible with Model 3/4/4D/4P
Compatible with IBM PC/XT/AT
Auto dial/answer
Eight status indicator lights
Built-in speaker with volume control
Second jack for local phone
Call progress and error detection
Ten year manufacturer's warranty
Manufactured in the USA

**Complete with all cables and
TRS-80 Communication Software**



**STOP
THROWING
PRINTER
CARTRIDGES
AWAY!**

RECYCLE THEM

WE WILL RE-INK THEM FOR YOU

\$ 3.00 each

Fabric ribbons can be re-inked dozens of times before the fabric wears out. Even then the plastic cartridge will still be good and the ribbon can be replaced. Send us your used printer ribbons and we will re-ink them using high quality ink that also contains a print head lubricant to prolong the life of your printer.

Add \$3 Return Shipping for 1 to 5 ribbons,
Add \$4 Return Shipping for 6 or more ribbons.
Include your phone number and payment by check
or money order to *Computer News*.



TRS-80 MODEL III/4 EMULATOR

By Jeff Vavasour

**Run your TRS-80 Model 4
and Model III Software on your PC.**

Virtually all software available for your Model III or Model 4 will run on your IBM PC or PC Clone computer using The TRS-80 Model III/4 Emulator. Install TRSDOS 1.3, LDOS 5.x, NewDos (Model III DOSes) TRSDOS 6.x, LS-DOS 6.3.x, (Model 4 DOSes) on your PC.

A Model 4 or 3 and a PC with at least 384K, CGA graphics, MS-DOS 3.3 or higher is required. If you still have TRS-DOS disks but no longer have your Model 4 computer *Computer News Transfer Service* will transfer your files from your TRS-80 disks to the emulator formatted PC disks required for use in your PC, \$5 per disk.

\$ 59.95 plus \$4.00 Shipping and handling.

Scriptit Pro

**WORD PROCESSING PROGRAM
FOR THE MODEL 4
128K Memory Required**

The original and the best word processing program you can use on your Model 4/4P/4D.

New manuals and program disks. Scriptit Pro is the program used to create *Computer News 80*. It is the easiest word processing program to use because it is a "what you see is what you get" style program. Layout your text format on the screen. No printout after printout until you get it right.

Built-in dictionary and word spell checker. Print controls for over 19 font styles. 10 user defined hot keys, split document screens and more.

This program is completely BUG free, and a joy to use. Totally supported by CN80.

\$80.00 + \$4.00 S&H

Programs by David Goben

DAVID'S MODEL 4 FILE UTILITIES

Nine great file handling utilities for TRS/LSDOS 6.x.

DAVID'S MOD 3 LDOS FILE UTILITIES

Nine great file handling utilities for LDOS 5.x.

DAVID'S MODEL 4 SYSTEM UTILITIES

16 Powerful programs to improve your system maintenance.

DAVID'S MODEL 3 SYSTEM UTILITIES

14 Powerful programs to improve your system maintenance.

T62DOSXT

Program to patch TRSDOS 6.2 to accept the current date, plus ONEPASS program to format and copy your disks all at the same time.

PACK

Program to compress your basic programs for faster operation and to use the smallest disk space possible. Available for TRSDOS and MS-DOS.

DEA

A powerful integrated editor/assembler for assembly language programming on your Model 3 or Model 4.

MAGICDRAW

Drawing program equals or surpasses the IBM-PrintMaster or PrintShop for the TRS80 Model 4/4P/4D (high-resolution board, mouse and mouse driver required).

HI-RES UTILITIES PACKAGE

10 Utilities for working with your high resolution files on the Model 4/4P/4D. View, print, rotate, shrink, save and many more hi-res file uses.

POSTMASTER SUPPORT UTILITIES

Utility programs to use with David P. Miller's PostMaster program. Capture icons, change sizes, view, edit and customize fonts and borders, create your own font and boarder files for use with PostMaster, plus much more.

POSTMASTER 24

A filtering program for use with PostMaster and 24 pin printers.

FBACKUP

Replace your DOS BACKUP/CMD file for faster and easier backups. Makes backups 8 times faster, and includes several usage options. Specify Model 3 or 4 versions when ordering.

FASTBACK

The fastest hard drive backup program ever written for the TRS-80 hard drives. Specify Model 3 or 4 versions when ordering.

FFORMAT

Replace the DOS FORMAT COMMAND for lightning fast formatting of 5.25 or 3.50 disks. Use with LDOS 5.3, TRSDOS 6.2 and LS-DOS 6.3.x. Specify Model 3 or 4 versions when ordering.

SCRIPT WORD PROCESSING

A complete word processing program with all the features of TRS-80 Scripsit, plus more. Specify Model 3 or 4 versions when ordering.

SCRIPT SPELLING VERIFIER

Dictionary and word spell checker for Model 3 or 4. Use with Scripsit, Allwrite, ASCII text files, over 75,000 words and add your own up to 17,000. Specify Model 3 or 4 versions and DOS when ordering.

SUPERSCRIPSIT SPELLING CHECKER

Replace the original SuperScripsit dictionary with this powerful word spell checker, dictionary. Specify Model 3 or 4 versions when ordering.

BCX - SPREADSHEET

The very latest in spreadsheets ever written for the Model 4 computer. Faster and larger than any other spreadsheet program ever written for the TRS-80.

BCX - DEMO DISK

Purchase price refunded when full program is purchased.

BUSY-CALC

The family & Small Business Spreadsheet. For the Model 4/4P/4D. A smaller version of BCX for all your spreadsheet needs, 128K required.

BUSY-CALC - DEMO DISK

Purchase price refunded when full program is purchased.

MODEL 4 SMALL C

Program in Small C on your Model 4/4P/4D. 225 page reference manual, compiler, macro assembler.

DISK OPTIMIZATION PACKAGE

Defragment the files on a Model 4 floppy disk or hard drive. Utilities to test drive for errors, or fragmentation and take corrective action.

SUBDIRECTORY UTILITIES

For the Model 4/4P/4D, eliminate the 256 limit on files per disk drive. Add directories with sub-directories to any disk or hard disk.

For the Model 4/4P/4D, take advantage of your extended memory and use it as a print buffer when printing.

Play Symphony 90 pre-arranged music on your computer using the Symphony 90 Interface unit.

Compose your own music files on a disk to be used with the player program and interface.

Mouse Driver program for 2 or 3 button mouse on the Model 4.

Mouse to Keyboard Interface, Model 4 Mouse Driver required.

Programs by David P. Miller

Build up to 26 DOS commands on a screen menu and then call up any program or use any DOS command by typing just one letter. Compatible with mouse, keyboard or arrow keys.

Transfer data files and program files from your TRS-DOS formatted disks to disks formatted for MS-DOS computers. Read MS-DOS formatted disk directories, Add or delete line feeds as needed. Requires a Model 4/4P/4D for use.

Create labels, full page bulletins, and letterheads, using creative icon (clip-art) and built-in fonts, with your dot matrix printer.

Programs by Howe Software

For Model 1, 3, 4/4P/4Ds

Word Processor, compatible with Scripsit. Send any control/graphics character to the printer. 16 help screens. Economical and easy to use.

The same word processor as above with spell checking dictionary included.

Complete test for every component of your TRS-80 Model 1, 3, and 4/4P/4D. Specify Model when ordering.

Telecommunication program for use with Model 1,3,4/4P/4D Automatic transmission and receiving data. Memory buffer and help screens.

Based on the Dome Bookkeeping Record complete business accounting with payroll and expense check writing and record keeping.

Create and maintain mailing lists of up to 32,767 names and addresses. Form letter merge.

A complete checkbook program combined with budget comparisons, for the Home or Small Business.

A complete point-of-sale program for small business, includes order entry, invoicing, inventory and sales reports.

Programs by Mark Allen Reed

For Trsdos/LS-DOS 6.x Model 4/4P/4D.
Full screen text editor that accepts up to 47K of ASCII text. Complete with block, copy, delete, find, and automatic tabs for programing with assembly language. Excellent program for editing any file, readme, patch listings, job control language or just word processing text.

16 Useful utilities for the Model 4. Complete with manual. This is a must file to have for all Model 4/4P/4D users.

Programs by Richard VanHouten

For the Model 4 with a modem. Transfer ANSI IBM graphics to your model 4.

Game - Cross the mine field and flag all the mines in advance of your troops. Model 4 only, can be used with a mouse.

Wildcard directory Searching, low and high resolution graphic routines, mouse interface. For anyone programming in Small C on the Model 4.

Program to us the Chinon DS2000 or DS3000 full page scanner with your Model 4.

True rendition of a working slot machine on your Model 4 with High Resolution board.

Remarkable screen rendition of playing cards for playing poker.

Send and receive GIF high resolution graphics. Print to printer, or convert GIF to HR format. Model 4 required.

Programmable Calculator for your Model I, 3, 4/4P/4D. This unique product integrates mathematical programming functions into a single convenient application. For the student, professional, or engineer, accountants, brokers and designers.

Create a master index of all your Model I,3,4/4P/4D floppy disks. Reads any DOS any 5.25 or 3.25 disks. Sort, search or print records.

A collection of patches for TRSDOS 1.3, greatly improves the use of TRSDOS 1.3.

Z80 Machine Language Techniques, 236 8-1/2 by 11 pages. Presenting Machine Language fundamentals.

Each Chapter and Verse stored in ASCII for easy
search and print. See Product Guide for Prices

A collection of electronic and other math formula solving programs.

TRSDOS 6.2.1 System and Basic Interpreter Disk,
upgraded to accept today's date, with new manual.

TRSDOS 1.3 System and Basic Interpreter Disk Only.

Model 4 Two Disk Drive 128K	Call for Price
Model 4P Portables Two Disk 128k	Call for Price
Model 4D Two Disk Drive 128k	Call for Price
Tandy 1000EX	\$100.00 +S&H

DWP410	Daisy Wheel Wide Carriage	Call for Price
DMP120	Dot Matrix Wide Carriage	Call for Price
DMP130	Dot Matrix 80 Column	Call for Price
DMP210	Dot Matrix Wide Carriage	Call for Price
DMP420	Dot Matrix Wide Carriage	Call for Price

Computer News 80 Product Guide

BACK ISSUES, INDEX, & REPRINTS

CN80 BACK ISSUES Individual Copies	\$ 4.00 (X)
Available from Vol 1 No. 1 January 1988	
All of 1988	\$ 12.00 (Z)
All of 1989	\$ 14.00 (Z)
All of 1990	\$ 16.00 (Z)
All of 1991	\$ 18.00 (Z)
All of 1992	\$ 20.00 (Z)
All of 1993	\$ 22.00 (Z)
All of 1994	\$ 24.00 (Z)

COMPUTER NEWS 80 INDEX DISKS

CN80 INDEX from 1988 thru 1994	\$ 2.00 (X)
Specify LSDOS 6.3 or TRSDOS 1.3	

NEW USERS GUIDE

NEWCOMERS GUIDE VOLUME 1	\$ 7.95 (X)
Reprint of all CN80 "Newcomers Corner" part 1 to 8.	
This is a must have for all new TRS-80 users.	

CN80 DISK SERIES

NUMBER 1	programs printed in Vol 1 No. 1 thru No. 6.
NUMBER 2	programs printed in Vol 1 No. 7, 8 and 9.
NUMBER 3	programs printed in Vol 1 No.10, 11 and 12.
NUMBER 4	programs printed in Vol 2 No.1, 2 and 3.
NUMBER 5	programs printed in Vol 2 No.4, 5 and 6.
NUMBER 6	programs printed in Vol 2 No.7, 8 and 9.
NUMBER 7	programs printed in Vol 2 No.10, 11 and 12.
NUMBER 8	programs printed in Vol 3 No.1, 2 and 3.
NUMBER 9	programs printed in Vol 3 No.4, 5, and 6.
NUMBER 10	programs printed in Vol 3 No.7, 8, and 9.
NUMBER 11	programs printed in Vol 3 No.10, 11, and 12.
NUMBER 12	programs printed in Vol 4 No. 1, 2, and 3.
NUMBER 13	programs printed in Vol 4 No. 4, 5, and 6.
NUMBER 14	programs printed in Vol 4 No. 7, 8, and 9.
NUMBER 15	programs printed in Vol 4 No. 10, 11 and 12.
NUMBER 16	programs printed in Vol 5 No. 1, 2 and 3.
NUMBER 17	programs printed in Vol 5 No. 4, 5 and 6.
NUMBER 18	programs printed in Vol 5 No. 7, 8 and 9.
NUMBER 19	programs printed in Vol 5 No. 10, 11 and 12.
NUMBER 20	programs printed in Vol 6 No. 1, 2 and 3.
NUMBER 21	programs printed in Vol 6 No. 4, 5 and 6.
NUMBER 22	programs printed in Vol 6 No. 7, 8 and 9.
NUMBER 23	programs printed in Vol 6 No. 10, 11 and 12.
NUMBER 24	programs printed in Vol 7 No. 1, 2 and 3.
NUMBER 25	programs printed in Vol 7 No. 4, 5 and 6.
NUMBER 26	programs printed in Vol 7 No. 7, 8 and 9.
NUMBER 27	programs printed in Vol 7 No. 10, 11 and 12.
NUMBER 28	programs printed in Vol 8 No. 1, 2 and 3.
NUMBER 29	programs printed in Vol 8 No. 4, 5 and 6.
NUMBER 30	programs printed in Vol 8 No. 7, 8 and 9.
NUMBER 31	programs printed in Vol 8 No. 10, 11 and 12.

\$ 5.00 PER DISK S&H Included

For your convenience advance orders for the Disk Series are accepted. Disks are shipped to you automatically as soon as they are ready. Write or call for free CN80 Disk Series Catalog.

PLEASE NOTE: All CN80 DISK SERIES are on FLIPPY 5-1/4" disks; TRS/LS-DOS 6.3 format on Side 1 and TRSDOS 1.3 format on Side 2. Also available on 3-1/2" disks @ \$5.50 each (LSDOS 6.3.1 or LDOS 5.3.1 format only). Each Disk Series has Bonus programs.

MANUALS & PROGRAMS PUBLISHED BY CN80

ANSITERM 4 by Richard VanHouten	\$ 30.00 (Z)
ARRANGER II by Dan Foy	\$ 39.95 (Z)
ASTROCAL by Vernon B. Hester	\$ 29.95 (Z)
BCX DEMO DISK ONLY by David Goblen	\$ 15.00 (X)
BCX Spreadsheet Program by David Goblen	\$111.00 (Z)
BIBLE King James Version New & Old Testaments	
New Testament	\$ 22.50 (Z)
Old Testament	\$ 47.50 (Z)
Both Old & New (Save \$5.50)	\$ 64.50 (Z)
Available for M4 TRS/LS-DOS 6.x, M3 LDOS 5.X single or double sided. M3 TRSDOS 1.3 single sided only.	
BUSY-CALC DEMO DISK by David Goblen	\$ 10.00 (X)
BUSY-CALC SPREADSHEET by David Goblen	\$ 81.95 (Z)
DAVE'S MOUSE MENU by David P. Miller	\$ 15.00 (Z)
DAVID'S MOD3 FILE Utilities by D.Goben	\$ 11.00 (Z)
DAVID'S MOD3 SYSTEM Utilities by D.Goben	\$ 18.00 (Z)
DAVID'S MOD4 FILE Utilities by D. Goblen	\$ 11.00 (Z)
DAVID'S MOD4 SYSTEM Utilities by D. Goblen	\$ 18.00 (Z)
DEA Disk Editor/Assembler by David Goblen	\$ 51.95 (Z)
DISKOPT UTILITY PACKAGE by David Goblen	\$ 31.95 (Z)
EMULATOR MODEL III/4 by Jeff Vavasour	\$ 59.95 (Z)
FAST SOFTFONTS DOWNLOADER by D. Goblen	\$ 12.00 (Z)
FASTBACK MODEL 3 by David Goblen	\$ 31.95 (Z)
FASTBACK MODEL 4 by David Goblen	\$ 31.95 (Z)
FBACKUP MODEL 3 by David Goblen	\$ 17.00 (Z)
FBACKUP MODEL 4 by David Goblen	\$ 17.00 (Z)
FFORMAT MODEL 3 by David Goblen	\$ 17.00 (Z)
FFORMAT MODEL 4 by David Goblen	\$ 17.00 (Z)
GIF4MOD4 by Frank Slinkman	\$ 37.95 (Z)
HARD DISK BUILDER by David Goblen	\$ 12.00 (X)
HI-RES UTILITIES PACKAGE by David Goblen	\$ 17.00 (Z)
LONG & LOUD by Spectre Technologies	\$ 34.95 (Z)
M T K by David Goblen	\$ 20.00 (Z)
MAGICDRAW by David Goblen	\$ 67.00 (Z)
MAGICDRAW FONTS AND CLIP ART	
See MAGICDRAW MANUAL for list & prices.	
MAGIC LANTERN by Richard G. Snow	\$ 16.00 (Z)
MARK REED'S MOD 4 UTILITY DISK	\$ 14.95 (Z)

MARK REED'S MODEL 4 ED-IT	\$ 17.95 (Z)
MINE FIELD by Richard VanHouten	\$ 12.00 (Z)
MOUSE PLUS DRIVER by David Goben	\$ 12.00 (Z)
MS UTILITIES by David P. Miller	\$ 30.00 (Z)
MULTIDOS Mod 4 v 3.00 by Vernon B. Hester	\$ 29.50 (Z)
PACK for Model 1/3/4 by David Goben	\$ 19.95 (Z)
PACK - MS-DOS Version by David Goben	\$ 19.95 (Z)
PATCH UTILITY PROGRAM FOR TRSDOS 1.3 by Henry H. Herrdegen.	\$ 10.00 (Z)
POSTMASTER by David P. Miller	\$ 40.00 (Z)
POSTMASTER SUPPORT UTILITIES by D.Goben	\$ 41.00 (Z)
POSTMASTER 24 by David Goben	\$ 17.00 (Z)
REMBRANDT Graphics Toolkit by CN80	\$ 39.95 (Z)
ROMCLOCK3 UTILITY PACKAGE by D. Goben	\$ 7.00 (Z)
ROMCLOCK4 UTILITY PACKAGE by D. Goben	\$ 7.00 (Z)
SCRIPT Word Processor by David Goben	\$ 39.95 (Z)
SCRIPT SPELLING VERIFIER by David Goben	\$ 39.95 (Z)
SCRIPTSIT PRO by Radio Shack	\$ 80.00 (Z)
SLOT4 by Frank Slinkman	\$ 14.95 (Z)
SMALL BUSINESS ACCOUNTING W/PAYROLL by Howe Software.	\$ 99.95 (Z)
SMALL C COMPLIER FOR LS-DOS by D.Goben	\$ 47.00 (Z)
SMALL C SUPPORT LIBRARY by R. VanHouten	\$ 19.95 (Z)
SMART TERMINAL by Howe Software	\$ 19.95 (Z)
SPECTECH by CN80	\$ 5.00 (X)
SUB-DIRECTORY by David Goben	\$ 21.95 (Z)
SUPERSCRIPSIT SPELL CHECKER by D. Goben	\$ 39.95 (Z)
SUPER SPOOLER by David Goben.	\$ 17.00 (Z)
SYSTEM DIAGNOSTIC by Howe Software	\$ 69.95 (Z)
SYMPHONY 90 COMPOSER by David Goben	\$ 41.95 (Z)
SYMPHONY 90 PLAYER by David Goben	\$ 19.95 (Z)
SYMPHONY 90 MUSIC INTERFACE UNIT WITH AMPLIFIER	\$ 99.50 (Z)
TRSCAN by Frank Slinkman	\$ 45.95 (Z)
T62DOSXT TRSDOS 6.2 Upgrade by D. Goben	\$ 20.00 (X)
TYPITALL Word Processor by Howe Software	\$ 49.95 (Z)
TYPITALL Word Processor w/Spelling Checker by Howe Software	\$ 79.95 (Z)
VIDPOKR4 by Frank Slinkman	\$ 19.95 (Z)
Z80 MACHINE LANGUAGE by Don Ady	\$ 22.95 (Z)

LASER and DOT MATRIX PRINTER DRIVERS

SUPERSCRIPSIT HP LASER DRIVER	\$ 22.00 (Z)
SCRIPTSIT PRO HP LASER DRIVER	\$ 22.00 (Z)
SUPERSCRIPSIT FX80 DRIVER	\$ 19.95 (Z)
SCRIPTSIT PRO FX80 DRIVER	\$ 19.95 (Z)
ALLWRITE HP LASER SUPPORT	\$ 20.00 (Z)
ALLWRITE DESKJET SUPPORT	\$ 20.00 (Z)

LASER SOFT FONT PACKAGES

SPECIFY WORD PROCESSOR:
SuperSCRIPTSIT for the Model III
SuperSCRIPTSIT for the Model 4
ScriptSIT PRO for the Model 4

Font style	Point Size (Height of Letter)
Century	10 point
Amertype	10 point
Legal	10 point
Helvetica	10 point
Optimas	10 point
Palatine	10 point
Times Roman	10 point
Palatine	12 point
Centrum	12 point
Optimis	12 point
Helvetica	2 point
Palatine	8 point

Each Font Package supports normal, bold and italics printing of letters. Thirty-six soft font packages in all, Twelve soft fonts for each word processor supported.

Prices are \$10 for each soft font package,	plus (Z)
Discounts for multiple font orders are:	
5 Font Packages for	\$ 45.00 (Z)
10 Font Packages for	\$ 90.00 (Z)
12 Font Packages for	\$ 96.00 (Z)

FILE CABINET CATALOGS

MODEL 4 TRS-80 PUBLIC DOMAIN	\$ 2.00 (X)
MODEL 4 HIGH RESOLUTION	\$ 2.00 (X)
MODEL 4 MACPAINT HIGH RESOLUTION	\$ 2.00 (X)
MODEL 1/3 PUBLIC DOMAIN CATALOG	\$ 2.00 (X)
SYMPHONY 90 MUSIC CATALOG	\$ 3.00 (X)

DISK OPERATING SYSTEMS (DOS)

TRSDOS 1.3 R/S Cat # 26-0312	\$ 7.00 (X)
Model 3, Disk Operating System and BASIC	
TRSDOS 6.2.1	\$ 45.00 (Z)
Model 4 Disk Operating System and Basic Interpreter.	
Date extension applied/supports double sided drives.	

DISKETTES - SLEEVES - LABELS - MAILERS

5-1/4" FLOPPY DISKS	\$.38 (Z)
Use as Double or Single Sided Disks. 100% Error Free Lifetime Guarantee with Paper Sleeves, Labels & Tabs. These disks are manufactured in South Dakota by Syncom and are equal in quality to 3M brand disks, with a 3 mil heavy duty jacket.	

DISKETTES - SLEEVES - LABELS - MAILERS Cont'd

5-1/4" FLIPPY DISKS \$.60 (Z)
Single Sided DD on both sides. Premium Quality with two notches by factory. Made in South Dakota by Syncom. 100% Error Free. Paper Sleeves, Labels & tabs.

3-1/2" DISKS \$.59 (Z)
Premium Quality DS/DD 100% Error Free, Lifetime Warranty. Made in South Dakota by Syncom - Bulk Platinum Brand by Syncom.

All our disks are manufactured in the US, Equal to 3M or Verbatim, Sony and other famous brands - no Chinese or other cheap imports.

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

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 (X)

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

FOUR POSITION SERIAL SWITCH \$ 20.95 (Z)
w/5 DB25 Female connectors.

CABLES REQUIRED BETWEEN AB SWITCH and PRINTER

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

RS232 SERIAL CABLES

RS232 Serial Cable 6 ft. \$ 8.95 (Z)
Equal to Radio Shack #26-240, Male - Female

RS232 Serial Cable 6 ft. \$ 8.95 (Z)
Equal to Radio Shack #26-249, Male - Male

RS232 NULL MODEM Cable 6 ft \$ 9.95 (Z)
Connect two computers together.

RS-232 EXTENDER CABLE \$ 8.00 (Z)
For computers w/RS-232 connector pointing down on the bottom of the computer.

HARD DRIVE CABLES

HARD DRIVE CABLE 4 ft \$ 16.00 (Z)
w/50 pin Edge Card connector & H D pin connector.

50 Pin Y CABLE \$ 18.00 (Z)
Enables hard two units to be connected to the I/O-Bus at the same time.

RS232 EXTENDER CABLE

RS232 Extender \$ 8.00 (Z)
FOR Non-gate array computers which have the RS232 cable pointing down out of the bottom of the computer.

PRINTER CABLES for TRS-80 & 1000 COMPUTERS

Flat Ribbon 6', Mod III/4/4D&P \$ 12.95 (Z)

Flat Ribbon 12', Mod III/4/4D&P \$ 15.00 (Z)

DISK CLEANING, DUST COVERS

5-1/4" DISK DRIVE CLEANING KIT \$ 4.90 (Z)

3-1/2" DISK DRIVE CLEANING KIT \$ 5.25 (Z)

UNIVERSAL PRINTER DUST COVERS \$ 9.75 (Z)
For printers up to 16" wide, anti-static vinyl.

INTERNAL HALF HEIGHT DOUBLE SIDED DISK DRIVES

Half Height 5-1/4 360K \$ 60.00 (Z)

Half Height 3-1/2 720K w/5-1/4" mounting kit \$ 67.00 (Z)

INTERNAL DRIVE CABLES FOR MODEL 3 AND 4/4P/4D

Internal 2 Drive Cable \$ 10.00 (X)
Specify: Model 4 Gate Array or Non-Gate Array. Model 4D or 4P. S&H included when ordered with drives.

EXTERNAL DISK DRIVES

One Disk Drive Unit \$143.00 (S)
One 5-1/4 360K or One 3-1/2 720K Unit.

Two Disk Drive Unit \$193.00 (S)
Two 5-1/4 360K drives, or two 3-1/2 720K drives. Or one 5-1/4 360K and one 3-1/2 720K drive.

MEMORY CHIPS for MODEL 4

64K UPGRADE KIT \$ 12.95 (Z)
Includes 8 150ns 128 refresh cycle dynamic ram chips, plus instructions and Memory Test Disk.

PAL CHIP \$ 8.00 (X)
Required to upgrade Non-Gate Array Model 4s.

MICRO-LABS HIGH RESOLUTION BOARDS

GRAFYX SOLUTION for Model 3/4/4P/4D \$ 66.00 (Z)
Specify Model 4 Non-gate array, Model 4 Gate-array or Model 4P (portable) when ordering because the boards and instructions are different for each Model.

MOUSE - PADS - HOLDERS - ADAPTERS

THREE BUTTON MOUSE \$ 16.95 (Z)

MOUSE HOUSE HOLDER \$ 1.75 (X)

MOUSE PAD \$ 2.45 (Z)

MOUSE CABLE ADAPTERS 9 PIN TO 25 PIN \$ 2.95 (X)

Mouse pad, holder and adapter are free when ordered with the three button mouse.

CLOCKS - ENTER TIME AND DATE AUTOMATICALLY

ROMCLOCK4 - INTERNAL CLOCK CHIP \$ 35.95 (Z)
Clock chip with ROMCLOCK4 or ROMCLOCK3 Utility
program package and installation instructions. Keep time
and date current. 10 year lithium battery.

I/O-BUS CLOCK EXTERNAL \$ 59.00 (Z)
Realtime clock uses exterior I/O Bus, no internal
connections or wiring.

EXTERNAL MODEL 4 OR 4P HARDWARE ADD-ONS

I/O-BUS LD INTERFACE \$180.00 (Z)
Connect an exterior disk drive unit to your 4P or Model
4/4D, not required for the first two drives on your Model
4/4D.

POWER SUPPLIES FOR MODEL 4/4P/4D OR MODEL III

ASTEC 65 WATT POWER SUPPLY \$ 62.00 (Z)
For units that have only one supply.

ASTEC 38 WATT POWER SUPPLY \$ 22.95 (Z)
For units that have two small supplies.

MODEL 4 HARDWARE

Non-gate array Motherboards 64K memory \$ 49.95 (Z)
Non-gate array Motherboards 128K memory \$ 70.90 (Z)
Sound Board Kits \$ 10.00 (Y)

MODEL 4P HARDWARE

Cooling Fans 12 vdc used. \$ 6.00 (Z)
Internal 300 Baud Modems used. \$ 20.00 (Z)

All hardware is new and has never been installed unless
otherwise noted.

FLAT RIBBON CABLE

25 Conductor \$.38 ft.(Z)
34 Conductor \$.51 ft.(Z)
50 Conductor \$.75 ft.(Z)

EXTENSION BLOCKS

70-015 34 Pin 17x2 Socket 3/16" high \$ 5.50 (X)
70-016 34 Pin 17x2 Socket 5/16" high \$ 5.50 (X)
70-015 34 Pin 17x2 Socket 5/8" high \$ 5.50 (X)

FLAT RIBBON CONNECTORS

70-001 50 Pin Male Edge Card Mating \$ 4.95 (X)
70-002 50 Pin 25x2 Edge Card Connector \$ 1.75 (X)
70-003 50 Pin 25x2 Header Female Socket \$ 1.25 (X)
70-004 50 Pin 25x2 Header Male/Plug w/mtg \$ 8.50 (X)
70-005 50 Pin 25x2 Header Male/Plug no/mtg \$ 8.50 (X)

70-006 36 Contact Centronics for Printers \$ 4.00 (X)

70-007 34 Pin 17x2 Header Socket \$ 1.95 (X)
70-007 34 Pin 17x2 Edge Card Connector \$ 1.35 (X)
70-009 34 Pin 17x2 Header Male no/mtg \$ 7.50 (X)
70-010 34 Pin 17x2 Header Male w/mtg \$ 7.50 (X)

70-011 25 Pin DB25 (RS232) Mail Plug \$ 3.00 (X)
70-012 25 Pin DB25 (RS232) Female Plug \$ 3.00 (X)

70-013 34 Pin 17x2 Box Header/Solder Pins \$ 2.50 (X)
70-014 50 Pin 25x2 Box Header/Solder Pins \$ 4.50 (X)

CRT SCREENS AND CONTROL BOARDS

Call for prices and availability for CRT screens
and control boards.

KEYBOARDS - CONTACT BLOCKS AND KEY CAPS

Keyboard Contact Blocks \$ 1.00 (X)
Key Caps \$.50 (X)
Specify computer and type when ordering.

DISK HOLDERS

MEDIA MATE Holds 50 5-1/4" disks \$ 5.90 (Z)
MEDIA MATE Holds 40 3-1/2" disks \$ 6.75 (Z)

IDE HARD DRIVES

42.8 MEG for Models 4/4P/4D \$350.00 (S)
Allow 4 weeks for delivery.

85 MEG and 125 MEG Hard Drives
Call for price and delivery.

RADIO SHACK EXTERNAL MINI DISK DRIVE

RS CAT. #26-1164 External Mini Disk Drive unit. \$64.90 (S)
In original box, never opened. One single-sided 5-1/4"
drive, power supply and cables for Model I/III/4/4D.

ADD SHIPPING & HANDLING CHARGES LISTED BELOW TO YOUR ORDER

\$10 Maximum S&H charge for United Parcel Ground Service. Add the shipping and handling charges per item ordered,
if it exceeds \$10 for shipment in the 48 states then add only \$10 to your order for shipping and handling.

(X) Add \$ 2.00 (Y) \$ 3.00 (Z) \$ 4.00 (S) \$ 6.00

Shipments are made by UPS ground service whenever possible. Please use street address and include phone
number when ordering. Consistent with industry standards no refunds are made for opened software, manuals, integrated
circuit chips or computer parts. Replacement limited to defective material only. No returns without written authorization.

Check or Money Order Payment Only - We do not accept Credit Card orders. C.O.D. add an additional \$4.50 per
order. APO, FPO, HI, AK, PR, and Canada add an additional \$2 per order unless otherwise stated. Wyoming Residents
Only add 5% Sales Tax. Prices subject to change without notice.

Order from: Computer News, PO Box 680, Casper, WY 82602-0680; (307)265-6483
Monday thru Friday - 8am thru 5pm - Mountain Time
Government, School, and Rated Corporation Purchase Orders Welcome

TOP QUALITY PRINTER RIBBONS

Printer	Radio Shack Cat. Number	CN80 Number	Type	Price Each for	
				One	6 or More
LP I, II, IV	26-1413	CN1001	FABRIC REFILL	5.55	5.05
LP III, V	26-1414	CN1002	FABRIC CART.	6.38	5.88
LP III, V	26-1414	CN1003	FABRIC REFILL	4.79	4.29
LP VI/VIII,DMP 400/420	26-1418	CN1004	FABRIC CART.	5.60	5.10
LP VII, DMP 100	26-1424	CN1038	FABRIC CART.	6.00	4.50
DMP 110	26-1283	CN1005	FABRIC CART.	6.58	6.08
DMP130/130A/132/133/107	26-1236	CN1006	FABRIC CART.	6.40	5.90
DMP130/130A/132/133/107	26-1238	CN1007	FABRIC REFILL	5.00	4.50
DMP 500	26-1482	CN1008	FABRIC CART.	13.40	12.90
DMP 500	26-1482	CN1043	FABRIC REFILL	5.30	4.80
DMP 120, 200	26-1483	CN1009	FABRIC CART.	7.00	6.50
DMP 120, 200	26-1489	CN1010	FABRIC REFILL	4.85	4.35
DMP 430	26-1296	CN1013	FABRIC CART.	12.25	11.75
DMP 430	26-1296	CN1044	FABRIC REFILL	5.60	5.10
DMP 440	26-2809	CN1014	FABRIC CART.	19.30	18.80
DMP 2100, 2100P, 2110	26-1442	CN1015	FABRIC CART.	6.10	5.60
DMP 2100, 2100P, 2110	26-1442	CN1016	FABRIC REFILL	4.85	4.35
DMP 2120	26-2834	CN1017	FABRIC CART.	13.05	13.05
DMP 2120	26-2836	CN1018	FABRIC REFILL	7.90	7.40
LMP 2150	26-1287	CN1019	FABRIC CART.	8.00	7.50
DWP II, DWP 410/510	26-1419	CN1020	MULTI-STRIKE CT.	5.35	4.85
DWP II, DWP 410/510	26-1419	CN1021	M-S REFILL	4.50	4.00
DWP II, DWP 410/510	26-1449	CN1022	FABRIC CART.	6.55	5.95
DWP II, DWP 410/510	26-1449	CN1023	FABRIC REFILL	5.45	4.95
DWP 520, 230, 210	26-1445	CN1024	MULTI-STRIKE CT.	5.15	4.65
DWP 520, 230, 210	26-1445	CN1025	M-S REFILL	4.50	4.00
DWP 520, 230, 210	26-1458	CN1026	FABRIC CART.	5.60	5.10
DWP 520, 230, 210	26-1458	CN1027	FABRIC REFILL	4.80	4.30
DWP 220	26-1299	CN1028	MULTI-STRIKE CT.	7.95	7.45
DMP 300/2102	26-2819	CN1030	FABRIC CART.	7.15	6.65
DMP 300/2102	26-2819	CN1031	LONG LIFE CART.	6.85	6.35
ALPS ASP-1000	900-2326	CN1032	FABRIC CART.	6.60	6.10
EPSON FX/MX/RX-80	900-2327	CN1033	FABRIC CART.	5.50	5.00
EPSON LX/80/90	900-2328	CN1034	FABRIC CART.	5.00	4.50
PANASONIC KXP1090	900-2331	CN1035	FABRIC CART.	6.10	5.60
PANASONIC KXP1090	900-2331	CN1036	LONG LIFE CART.	7.35	6.85
STAR MICRON. NX1000	900-2332	CN1037	FABRIC CART.	6.45	5.95
PANASONIC KXP1180/1190/1191		CN1039	FABRIC CART.	6.90	6.40
PANASONIC KXP1180/1190/1191		CN1040	LONG LIFE CART.	7.60	7.10
SEIKOSHA SP-2000, 2400, SL-70		CN1041	FABRIC CART.	6.40	5.90
SEIKOSHA SL-90		CN1046	FABRIC CART.	7.25	6.75
SEIKOSHA SL-270		CN1047	FABRIC CART.	15.40	13.86

ALL RIBBONS ARE BLACK, CART.= Plastic Cartridge, REFILL= Refills Only/No Cartridge.

Add for Shipping and Handling

1 to five items add (Y) ... 6 or more items add (Z)

Please refer to the CN80 Product Guide Shipping and Handling Schedule.

Some ribbons for the older Radio Shack printers are not stocked, but are still available by special order, please allow an additional week shipping time. All stock ribbons are shipped within 24 hours from the time the order is received. C.O.D. orders accepted. Government and educational institution purchase orders are accepted. Sorry, we do not accept credit card orders.

Computer News 80
Published Monthly.

Copyright (c) 1995
by The Construction
News Publishing Co.

Single issue \$4.00
Subscription Prices:
\$36 per year in US.
\$48.00 per year in
Canada. \$54.00 all
others outside US.
Call or write for First
Class and Air Mail Rates?

Mailing Address:
PO Box 680
Casper, WY 82602

Street Address:
1220 Jamaica Drive
Casper, WY 82609

Phone: (307) 265-6483

Classified Advertising
Rates:

\$6.00 Minimum
\$1.00 per line of 35
characters or spaces.

Publisher and Editors
Stan Slater
Ron Gatlin

Office Hours are
8 AM to 5 PM
Mountain Time
Monday thru Friday.

We also, publish
Computer News PC
The MS/PC IBM/Clone
Support Magazine.

SUBSCRIPTION ORDER

Yes, enter my subscription to *Computer News 80*



___ One year for just \$36.00 ___ Two years for just \$48.00

Name _____

Address _____

City _____ State _____ Zip _____

Check or Money order enclosed.
Computer News 80 PO Box 680 Casper, WY 82602



The File Cabinet

THOUSANDS
OF PROGRAMS

Programs as low as 15 cents each.
Order your printed catalogs today!

MODEL 4 CATALOG	\$2.00
MODEL 1/3 CATALOG	\$2.00
Hundreds of Utility, Business, Game, Educational and Communication Programs are in each catalog.	
HIGH RESOLUTION CATALOG	\$2.00
Hundreds of /HR format pictures, including nudes and other artworks. Ready to use alone or create PostMaster Icons or Clip Art.	
MAC/PAINT CATALOG	\$2.00
Hundreds of files created with MacPaint. View on the Model 4 or print using Mac Utilities.	
SYMPHONY 90 CATALOG	\$3.00
Hundreds of music files ready to play.	
PostMaster ICON CATALOG	Free
ALLWRITE FONTS CATALOG	Free

Disk Volume Prices: 1 to 10 Volumes \$3.50 ea. (X) S&H, 11 to 20 Volumes \$ 3.25 ea. (Y) S&H,
21 and over \$3.00 ea. (Z) S&H. 5-1/4" or 3-1/2" disks. No extra charge for 3-1/2" disks.



Download Through The Mail

Computer News 80
PO BOX 680, Casper WY, 82602

FORWARDING & RETURN POSTAGE GUARANTEED
ADDRESS CORRECTION REQUESTED

BULK RATE
U. S. POSTAGE
PAID
CASPER, WY 82601
PERMIT NO. 309