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INFORMATION CENTER is  
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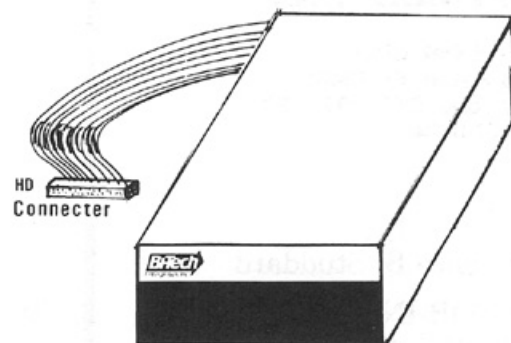
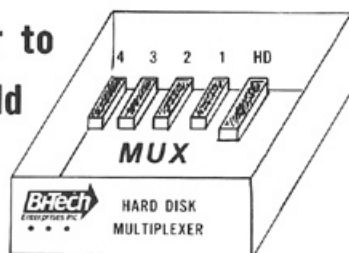
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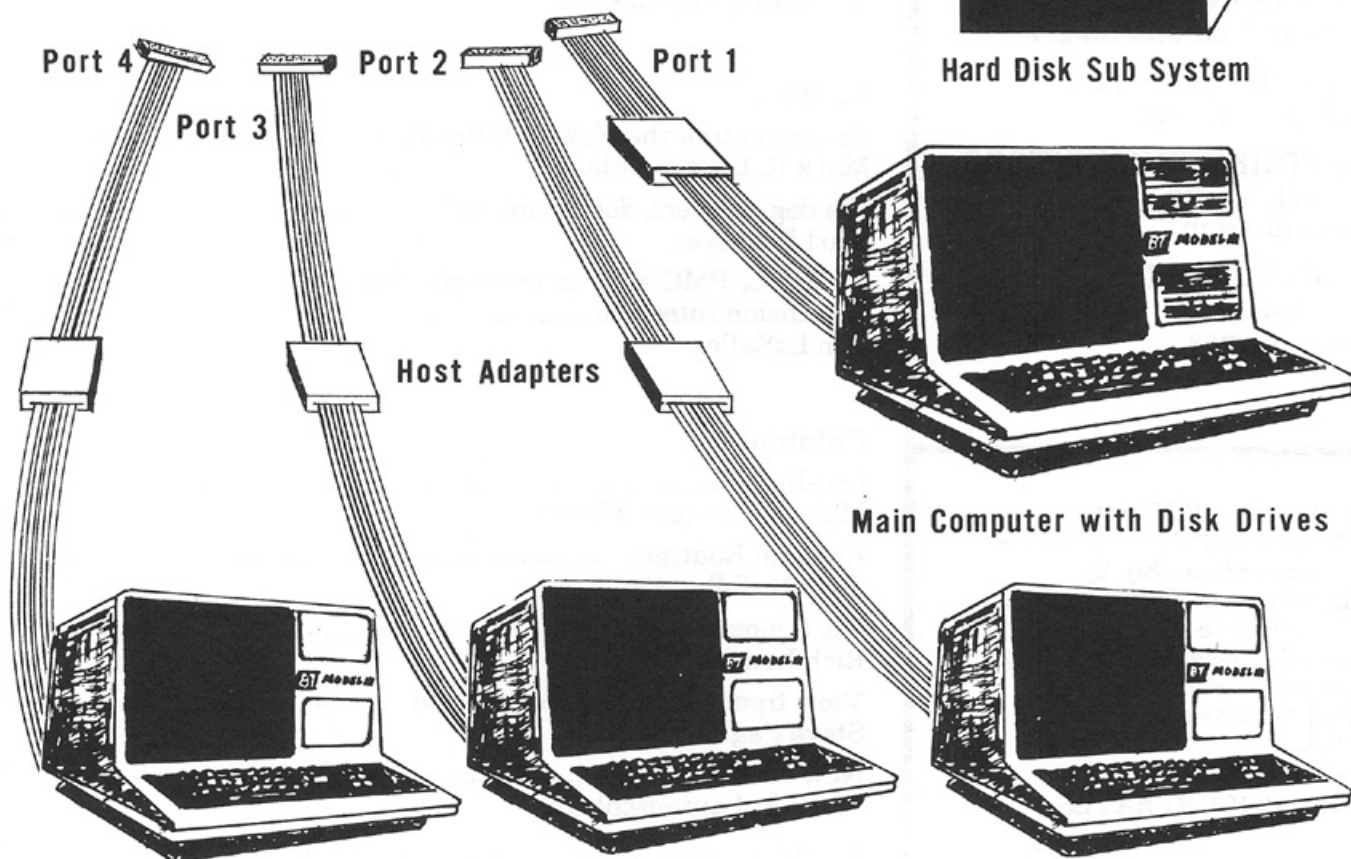
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Log-in

by Mark R. Lautenschlager

Welcome to the Summer 1983 issue of the DOSPLUS NEWS INFORMATION CENTER (which you should be getting some time in September). For those of you who are not already aware, this is the first issue of 1983. What happened to the all of the spring and early summer issues? They were simply cancelled. As Editor-in-Chief, if I don't get time to work on the newsletter, it doesn't get done. And this year, we have been real busy turning out new versions of DOSPLUS (3.5 for the I/III and IV for the Model 4). This means that I get to turn out new manuals. And that is the reason for the delay. Look at it this way, you didn't lose the newsletter, you gained some new DOSPLUS'.

At any rate, here we go with the 1983 season. It is my fervent hope that we will have several more issues yet this year, with lots of good information for you. We have several outside articles this issue, one new department and one old favorite that is leaving.

This issue, the feature article deals with implementing the new style DOSPLUS and configuring these systems to suit your needs, wants, and desires. Todd Tolhurst comes through with Random Routines, and Karl Meyer has an article on the trials and joys of setting up a BBS (Bulletin Board System). Also, Jim LaSalle has an article aimed at all the PMC-80 expansion interface users out there.

Rich Leun, our chief technical support person, checks in with Questions and Answers (sometimes called "everything you ever wanted to know about DOSPLUS, and constantly asked."). Finally, there is the new View from the Programmer's Den, which takes the place of our "Crystal Ball" department. In this article, Steve Pagliarulo (Vice President and chief programmer), tells us what he has planned in the way of new projects.

That's the line-up. If hope you enjoy it. Thanks for being patient with us and waiting for this newsletter. I hope that it proves to be up to the standards you have come to expect from Micro-Systems Software.

Mark R. Lautenschlager  
Editor in Chief



## Implementing the new DOSPLUS

by Mark R. Lautenschlager

Originally, this article was to be aimed at aiding the user of DOSPLUS 3.5 in setting up and using their new system, but since the newsletter was further delayed while yours truly worked on the DOSPLUS IV manual, we can also address the Model 4 user. Model 4 users won't have quite the same considerations, since many of the alternate drivers the Model I/III user must install boot in automatically on the Model 4.

### Installing drivers

Let's start with the subject of drivers. Why did we move the drivers into separate programs and bring in this nasty ASSIGN command? Simple. It is more flexible and saves memory. DOSPLUS 3.4 was an excellent system, but most of the users wanted more and better features. When we wrote version 3.5, we attempted to give them this. But features take code and more code needs more memory. We decided in the interest of adding additional features to the DOS, we would move the various device drivers out of SYS0 and put them on the disk in files of their own. The user could then install them later if desired. This way, the ROM drivers were used by default and much memory was saved.

It is also much more flexible. In the past, the device drivers were built in to the operating system and each time you wanted to support a new device, it meant re-assembling the operating system with the new drivers. Now, we simply write the driver, the user installs it with the ASSIGN command and they are off and running. This allows us to support non-standard hardware and many more types of hardware, all using the same DOS with different drivers.

But how does that affect you? Well, it means that you no longer get these drivers loaded automatically. It means that if you want them, you have to ask for them. For the Model III and 4 users, this is no big deal. Both of these machines (albeit for different reasons) will have repeating keys, lower case, and other such niceties automatically on powerup. But the Model I user will go into culture shock the first time they boot up. No lower case, no repeating keyboard, no screen printer. Barbaric! But, and this is the large BUT, only for a moment.

You see, the Model I user may install the drivers needed to provide these functions in a matter of moments and then save them as part of a "configuration file" that will be loaded on powerup and never face these rough living conditions again. But let's backpedal for a moment here and talk about what a driver actually is.

### Applications of alternate drivers

Many of you, I'm sure, have read this far and said "Great! I need a driver for repeating keys. Now, what is a driver and where do I find one?". That is a good question. Many people don't know what is meant by the term "device driver". Let's take an example, the keyboard. The keyboard is simply a piece of hardware that attaches to your computer. In the case of the TRS-80 Models I/III/4, when a key is pressed it alters a particular location in memory to indicate what key was pressed. That's all the keyboard ever does! The rest is up to the software. This is called the "driver" because it, in effect, "drives" the keyboard.



This driver will examine those locations in memory and translate what it finds into an "A" or a "P" or whatever key you have pressed. The driver will determine whether or not the keystroke will repeat if held down or whether or not the keyboard will bounce. The driver also will interpret "special" keystrokes and signal such functions as macrokeys or a screen printer.

Drivers for all the devices attached to the TRS-80 are included in the TRS-80 ROM set. This must be the case, else you would not be able to operate the computer in its "starter" form (i.e. just power it up and run). But these drivers, sometimes because of space or sometimes just due to being poorly written, rarely are considered to be sufficient for the advanced (disk based) system. Most of the alternative operating systems for the TRS-80 make a great deal of noise about their "superior" device drivers (DOSPLUS included), because this is one of their very strongest selling features.

But the ROM drivers do work. And they will allow you to operate the computer. Therefore, the philosophy for DOSPLUS on the Model I and III has become "if you want the better drivers, ask for them". If you don't ask for them, DOSPLUS will use the ROM drivers. Not fancy, but certainly workable. The key word here is "choice". DOSPLUS will allow you to save on memory usage and run with the ROM drivers or spend the memory and use the DOSPLUS drivers. The only difference being that you must ask (the first time) for the DOSPLUS drivers.

What do I mean by "ask for the drivers"? Use the ASSIGN command to install them. Let's take a Model I user, since their case is the most extreme (Model I ROM drivers do very little). This Model I user boots up their DOSPLUS 3.5 and notices that all the type is in upper case, even though they have lower case in their computer. How do they display lower case? By installing the DOSPLUS display driver. The standard ROM display driver doesn't have this ability and that is the driver in effect when you boot. This user must activate the driver with the ASSIGN command something like this:

```
ASSIGN @DO DO/DVR
```

This causes DOSPLUS to load the file DO/DVR into memory and install it as the driver for the @DO device (display). Just as soon as this has been done, lower case display will be enabled (if lower case is present in the Model I). As a matter of fact, the message that tells you the driver has been installed will start out in upper case, but finish in lower. So, now our intrepid Model I user begins typing. They notice, much to their chagrin, that when holding down the left arrow to backspace over an error, that this doesn't repeat and they must keep striking the key. Now it is time for the DOSPLUS keyboard driver. Our user will install this driver by using the command:

```
ASSIGN @KI KI/DVR
```

This command will load the file KI/DVR into memory and install it as the driver for the @KI device. As soon as this is done, features like repeating keys, screen printer, macrokeys, and much more become possible. Some of these, like the screen printer and repeating keys, are automatic, and some of them, like the macrokeys, will require additional setup work on the part of the user. So, now the faithful Model I user has lower case, repeating keys, and all the things that they felt should come with using a system like DOSPLUS. And work continues. Later that morning, they load and edit a BASIC program. Desiring a line listing, they enter the LLIST command. BASIC sends the program to the line printer, but the file prints over the perforations on the fanfold paper and prints over the edge of the sheet of paper.



Not to be defeated that easily, our intrepid user adjusts the FORMS command to reflect the width of the printer and the length of the pages and starts again. But the same thing happens. The problem here is that the Model I ROM printer driver will not honor the WIDTH and LINES parameters of the FORMS command. Therefore, it is time for the DOSPLUS printer driver. The command used should appear something like this:

ASSIGN @PR PR/DVR

This will load the file PR/DVR into memory and install it as the driver for the @PR device. Once this is done, the DOSPLUS driver will honor the parameters specified and print the listing as desired. The printer driver includes many other parameters, some of which are page indent, spooling of printer output, serial support, and more. Many of these require that you specify them at the time that you load the driver. This means that once the driver is in memory, it is too late. It must be removed and you must begin again. For this reason, it behooves you to examine the documentation for each of the drivers before installing them and be certain that you don't miss anything and have to start again. There is no need for this with the display driver, though. It has no parameters to specify. It simply does what it does.

### Preserving installed drivers

This brings me to the next major division in this article, keeping your drivers around. You see, if our Model I user in the above example had rebooted the computer, they would have been back to square one. No drivers, no nothing. This can seem a bit harsh. I can already hear some of you saying "You mean I have to do ALL that EVERY time I boot the computer?". Never fear, there is an easy way. It is called the "configuration file" and it is created with the SYSTEM library command.

With version 3.4, you had many commands that were used to configure the operation of your system (FORMS, RS232, CONFIG, etc.). Each of these had some option for making the alterations permanent, usually a "SAVE" parameter of some sort. These commands still exist in version 3.5 and in most cases are still used in the same manner. But there is more at stake than just saving settings now. Version 3.5, with its external device structure, may have driver programs and user routines in high memory. You see, with DOSPLUS 3.4, the drivers were part of the DOS, and all we had to save were the settings for the drivers. Because we knew exactly how much room this would take, we simply set aside a couple of sectors of disk space and that was all that was required.

But with 3.5, it is not that simple. You could have assigned one driver or several. And, of course, with the new version, we have to save the drivers as well as the settings, because many of the settings mean nothing without the DOSPLUS drivers. Since we cannot know what how much space will be required to "save" the system, it was impossible to reserve space on the disk. Therefore, version 3.5 uses the SYSTEM command and stores all the settings (along with the drivers) in a disk file. To bring these settings (and drivers) back into effect, all that has to be done is load the configuration file. This can be set on the AUTO command to execute upon powerup.



This is actually much more flexible for a variety of reasons. First of all, it provides you with the option of having several of these files on the disk, each set to the manner in which that particular user likes their DOSPLUS to be set up. In the case of a hard disk system, several users could be operating the same computer and have it look totally different, depending on which file was loaded. In many cases, it also provides you the ability to use the same system diskette in several computers, customizing for each machine by loading a file. Second, it allows you to do a true system "warm start" without rebooting. All of system memory is also saved with this file, so such things as caps lock, cursor character, debug on/off status, and many other system functions are all preserved. After exiting a program that alters the DOS in some manner, you can use the configuration file to resume your previous condition.

#### Specifics of creating such a file

To create one of these files, the first step is to use the ASSIGN command to install all of the needed driver programs. For example, you may want to install KI/DVR and PR/DVR (in the Model I, also DO/DVR). Then use the various commands such as CONFIG, FORMS, RS232, and SYSTEM to alter the settings for these drivers until they are just the way you want them. Then, as a final step, enter the command:

SYSTEM filename

where "filename" is the name of the disk file you want to store the configuration information in.

This file, when executed, will resume the configuration that was in effect the moment you created the file. And it will do this VERY fast. You may, if you wish, use:

AUTO filename

where "filename" is the name of the disk file you created with the SYSTEM command above.

Each time that you reboot the system, it will automatically reload all of the drivers and reset the various settings to the way you had them before.

Note that I mentioned using the SYSTEM command to alter settings. SYSTEM is a many faceted library command. It operates in three major modes. In the first, when you type:

SYSTEM

You will get a display of the current memory pointers. If you were to type:

SYSTEM,param=exp...

You will be able to alter certain items about the DOSPLUS system without using a disk file. If you enter the command as:

SYSTEM filename

(note the comma is now missing).

You will create a file on the disk using the specifier "filename" that will contain all of the settings and drivers. So you see, there are three major sides to the SYSTEM command. (1) using it to display the current memory status, (2) altering certain default parameters, and (3) creating the system configuration file.

So then, the heart of the new DOSPLUS system is the configuration file. It is this file that allows you to save your settings as you like them and then load them at the simple execution of a file.

### Drawbacks to the new system

There will always be those that complain about the new system just because it is new. Some people don't like anything that involves re-doing work that they have already done once, even if this work means some improvement in their lives. To those people, this topic is not aimed. I have no answer for someone who is complaining for the sake of complaining, and don't choose to develop one.

To the rest of you, let's discuss the potential problems you may have. The first and most serious is the problem of applications software having conflicts with the operating system for high memory usage. When this happens, there is no winner. Everyone loses, because when the program overwrites the driver, the system usually goes to lunch.

When do such things occur? Well, with most of the more recent software, never. Most programmers these days have learned that there is a reason for a high memory pointer, and they BETTER honor it! Sometimes, though, you will have a program that is either too old or too stubborn to load in anywhere in memory except the very top. This will not cause a problem if the program is loaded when the drivers are installed, because the DOSPLUS drivers are smart and will relocate themselves. However, if the drivers are loaded when high memory is free and they locate themselves all the way up, when the program using that area is loaded, watch out! It will overlay the current code that is there. In the case of rigid disk drivers, this could be a very interesting happening.

What can be done in such cases? Two things. First of all, if possible, load the drivers with the program in question already loaded. If this is not possible, then contact the company that produces the program in question and ask them what the lowest memory address is that will be used by the program.

If you install the drivers with the program already loaded, then the high memory address that is set by the program as it loads will be honored. This will NOT function, though, if the program does not set the high memory pointer to protect itself. If this is the case, use the second method also.

In the second method, you get the lowest memory address that the program will use from the software's author. Then, before installing any driver's, use SYSTEM to set the high memory pointer to one byte less than the value given. For example, if I know that a program will use from EB30H to the top of memory, before installing drivers, I would enter the command:

```
SYSTEM,HIGH=EB2FH
```

The drivers loaded after this will relocate downward to allow space for the other program to load.



### Model 4 users

Model 4 users will have many of the same problems and considerations, but not in the area of loading the keyboard, display, and printer drivers. Due to the lack of a ROM in the Model 4, all drivers are part of the operating system or they are not there at all. This means that on powerup, all DOSPLUS drivers are automatically loaded.

However, Model I/III/4 users will all share the task of loading drivers into high memory when it comes to hard disk I/O drivers. And these drivers will have to be relocated if there are conflicts with the existing software. Also, in just a moment, we will cover a summary in which we outline several suggestions for using DOSPLUS' ability to configure itself more effectively. These suggestions also apply to the Model 4 users.

### Summary and conclusion

When you desire to configure your DOSPLUS in some unique or custom manner, there are several things to consider. First, will the standard driver support what it is that you wish to do or will you have to install one of the DOSPLUS drivers? Second, is this change something that can be accomplished via the SYSTEM command without saving a configuration file? And lastly, is this something that you will likely want to be engaging and disengaging? Each of these questions will guide you into the proper sequence of events to accomplish your goals.

The following list is some suggestions that may help you in implementing your new DOSPLUS operating system:

1. Before assigning a number of drivers and making great configuration changes, save a configuration file with nothing engaged. Call this file "NODRIVE/CFG" or something similar to indicate that it contains no drivers. By doing this, you provide yourself a manner in which to return to the default condition without having to reboot the system.
2. Save as many configuration files as you possibly have need for. You cannot have too many of these files. Perhaps you can even denote them by the name of the program they configure your DOSPLUS to run. For example, a configuration file that moves my hard disk drivers lower in memory in order to work with my machine language inventory could be called "INV/CFG".
3. Remember that it all funnels down to the configuration file on the disk. This file resets everything. Even those things that SYSTEM can adjust without a file. For example, if you set the cursor to a graphics block and it was an underline when you saved the configuration file, when that file is loaded, you will have an underline cursor. It all boils down to the configuration file. You install all needed drivers, configure all needed parameters, adjust any cosmetic functions desired, and THEN save a configuration file. To recover all of your work, simply execute that file. Please note that on a Model 4, you may not save a MEMDISK in a configuration file. These must be initialized each time you boot up.

I hope this gives you some further insight into how to set up your DOSPLUS operating system to suit your needs and desires. I also hope that we have cleared up some of the confusion regarding the external device structure and purpose of the various drivers.

## Random Routines

By Todd N. Tolhurst

We present two programs this month, one which adds a useful new BASIC editing feature, and another which provides a means of moving files from TRSDOS 2.3B to DOSPLUS 3.5.

### DA/CMD

It's no secret that most microcomputer programming is done in the BASIC language. The ease and speed with which a program may be developed in BASIC is almost unparalleled by any other computer language. DOSPLUS 3.5 provides the most sophisticated features available for the BASIC programmer, from label addressing to a search and replace utility, from fancy functions like INPUT@ to a versatile crossreference program. However, it seems that no matter how many features one provides, there's always one more that somebody can use.

Robert Nowack, a DOSPLUS user from Roseburg, Oregon, suggested a neat new BASIC editing feature: A function which would allow the programmer to join two separate BASIC program lines into one.

This month's first program, DA/CMD, allows you to merge two BASIC program lines into one, and will run under Model I or III DOSPLUS. DA stands for delete & append. The program will remove a line from a BASIC program and append it onto another line. The program listing is given in Fig. 1.

The DA/CMD program is to be used from BASIC, with the syntax:

```
CMD"DA",dln,sln
```

where "dln" is the destination line number, and "sln" is the source line number. The source line is the line which is to be deleted and appended to the destination line. For example, take the program:

```
10 PRINT"Mean Rainfall:";
20 PRINT USING"###.####";RF!
30 PRINT
```

By executing the command:

```
CMD"DA",10,20
```

line 20 would be appended to line 10, resulting in:

```
10 PRINT"Mean Rainfall:";PRINT USING"###.####";RF!
30 PRINT
```



COPY23B

Brian Keahl of Clarkston, Georgia sent us a neat little program which allows you to copy files from Radio Shack's TRSDOS version 2.3B onto DOSPLUS. As you may know, TRSDOS 2.3B maintains certain information in the directory (the file sector count, to be specific) differently from DOSPLUS, or any other TRS-80 operating system for that matter. If you attempt to COPY a file from a TRSDOS 2.3B diskette onto DOSPLUS, the final sector of the file will be omitted.

Brian's COPY23B program is designed to copy a file from a TRSDOS 2.3B diskette onto a DOSPLUS diskette without this difficulty. Our version of COPY23B, shown in Fig. 2., performs that same function, and has been written to function under DOSPLUS 3.5. Assemble the program under the name COPY23B/CMD.

Note that there are many labels referenced in the COPY23B program that are not defined within the program (such as DSPLY@, OPEN@, INIT@, READ@, etc.). These addresses are given in the DOSPLUS 3.5 Technical Manual. You may find it advisable to create an assembler file containing all of the labels and addresses given in the Technical Manual and to use that file with all programs written for DOSPLUS.

COPY23B is simple to use. The general syntax is:

```
COPY23B sfile:dr dfile:dr
      or
COPY23B sfile:dr :dr
```

In the first instance, you specify both the source and destination filespecs. For example:

```
COPY23B MYPROG/BAS:1 PROG:0
```

The file MYPROG/BAS, resident on a TRSDOS 2.3B diskette in drive 1, will be copied onto the DOSPLUS diskette in drive 0 under the name PROG. The second format may be used if both the source and destination files have the same filename and extension. For instance:

```
COPY23B NEWFILE:2 :1
```

This command will copy the file named NEWFILE on the TRSDOS 2.3B diskette in drive 2 onto drive 1, still using the name NEWFILE.

Oops!

In last issue's listing of the micro-HOST program there was (as many readers pointed out over the telephone) an error. A label was omitted from the program, which would cause assembly errors. In the listing, the lines:

```
;      OUTPUT BYTE TO DISPLAY
;
;      JP      $-$
;      EQU     $-2
```

should be changed to read:

```
;      OUTPUT BYTE TO DISPLAY
;
;      JP      $-$
DODVR  EQU     $-2
```

One other point: In telephone conversations with several readers, I have discovered that a good many of you own assemblers which will not accept the "\$-\$" expression as used in the micro-HOST program and others. If this is the case, please feel free to substitute the value "0" for "\$-\$". The "\$-\$" expression will not be used in future programs in order to avoid problems with those assemblers which cannot digest it.

=====  
Fig 1.

```
;      DA - BASIC LINE DELETE & APPEND UTILITY
;
;      CREATED: 03/01/83  TNT/MSS
;      UPDATED:  /  /  /
;
;      BASIC ADDRESSES
;
BASERR  EQU     19A2H      ;BASIC ERROR HANDLER
BASIC   EQU     1A19H      ;ENTRY TO BASIC
SETPTR  EQU     1AF8H      ;FIX BASIC POINTERS
BINIT   EQU     1B5DH      ;INIT VARS
FCERR   EQU     1E4AH      ;ILL FUNC CALL ERROR
GETLIN  EQU     1E5AH      ;GET LINE NUMBER
FNDLIN  EQU     1B2CH      ;LOCATE LINE
VARABL  EQU     40F9H      ;VAR TABLE POINTER
;
;      MISCELLANEOUS INFO
;
ULERR   EQU     0EH        ;UNDEF LINE ERR CODE
;
;      ORG  5200H
;
START   POP      HL        ;RETURN ADDRESS
        POP      HL        ;BASIC TEXT
        RST      8         ;CHECK FOR COMMA
        DEFB     ','       ;ERROR IF NO COMMA
```



CALL	GETLIN	;GET DEST LINE #
LD	(DEST),DE	;SAVE IT
PUSH	HL	
CALL	FNDLIN	;MAKE SURE IT EXISTS
POP	HL	
JR	NC,UNDEF	;IF NOT
RST	8	;LOOK FOR COMMA
DEFB	','	
CALL	GETLIN	;GET SOURCE LINE #
LD	HL,(DEST)	;SAME AS DEST?
RST	18H	
JP	Z,FCERR	;?FC ERROR IF SAME
CALL	FNDLIN	;GET LINE LOC
JR	C,MOVE0	;EXISTING LINE
HERE IF UNDEFINED LINE		
LD	E,ULERR	;UNDEFINED LINE ERROR
JP	BASERR	;ERROR HANDLER
MOVE SOURCE LINE INTO TEMPORARY STORAGE		
LD	H,B	;COPY LINE ADDR
LD	L,C	;INTO HL
LD	BC,0	;INIT COUNT
LD	DE,LINE	;DE=>TEMP STOR
PUSH	HL	;SAVE SOURCE ADDR
INC	HL	;SKIP OVER
INC	HL	;NEXT LINE
INC	HL	;POINTERS AND
INC	HL	;LINE #
LD	A,(HL)	;GET A BYTE
LD	(DE),A	;PLACE IN BUFF
INC	BC	;INC COUNT
INC	DE	; " " BUFF
INC	HL	; " " TEXT PNT
OR	A	;END OF LINE?
JR	NZ,MOVE	;NOT YET
LD	(COUNT),BC	;SAVE LINE LEN
DELETE SOURCE LINE		
EX	DE,HL	;DE=>NEXT LINE
LD	B,D	;COPY NEXT LINE ADDR
LD	C,E	;INTO BC
LD	HL,(VARABL)	;START OF SIMPLE VAR
OR	A	;CLR CRY
SBC	HL,BC	;HL=BYTES TO MOVE
LD	C,L	
POP	HL	;HL=>LINE TO DELETE
EX	DE,HL	;SWAP
LDIR		;OVERLAY OLD LINE

```

; MAKE ROOM FOR APPEND
;
PUSH      DE      ;SAVE REG
CALL      SETPTR   ;FIX LINE POINTERS
LD        DE,(DEST)
CALL      FNDLIN   ;GET LINE LOC
LD        H,B      ;COPY LOC
LD        L,C      ;INTO HL
POP       DE      ;RESTORE
INC       HL      ;SKIP OVER
INC       HL      ;NEXT LINE
INC       HL      ;POINTER AND
INC       HL      ;LINE NUMBER
FNDEND    LD        A,(HL) ;LOOK FOR END OF LINE
          INC       HL
          OR        A      ;END?
          JR        NZ,FNDEND ;KEEP LOOKING
          EX        DE,HL   ;DE=END LINE
          PUSH     HL      ;HL=END PROG
          SBC      HL,DE    ;HL=COUNT
          LD        B,H     ;PUT COUNT
          LD        C,L     ;IN BC
          POP       HL      ;GET END OF PROG
          DEC       HL
          PUSH     HL      ;SAVE IT AGAIN
          LD        DE,(COUNT) ;OFFSET
          ADD      HL,DE    ;HL=NEW ADDR
          POP       DE      ;DE=OLD ADDR
          EX        DE,HL   ;SWAP
          PUSH     DE      ;SAVE END OF PROG
          LDDR
;
; APPEND SOURCE LINE TO DESTINATION
;
LD        (HL),':'   ;CHANGE TO COLON
INC       HL          ;HL=>SOURCE GOES HERE
LD        DE,LINE    ;IGNORE PNT & LN #
LD        BC,(COUNT) ;GET COUNT
EX        DE,HL      ;SWAP
LDIR      ;APPEND
;
; UPDATE BASIC POINTERS
;
POP       HL          ;HL=END OF PROG
INC       HL          ;ADJUST
LD        (VARABL),HL ;SET END
CALL      SETPTR      ;FIX LINE POINTERS
CALL      BINIT       ;INIT
JP        BASIC       ;RETURN TO BASIC
;
DEST      DEFS        2
COUNT    DEFS        2
LINE      DEFS        256
;

```



END            START

Fig 2.

```

;      COPY23B - TRSDOS 2.3B/DOSPLUS
;      FILE COPY UTILITY 1.0
;
;      CHARACTER DEFINITIONS
;
EOT      EQU      3
LF       EQU      10
CR       EQU      13
;
;      ERROR CODES
;
ILLFIL   EQU      2CH      ;ILL FSPEC
IOFERR   EQU      2FH      ;FIELD NOT FOUND
;
;      ORG      5200H
;
START    PUSH     HL        ;SAVE CMD LINE
          LD       HL,TITLE  ;PROGRAM TITLE
          CALL     DSPLY@
          POP      HL
;
;      GET FILESPECS, OPEN SOURCE FILE
;
CALL     GTSPEC      ;GET SOURCE AND DEST
JR       NZ,ERR      ;IF ERROR
LD       DE,SDCB+1    ;DE=>SOURCE DCB
LD       HL,BUFF1
LD       B,0          ;LRL=256
CALL     OPEN@        ;OPEN SOURCE FILE
JR       NZ,ERR      ;IF ERROR
LD       A,(SDCB+9)    ;GET EOF
LD       HL,(SDCB+13)
OR       A            ;EOF=0?
JR       Z,COPY1      ;YES - NO ADJUSTMENT
INC      HL            ;INC COUNT
COPY1    DEC      HL
          PUSH     HL      ;SAVE COUNT
;
;      OPEN DESTINATION FILE
;
LD       DE,DDCB+1    ;DE=>DDCB
LD       B,0          ;LRL=256
LD       HL,BUFF1
CALL     INIT@        ;OPEN/CREATE FILE
JR       NZ,ERR      ;IF ERROR
;
;      COPY FILE FROM SOURCE TO DEST
;

```

```

COPY2      POP      BC      ;RESTORE SECTOR COUNT
           PUSH     BC      ;RE-SAVE
           LD       HL,SDCB+1
           EX       DE,HL    ;DE=>SDCB
           CALL     POSN@    ;GET SECTOR
           CALL     READ@    ;FROM SOURCE FILE
           JR       NZ,ERR
           EX       DE,HL    ;DE=>DDCB
           CALL     POSN@
           CALL     WRITE@   ;WRITE TO DEST FILE
           JR       NZ,ERR
           LD       A,B      ;DONE?
           OR       C
           DEC      BC
           JR       NZ,COPY2

;
;
;
COPY EOF FROM SOURCE TO DEST

LD         A,(SDCB+9)
LD         (DDCB+9),A
LD         A,(DDCB+2)
RES        6,A              ;RESET RANDOM FLAG
LD         (DDCB+2),A
POP        HL               ;GET SECTOR COUNT
LD         (DDCB+13),HL
CALL       CLOSE@           ;CLOSE DEST FILE
JR         NZ,ERR
RET                    ;ALL DONE

;
;
;
ERROR HANDLER

ERR        OR        40H
           JP         ERROR@ ;POST ERROR

;
;
;
GET SOURCE AND DESTINATION FILESPECS
FROM COMMAND LINE

GTSPEC     LD         IX,EVBLK ;IX=>EVAL BLOCK
           CALL       EVAL@    ;SOURCE & DEST FIELDS
           LD         A,(IX+0) ;GET FLAGS
           CP         3        ;SOURCE, DEST FILLED?
           LD         A,IOfERR ;I/O FIELD NOT FOUND
           RET        NZ       ;IF ERROR

;
;
;
CHECK DEST FILESPECS FOR SHORTHAND,
WILDMASK

LD         A,(DDCB)          ;GET DEST DCB FLAGS
LD         B,A              ;GET FLAGS INTO B
BIT        5,A              ;WILDCARD?
LD         A,ILLFIL          ;ILLEGAL FILESPECS
RET        NZ
BIT        6,B              ;GOT A FILESPECS?
JR         NZ,GTSP1         ;YES

```



```

      BIT      3,B      ;HOW 'BOUT A DRVSPEC?
      JR       NZ,GTSP2 ;YES
      LD       A,ILLFIL ;ILLEGAL FILESPEC
      OR       A        ;NZ
      RET      ;ERROR
;
;      CREATE DEST FILESPEC IF SHORTHAND USED
;
GTSP2  LD      BC,(DDCB+2)
      LD      HL,SDCB+1 ;HL=>SOURCE DCB
      LD      DE,DDCB+1 ;DE=>DEST DCB
GTSP3  LD      A,(HL)    ;GET CHR FROM SOURCE
      CP      ' '       ;TERMINATOR?
      JR      C,GTSP4    ;YES
      LD      (DE),A     ;PUT BYTE IN DEST
      INC     HL         ;NEXT
      INC     DE
      CP      ':'       ;WAS IT A COLON?
      JR      NZ,GTSP3   ;NO - KEEP GOING
GTSP4  EX      DE,HL
      LD      (HL),C     ;PLACE DEST DRIVESPEC
      INC     HL         ;IN DEST FILESPEC
      LD      (HL),B
      LD      A,EOT      ;TERMINATOR
      CP      B          ;ALREADY TERMINATED?
      RET      Z         ;YES
      INC     HL
      LD      (HL),A     ;TERMINATE
GTSP1  XOR     A         ;NO ERROR
      RET
;
EVBLK  DEFB    0         ;FLAGS
      DEFW    SDCB      ;SOURCE DCB
      DEFW    DDCB      ;DEST DCB
      DEFW    0         ;WILDMASK
      DEFW    0         ;PARAM
;
TITLE  DEFM     'COPY23B - TRSDOS 2.3B/DOSPLUS file copy utility - 3.50'
      DEFB     LF
      DEFM     'Courtesy of the DOSPLUS News Information Center'
      DEFB     LF
      DEFB     CR
;
SDCB   DEFS     33
DDCB   DEFS     33
BUFF1  DEFS     256
;
      END      START

```

Editor's note: Sadly, this is the last time that Random Routines will be in the DNIC. Due to circumstances beyond our control, we will be forced to discontinue it. We will miss the fine writing here. With the next issue, we hope to begin a NEW machine language column, but Random Routines is done. -Ed.

IF A DOG ANSWERS, DON'T HANG UP!

by Karl H. Meyer

**EDITOR'S NOTE:** In the past, Mr. Meyer was written for us under the pseudonym "S.W. Karl" to avoid conflicts with his employer at the time. He has since become self employed and writes for us this issue under his real name. It is a pleasure to have Mr. Meyer, author of such Westerns as Cherokee Mission and The Wranglers, writing for our humble newsletter. And so to his article.

When I told a friend I was thinking of setting up a BBS, he asked, "Why? This town's got more boards than it needs already. There's no way the number of users around here can support another one."

He was right, of course. At the time I told him of my plans, there were six public BBS's operating in the West Palm Beach, Florida, area. Most of them served no purpose other than local meeting places for the hackers who could have said it faster and better by voice than by laboriously typing their nonsense and transmitting it at 300 baud. Now there are fourteen of them, including mine, The Notebook. Any community with a number of BBS's attracts a certain number of regulars who don't really have much to say, but take great pleasure in saying it. West Palm Beach is no different; about a dozen users make up 80-90% of all callers on our BBS's.

So it was only natural I should be asked, "Why?"

I don't know of a dealer who isn't selling computers and modems, so the number of users is constantly increasing, and each user will find the boards that serve his particular needs and desires. The majority of them won't like The Notebook, because they won't find games or utility programs in the download section.

Mine was going to be different (doesn't everyone say that?). Rather than simply "another BBS," I wanted to have a BBS for a special group of people—writers. After wearing out three good electric typewriters (the combined prices would have bought a decent word processing system) I switched to a word processor almost three years ago, and since then have seen more than 20 fellow writers join the electronic world locally. I knew many of them were computerists at heart as well as writers, and a few of them bought modems and terminal packages to be able to access data bases for research on articles or books.

I spent a year collaborating on a book with one, and we never had to sit down and compare hard copy, or even swap disks. We shipped whole chapters of material to each other via modem, made changes and corrections, added some notes, and then shipped the results back to the other. It was and still is a good system.

I began estimating the number of writers in South Florida who used word processors and also had modems, and the idea began to take shape. When I found the second bulletin on a BBS from an editor looking for writers, I thought, "Why not?"



# The **PRODUCER**

## The Professional Program Writer.

What has your computer done for you lately? You bought it to be a powerful and time saving tool. But if lack of good software keeps you frustrated and makes your computer an expensive and idle gadget, The PRODUCER is here to solve your problem.

Now you can design and produce professional quality programs that meet your exact specifications and you don't even need to understand programming at all.

---

### THE PRODUCER IS A SOFTWARE PACKAGE THAT WRITES PROGRAMS FOR YOU.

Even though you have no knowledge about how to write programs, you can now create impressive, sophisticated and functional software to manage your data. You answer simple English questions, draw your screen on your monitor exactly like you want it, and The PRODUCER writes the entire BASIC program by itself.

### THE PRODUCER WAS DESIGNED FOR MICRO COMPUTER OWNERS WHO CAN'T FIND THE SOFTWARE PROGRAM TO DO WHAT THEY WANT IT TO DO.

You may never need to buy another computer program to store and retrieve information, perform calculations on your data and get displayed and printed reports. The PRODUCER can create customized software of truly professional quality.

The PRODUCER makes the micro computer a useful tool to the novice and saves many hours of programming time for the experienced computer professional.

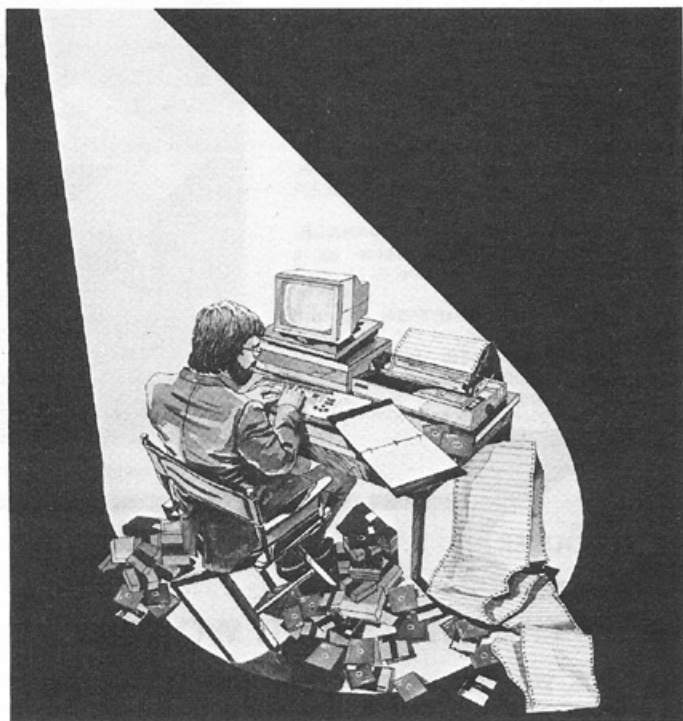
---

### IF YOU ARE A NOVICE

The PRODUCER can make you feel like a pro. The Basic code is written for you. You push buttons, answer questions and watch the program develop in this remarkable process.

### IF YOU ARE A PROFESSIONAL PROGRAMMER

The PRODUCER can be the time-saver you need to increase your productivity and make your job easier. The PRODUCER provides many of the advanced features found on products that cost many thousands of dollars more. You'll be proud to show your clients the professional quality programs created by The PRODUCER.



---

Listen to what one of our users wrote recently:

*The PRODUCER has proven to be the greatest. I used to spend 70% of my time writing programs to create, maintain, sort, and list data. No More. Days and weeks of programming are now reduced to minutes and hours. The PRODUCER has increased the productivity of my custom software firm by 400%. This product is in a class reserved for the best.*

A. Copelle, Northbrook, Illinois.

---

### HOW DO I LEARN TO USE THE PRODUCER

In each TRS-80 version, we have provided a systematic guided tour of The PRODUCER program generator process. For the Model I and III, an audio cassette tape tutorial is part of your package. One of your fellow PRODUCER owners talks to you as you go through the step-by-step lessons. The tapes not only teach you the operating process, they enable you to actually create a program of your own design while you learn.

We have provided over 200 pages of thorough documentation in The PRODUCER Reference Manual, but we encourage you not to read the manual until after you have completed the tutorial. We've had many rave reviews from our users, like this one from S.R. Foster of Pensacola, Florida:

*The tutorial was an excellent starter. It enabled me to get on with it without days and days of reading. Very helpful.*



## WHAT DO YOU GET WITH THE PRODUCER?

You will be impressed with the professionalism of the PRODUCER package:

**DISKETTE(s)** containing PRODUCER Program Development System.

**REFERENCE MANUAL** of over 200 pages of extensive, easy to read, well organized material. Attractive hardback 3-ring binder. Color keyed index tabs separate the chapters. Comprehensive alphabetical index refers to specific chapter subsections.

**QUICK REFERENCE CARD**

**REGISTRATION CARD**

**TUTORIAL SESSION** including audio cassettes and detailed follow-along outline, written and produced by fellow PRODUCER user.

**FREE HOME INVENTORY MANAGEMENT PROGRAM** (\$59.95 value as a sample) allowing you to use a finished program immediately.

**ONE YEAR SUBSCRIPTION** to the PRODUCER newsletter

**TOLL FREE NUMBER** for technical assistance, available only to registered PRODUCER owners.



Pictured are the components of the Model III version of The PRODUCER. Other versions may vary slightly.



## HOW THE PRODUCER WORKS

We think you will be impressed with the ease of operation and the amazing versatility of features you get with the PRODUCER. Here is a step by step overview of the program writing process. The screen shown is an unretouched photo of the Master Menu from which each of these steps is selected.

### ☐ Planning Your Program

The PRODUCER provides a helpful planning form you can print on your own printer. It helps you organize your thoughts to create a tailor made program to meet your needs.

### ☐ Creating The Screen

Visible on your monitor will be the screen where information will be entered, edited and displayed. There are six simple steps to follow in creating your screen.

#### 1. Draw Your Screen

Using the arrow keys construct the screen in any configuration you desire. With single keystrokes, enter large graphic letters and borders. Edit at will until you are satisfied.

#### 2. Define Message Areas

Select an area of your screen where The PRODUCER messages to you will appear.

#### 3. Define Input Fields

The PRODUCER will ask you questions about the areas where you will enter the data. You specify the length of each area or field, as well as acceptable characters in each field.

#### 4. Define Display Fields

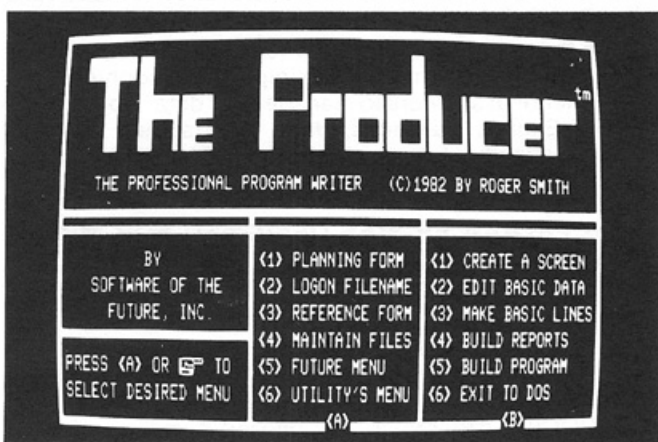
Locate the display fields anywhere you want on your screen. These show the results of the calculations you want made on your data.

#### 5. Define Custom Prompts

You select an area where help messages to yourself can be displayed.

#### 6. Save Your Results

Assign a working name for your program and save it to disk.



### ☐ Editing Basic Data

1. Edit any part of The PRODUCER program you have created -- screen field names, lengths, prompt areas, etc.
2. Type in any help message you want as a custom prompt to help you operate the program.
3. Easily create calculations for your program using actual field names. You can use the contents of any numeric field and all math operations including logical operators.

### ☐ Making Basic Code

Press a key, sit back and watch The PRODUCER do all the work of creating BASIC code for your program. You can see the program lines appear on your screen. Complete error checking is done for you.

### ☐ Building Reports

Virtually any report is available to you thru our NEW free form report generator. It works with any size paper. You are allowed up to 100 calculations within the report. You can specify exact position of any text information to any position on your paper (even preprinted forms, checks, etc.). An amazingly versatile tool.

### ☐ Building The Program

Put the finishing touches on your program by selecting cursor type, size, flashing speed, auto messages, custom logos, etc. After your selections have been made, press a key and your entire finished program is created in less than 5 minutes. That's all there is to this remarkably simple program generation process.

Continued

## TECHNICAL INFORMATION

The PRODUCER provides many advanced features which allow you to do "magic" with the programs you create.

### The SCREEN GENERATOR

- \*Use the full screen (all lines and column positions)
- \*Create a professional well organized screen with graphics
- \*Save up to 9 separate screens in memory at one time and get instant access to each
- \*Move the cursor to any location on the screen
- \*Replicate bars/lines/graphics to define certain screen areas
- \*Access an instantly available Help Menu of all Screen Editor commands
- \*Insert and delete any character with a single keystroke
- \*Clear or erase selected areas of any screen
- \*Insert and delete whole lines on the screen
- \*Center any text on the screen
- \*Move any rectangular block of text anywhere on the screen (block move)
- \*Create titles with a single keystroke large graphic letter alphabet
- \*Move portions of screens between different screens (cut and paste)
- \*Save any number of screens to disk at any time
- \*Recall any screen from disk any time
- \*Create BASIC lines to re-create any screen

### FILE and RECORD HANDLING

- \*Rapidly access records with BTREE File structure
- \*Search for a record with only the first few letters of the name or key (partial key) (Example: locate PRODUCER by typing PR)
- \*Recall and edit duplicate and multiple keys (Example: Several last names may be the same on a file and you can find and edit them individually)
- \*Fully edit any part of a previously entered record
- \*Recover unused space automatically upon deletion of a record
- \*Enter data very fast with the special batch mode
- \*Recall immediately any record after it's been entered, eliminating time consuming sorting and indexing
- \*Rapidly access any record anytime (2-4 seconds average)
- \*Globally search and replace data in certain fields in selected record range
- \*Automatically rebuild any file to meet new specifications. No need to re-enter data when a file needs to be restructured.
- \*Balance any BTREE file automatically to reorganize and speed up file access time
- \*Recover from power failure and easily rebuild files that have been damaged. Avoid laborious re-entry of long data files

### SCREEN ORIENTED INPUT and EDITING of DATA

- \*Insert and delete characters at any position in any field. No "back to start" retyping of data
- \*Move forward or back to previously entered fields to edit using the arrow keys. Totally non-destructive cursor. Does not require re-entering of each data field
- \*Move within any field using the arrow keys
- \*Move instantly to any field with Control G command
- \*Exit from input/edit mode at any point allowing immediate escape from data entry mode. Allows partial information to be entered for each record without the annoying, time consuming need to press ENTER for each blank field not used at the time of entry
- \*Duplicate field information from a previous record with one keystroke. No need to re-enter duplicate information, addresses, etc. on consecutive records
- \*View a custom prompt, your own custom reminder or help message for each field with 1 keystroke
- \*Verify each character typed automatically
- \*Enter data as fast as you want, even if you are a speed typist
- \*View visible display of automatic field length restrictions
- \*View prompts for each field showing number of characters allowed

### PRINTED REPORTS

- \*Create up to 9 separate reports at a time in a finished program
- \*Generate any number of reports you want (no limit)
- \*Select reports by name from a report menu in the program
- \*Select from six different automatic report formats including custom mailing labels
- \*Instantly print reports by key with no time consuming sort necessary
- \*Sort and print any other (non key) field with the fast machine language sort
- \*Sort only records that meet your search criteria
- \*Sort on more than one field if desired
- \*Use any restrictions or search criteria to determine which records will be included in a report
- \*Use any number of multiple search criteria (including logical) (Example: You can search for all the males who are single, and drive a car that are over 24 years old but less than 35 years old)
- \*Send any special command to your printer before or after any report
- \*Specify any line length needed and any page length desired
- \*Select single line or multiple lines per record, even one page per record
- \*Total any fields during the report (running totals)

### FREEFORM REPORT GENERATOR

- \*Specify column and row of every heading and field
- \*Allow up to 100 of interfield calculations, even string calculations
- \*Include any text anywhere on the screen
- \*Keep sub-totals on any field and print at any time in any format
- \*Format any numeric fields anyway you wish
- \*Print reports on pre-printed forms, checks, etc.
- \*Create form letters with merged field data, with no word processing necessary
- \*Put any field anywhere on the page. No limitations

### ADVANCED CALCULATIONS

- \*Globally recalculate any field in any or all records. (Example: If file is a list of gold assets and the spot price changes, each separate asset may be recalculated with a new value for the spot price)
- \*Use all math operations including exponentiation and trigonometry
- \*Use logical calculations such as And, Or, Not, etc.
- \*Use any level of parenthesis in calculation formulas
- \*Save results in any field and display results in any field
- \*Store temporary results in several extra memory slots
- \*Pass calculation results between records
- \*Determine the exact order of calculations
- \*Display or save results at your option in the finished record

### OTHER ADVANCED FEATURES

- \*Edit any part of any program without starting over or redefining the entire program
- \*Create screen and input modules only (for professional programmers)
- \*Create Calculate-only programs with the easy desk-top super calculator program
- \*Design custom logos for your program
- \*Control cursor type, size, flash speed, etc.
- \*Design custom prompts or help info for any field

### YOU ALSO GET

- \*FREE 1 year SUBSCRIPTION to PRODUCER Newsletter
- \*TOLL FREE assistance number for all registered users
- \*REFERENCE MANUAL of over 200 pages
- \*FREE audio TUTORIAL



## WHAT ARE PRODUCER USERS SAYING?

We continue to receive testimonials from satisfied users almost every day. Here's a sampling of the feedback we are receiving:

### VALUE

*VERY impressive! No matter how much I use the PRODUCER, there is no doubt I got my money's worth. It is clear the program, packaging and tutorial are developed with lots of thought....Very user friendly! Congratulations!*

R. N. Forbes, Los Altos Hills, California

*The PRODUCER package I received was excellent. The finest software package I have ever purchased. Far beyond my expectations.*

S. R. Foster, Pensacola, Florida

*I think the PRODUCER will save me so much time that it will give me the time to do the more important tasks that my business calls for and the money I'll save from not having to buy canned programs that are overpriced. Now with the PRODUCER I can write a program overnight to do almost anything I want it to do and with written reports to boot. Talk about saving time and money. I feel the PRODUCER will pay for itself with my first three programs.*

S. Tornatore, Canastota, New York

*The PRODUCER is a very impressive software package. It is well worth the money. While other micro owners are printing mailing labels, I am now selling them programs to use. I now have more time to spend enjoying my computer.*

V. E. Ryberg, Bloomington, Illinois

*I'm in love with the PRODUCER. It's one of my favorite programs.*

R. Selsback, Burlingame, California

*It was very complete and professionally done. The packaging and program seem to have been thought out before assembly and sale. The 'value' of the deal, everything included was the best I've seen to date.*

G. Slusher, Martin, Kentucky

*Very professional packaging. It gave the feeling of getting your money's worth before even running the program....Very easy to use and leaves very few questions unanswered....As you can see, I like the PRODUCER and was impressed with how trouble free it is.*

A. C. Vincent, Napa, California

*Excellent. Above and beyond other software.*

R. Hapgood, Henrietta, Texas

### VERSATILITY

*The PRODUCER is the best all purpose program generator I have used. (We have tried almost all of them.) The generated code is bug free, well commented and efficient.*

R. A. Copella, Northbrook, Illinois

*I bought the PRODUCER to save time. I feel capable of being able to write almost all programs I need. The PRODUCER generated programs will save a lot of time writing basic code and debugging. Using the PRODUCER I can write a good database type program using math calculation in about three hours. I don't have to tell you how long it would take writing the same program from scratch.*

S. Tornatore, Canastota, New York

*A special thanks to Roger and all of you. You've made my computing life easier and better. My 10 year old can't wait to get his hands on the PRODUCER.*

J. D. Konkler, Columbus, Ohio

### DOCUMENTATION

*The Reference Manual is a work of art. Not only is it attractive and easy to use, it is so well organized, documented and logically written that the manual is a rarity in the software market place.*

S. R. Foster, Pensacola, Florida

*One of the best I've seen. We write about 20 volumes of material per year. Take it from a 'pro', it's good!*

J. Crespi, Sherman Oaks, California

*The PRODUCER Reference Manual is professionally written to provide ready access to easily understood answers to questions which arise during use of the PRODUCER.*

R. A. Copella, Northbrook, Illinois

*The Reference Manual is supreme and superior to anything I have worked with.*

R. A. Neuman, Okemos, Michigan

*Very well laid out and organized. One of the best I've seen.*

J. D. Konkler, Columbus, Ohio

### QUALITY

*Thank you for an excellent program. I agree that The PRODUCER will change the entire concept of program creation in the future. But for now, you stand as the best data-base-management-system I can buy.*

E. Sung, Vancouver, B.C.

*Your system really is Software of the Future. Your staff has insight others of us only dream of. Congratulations on a product of extraordinary design.*

S. R. Foster, Pensacola, Florida

*This is an excellent program. At this point I am totally pleased. This is by far my number one software and I will use it anywhere and everywhere I possibly can both personal and business. Once again congratulations to all of the people involved.*

R. A. Neuman, Okemos, Michigan

*Comparison shopping indicates the PRODUCER's superiority to all others. And I already own most of the others.*

R. A. Copella, Northbrook, Illinois

*Glad to see you take an interest in what some of us hackers are up against. I think the PRODUCER will make the software hackers upgrade their products to this high level quality of the PRODUCER. I'm sure you realize that there is a lot of garbage on the market.*

D. J. Smith, Lombard, Illinois

*I was impressed by the professional appearance of your program. Other software I have received were on copy paper and stapled into a booklet with very vague instructions.*

W. J. Mahaffey, Absecon, N. J.

### USE

*The program is almost idiot proof.*

J. Crespi, Sherman Oaks, California

*It is a very friendly friend and we will be working together for some time to come.*

R. A. Neuman, Okemos, Michigan

*Very easy to use and leaves very few questions unanswered.*

A. C. Vincent, Napa, California

# The PRODUCER

MODEL I version ..... \$149.95

MODEL III version ..... \$149.95

#### Available FALL/83 for

MODEL II ..... \$299.95

MODEL IV ..... \$199.95

MODEL 12 ..... \$299.95

MODEL 16 ..... \$299.95

MODEL 16 XENIX ..... \$499.95

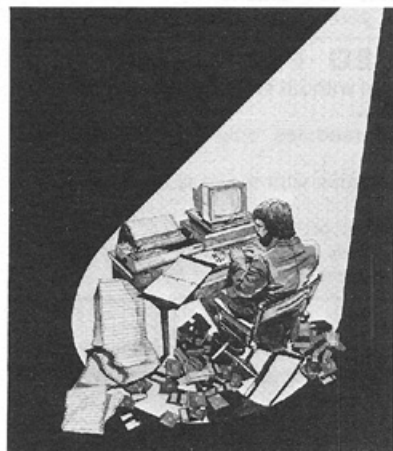
IBM - PC ..... \$299.95

## PRODUCER SOFTWARE

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Texas 817-274-6998

800-433-5355





CompuServe™ has a SIG for writers, but they are almost exclusively computer-oriented. Why not a board for novelists, science fiction as well as romance? Other writers I talked to thought the idea was good (particularly since it is my computer and phone bill). I did have some negative feedback, but most of it was positive. Everyone who thought the idea wouldn't work said that it was foolish to think anyone would call a BBS long distance in the hopes of picking up market information. I was determined to give it a try; what did I have to lose?

Once I made up my mind, it was easy to proceed. First there was the new phone line. Because I didn't want another listing in the directory to confuse people when they were hunting my voice number, and I didn't want to pay the extra charges for an unlisted number, I asked the phone company to list it under one of my pseudonyms. Do you have any idea how much fun it can be to have the phone company checking credit references on a non-existent writer who has published eight Western novels? After that hurdle was taken care of, the rest of it was easy. A Hayes Smartmodem™ replaced my old acoustic coupler, which had the most sensitive ears in South Florida. (I had more "Carrier Dropped" marks against me than anybody, but the sysops knew my problem, and knew it was only a matter of someone in the house breathing while I was on a BBS.)

Most important, of course, was the selection of the right software. Which of the many BBS packages available for the TRS-80 Model III would do what I wanted? For me, the right software was BBS-80, the BBS from Micro-Systems Software, Inc., in Boca Raton, Florida. It allows me to establish different levels of access for each user (editor, writer, agent, special interest groups), and still permit local users to plan barbeques with my dog. New users on the system are totally unaware of what is in other sections, and once they are assigned their access levels, they never see what has been left by the obscene jerk who delights in posting foul language in public places.

The download section also provides different levels of access. Your access level determines what you can take from the download files as well. Some of my users snicker when they can't find anything in the download, but don't know how much is there; they simply aren't aware of files that are not available to them.

If you want to see just how fast you can lose control of things, try making your family dog sysop of your BBS. That's what I did with J.D., my pit bull. When I set up a test board before putting The Notebook on line publicly, I jokingly named "J.D. Pitt" the system operator. That dog took less than a month to invite all the users to have a barbeque on our patio, in order to have a supply of bones to tide him over those hungry periods when he couldn't get away from the computer. He had so much fun he called another one two weeks later, and has now established the first Sunday of every month as BBS BBQ Sunday! But my wife and I don't mind, for we've met some great people with common interests, and have been able to put faces to names we'd seen on the boards for months.

I tested out the system during the months of January and February, and invited the local sysops to use it and offer suggestions on how to improve it. They not only gave me suggestions, they gave me a lot of valuable help in foiling the breed of cat known as the "board buster." One of them didn't bother to tell me. He showed me while I was watching! But they've been very helpful. They've also contributed a lot of bones to J.D.'s survival kit.

I don't think anybody is really prepared for what's going to happen when he sets up a public BBS. Until then, you are in charge of your computer; it waits for you to tell it what to do and when. The day you turn it into a BBS is the day your computer starts calling the shots. If you think you can simply ignore it, you're mistaken. I used to go to bed at night and sleep; now, if the disk drives click on at 3:30 in the morning I'm awake and wondering which other idiot is up at that hour. (There are a LOT of them!) My wife has learned not to say anything to me if she hears the board in use while we're having supper. And even though I'm a writer, it took a while to stop feeling just a bit guilty about taking the board down and using my computer for its intended purpose. After all, someone might need to leave an important message for my dog while I'm working on chapter 11 of that mystery. The word processor I use most often is Lazy Writer™, which has a built-in communications package. I leave the modem on, and when a call comes in I can leave the edit or text entry mode and get into the communications mode before the caller or his modem hangs up. Then, if it someone who needs to use the BBS, I can save my text file and have the BBS on line within 60 seconds. If it is a local user who simply wants to leave a woof for J.D., I'll ask him to call back later.

I happen to be one of those tinkerers who's never satisfied with software off the shelf. I customize it, I add features that the authors never thought of. I make changes that result in what I feel are vast improvements. I also make changes that result in total system crash. When you start doing this kind of thing, don't look to the vendor or the publisher of the program. It's less than fair to ask them to support what they didn't sell in the first place. Consider such catastrophes to be learning experiences, and start with another backup of the last version known to work.

There are many compensations, though. Through this system, I know of at least seven writers and photographers who have received a total of 16 assignments they wouldn't have had otherwise. If for no other reason, that justifies the time, expense and lack of regular sleep. There are the numerous friends we've made, whom we wouldn't have known if The Notebook hadn't come into being. Some of the regular users are so punctual I can look at the clock and say, "That's Craig," before he has a chance to log on. One user calls three of four times a week (just about the time I go to bed), scans all the new messages, changes his password, then wants to chat for an hour! You learn in a hurry to turn off the beeper if you don't want to be rudely awakened in the middle of the night. (I could wish for silent disk drives, too!) Another benefit has been what I've learned about rewriting random access files. I couldn't have gotten that education from any textbook on the market.

The other BBS's in the area haven't lost any popularity in the time The Notebook has been up and running, despite having over 1600 calls in the first three and a half months. We have a pirate board in the greater West Palm Beach, Florida, area whose sysop doesn't speak to me any more; he has accused me of "stealing" some of his users, even though I don't offer free software of any kind. The other local boards include the one at the Radio Shack Computer Center, two at local computer stores, one for ham and CB operators, one that is on line from 10 p.m. to 6 a.m. (for insomniacs), an X-rated board, one that keeps dozens of Orchestra-85/90 music files in its download section, two that are still looking for a purpose, and one that has an open bulletin section as well as a download menu of public domain CP/M programs. The first one in the county, the ABBS, is run by a local Apple dealer who has been serving his users and friends for nearly four years.

In addition to the writers, The Notebook has attracted photographers and photojournalists. If you're looking for a photographer for an assignment in South Florida, you might want to leave a note for them. You'll be contacting award-winning stringers for Paris Match, Time, Stern, and the Associated Press. Many are prepared to handle underwater and aerial work as well as such conventional things as OPEC meetings, royal weddings and even revolutions.

Nobody truly believes my pit bull runs the system, but he receives more mail than most users. When I set up a test board for the first two months, J.D. Pitt was a joke, but he became so popular that when he had his first BBQ, he received enough rib bones to last him two weeks. That was the day I was going to take down the "CMB BBS" which had served its purpose and put The Notebook on line with myself as sysop. J.D.'s friends raised so much of a ruckus that he has remained as sysop to this day. If you're a professional writer (in any field), or a photographer, editor or agent, you are invited to give him a call at (305) 686-4862 and join The Notebook. It's on line 24 hours a day, except when I'm using the computer for necessary work.

If I had it to do all over again, would I? You bet I would, but I wouldn't make that fool dog sysop. Even if you don't have any other business on The Notebook, you might like to call and give J.D. a woof or two. And if you come to one of his BBS BBQ's, bring along a bone or two to toss on the grill.

**EDITOR'S NOTE:** In light of Karl's mention of the fact that he is using our software for his system, I thought we'd put together a brief list of some of the other BBS-80 systems. It follows below.

#### BBS-80 Bulletin Board System Telephone Numbers

BBS-80 is Micro-Systems Software's computer bulletin board system for the TRS-80 Model I and III. A list of some of the currently active BBS-80 systems is given below. We'll be publishing the telephone numbers of new BBS-80 systems as they come on-line, if the SYSOPs report them and ask us to.

Location	Telephone	Hours
Philadelphia, PA	(215) 676-0810	(24 hours)
Ft. Lauderdale, FL	(305) 484-7547	(7:00 P.M. - 10:00 A.M. EST)
West Palm Beach, FL	(305) 686-3695	(6:00 P.M. - 9:00 A.M. EST)
West Palm Beach, FL	(305) 686-4862	(24 hours)
Detroit, MI	(313) 255-3651	(24 hours)
Salt Lake City, UT	(801) 942-6195	(10:30 P.M. - 7:00 A.M. MT)
Portsmouth, VA	(804) 484-9636	(24 hours)



## Using the PMC-80 with the Radio Shack Expansion Interface

by Jim LaSalle

When Tandy/Radio Shack discontinued the TRS-80 Model I computer, I am sure they felt they had heard the last of it. Newcomers to home computing would purchase the newer TRS-80 Model III. Radio Shack was wrong. The huge Model I software library could not be so easily dismissed. Even though Radio Shack assured the public that most of the Model I programs could be transported to the Model III, it didn't take long to see that they were referring to "official" Model I programs (those sold by Radio Shack). Potential computer users wanting to utilize ALL of the Model I programs had to look elsewhere. This opened the door for TRS-80 Model I work-alike machines, the PMC-80 and the LNW-80 computers.

The PMC-80 probably comes closer to the Model I philosophy of providing assembled and tested modular expansion than the LNW-80. A potential computer user could buy the PMC-80 computer now and add the expansion interface later when funds were available. In an effort to keep costs down, some have added the Radio Shack Expansion Interface to the PMC-80 instead of Personal Microcomputing's Expansion Box. If the PMC 50/40 Adapter is obtained this configuration will give satisfactory performance; however, there will be problems when a printer is added to the expansion interface.

The Radio Shack Model I is a memory mapped computer. Devices are allocated memory space for their drivers and input/output. The Model I printer "port" is located at memory location 14312 (decimal). The PMC-80 microcomputer printer is ported. Simply put, what this means is the PMC-80 is using one of the 256 Z-80 ports to route printer output. The ramifications of using a PMC-80/Radio Shack Expansion Interface combination with a printer connected to the Centronics edge card is that the PMC tries to send printer output to a port that does not exist in the expansion interface. What is needed is additional hardware (more money!) from Personal Microcomputing or the following software patch.

A PMC-80 LPRINT patch was originally distributed by Personal Microcomputing for Level II users only. It did not function reliably when disks were added to the system. This precipitated the creation of PMCPRIINT. PMCPRIINT intercepts port intended printer output and temporarily stores it in memory before routing it to the printer. The printer driver is self-relocating and protects itself and other high memory routines. DOSPLUS 3.4 users will have to execute PMCPRIINT each time the system is booted. If you are interested in how this is done, I have documented the source code. Personal Microcomputing has been sent a copy of PMCPRIINT and will make it available to their customers upon request. Please note that this is only needed with a PMC-80 microcomputer/Radio Shack Expansion Interface/Disk/Printer combination.

You may install the PMCPRIINT driver by assembling the source code with an editor-assembler package, Debug or a memory monitor. If Debug or a monitor is used be sure to use the DOS DUMP library command to save it on diskette. Example:

3.4: DUMP PMCPRIINT/CMD:0 (START=X'5500',END=X'5724',TRA=X'5500')

3.5: DUMP PMCPRIINT/CMD:0 (S=5500H,E=5724H,T=5500H)

Program listing:

```

;      PMCPRINT/ASM
TITLE  <'PMC-80 LPRINTER for DISK I'>
;
;      This is a resassembly of a Level 2 driver
;      that allows a PMC-80 computer use the printer
;      port of a Radio Shack TRS-80 Expansion interface
;      using a Model I TRSDOS compatible DOS.
;
;
PRSIZE EQU      0054H      ;Size of XLATE code
EXIT   EQU      402DH      ;Return to DOS READY
PRPORT EQU      37E8H      ;Printer port
PRDVR  EQU      4026H      ;LPRINTER driver address
TOPMEM EQU      4049H      ;Top of DOS memory
;
;      ORG      5500H
;
START  CALL      01C9H      ;Clear screen (ROM call)
      LD         HL,TEXT    ;Point to message
VIDEO  LD         A,(HL)     ;Get character
      CALL      33H         ;ROM display routine
      INC       HL         ;Point to next character.
      CP        00H         ;End of text?
      JR        NZ,VIDEO    ;Print new character.
;
;      Lower high memory to protect drivers
;
SAVE   LD         HL,(TOPMEM) ;Save High Memory
      LD         DE,PRSIZE
      SBC       HL,DE       ;Calc. DVR's new loc.
      DEC       HL         ;Adj. for mem. protection
      LD         (TOPMEM),HL ;Lower high memory
      INC       HL         ;Re-establish DVR loc.
      EX        DE,HL       ;Relocation destination
      LD         HL,XLATE    ;Start of LPRINTER routine
      LD         BC,PRSIZE
      PUSH      DE          ;Save start of relo block
      LDIR
      POP       HL         ;New loc for XLATE code
      LD         (PRDVR),HL ;New PR DCB
;
;      JP        EXIT       ;Return to DOS
;
;      Start of PMC-80 to TRS-80 Expansion Interface
;      LPRINT conversion routine. (relocatable)
;
XLATE  LD         A,C
      OR        A
      JR        Z,PREADY
      CP        0BH         ;Check for vertical tab
      JR        Z,Z704F

```

```

CP          0CH                      ;Check for form feed
JR          NZ,Z7068
XOR         A
OR          (IX+03H)
JR          Z,Z7068
Z704F      LD          A,(IX+03H)
SUB         (IX+04H)
LD          B,A
READY1     LD          A,(PRPORT)
AND         0F0H
CP          30H
JR          NZ,READY1
LD          A,0AH
LD          (PRPORT),A
DJNZ       READY1
JR          Z7084
Z7068     PUSH        AF
READY2     LD          A,(PRPORT)
AND         0F0H
CP          30H
JR          NZ,READY2
POP         AF
LD          (PRPORT),A
CP          0DH
RET        NZ
INC         (IX+04H)
LD          A,(IX+04H)
CP          (IX+03H)
LD          A,C
RET        NZ
Z7084     LD          (IX+04H),00H
RET

;
;      Check to see if the printer is ready
;
PREADY     LD          A,(PRPORT)
AND         0F0H                      ;Mask Lower nibble
CP          30H                      ;If ready it'll be zero
RET

;
;      Text and messages area
;
TEXT       DEFM        ' You have just installed a printer driver that allows the'
DEFB        0DH
DEFM        'PMC-80 computer to printers connected to the parallel'
DEFB        0DH
DEFM        'printer port of a Radio Shack TRS-80 Model I Expansion'
DEFB        0DH
DEFM        'Interface. The printer driver will work with TRSDOS'
DEFB        0DH
DEFM        'compatible operating systems (DOSPLUS, LDOS, etc.).'
DEFB        0DH
DEFB        0DH
DEFM        ' This code is self-relocating and will automatically'

```



```

DEFB      0DH
DEFM      'adjust high memory to protect itself and previously'
DEFB      0DH
DEFM      'installed high memory drivers.'
DEFB      0DH
DEFB      0DH
DEFB      00H
;
;
;      Closing statements
LENGTH    EQU      $-SAVE      ;Driver's length
END        START

```

QUESTIONS and ANSWERS

by Rich Leun

Questions appearing in this column are representative of those received by Micro-Systems Technical Support. Specific questions should be directed to:

Micro-Systems Software, Inc.  
Technical Support Division  
4301-18 Oak Circle  
Boca Raton, FL 33431

Q: When I "chain" two programs together from BASIC using the "R,V" parameter, only some of the variables get passed to the new program. Is there a patch to correct this?

A: No. A patch is not required. BASIC stores the strings in high memory above the program, however, if you define a string as a literal (e.g. A\$="name"), then the string is stored in the program itself. When you bring in a new program, the "V" parameter protects the string storage area to save your variables and then loads in the new program. Obviously, any variables that are stored in the program are lost. If the length of a string literal is increased then it will be moved to the string storage area. With this in mind, we add a null value to the string, such as A\$="name"+" ". This variable will now be stored in the string area and thus be passed to a chained program.

**NOTE:** This will not be true for DOSPLUS 3.5. The new system will take all literal strings out of the program and move them to the string storage area whenever the V parameter is used. This movement may cause you to run out of string space when you chain programs, so be sure to CLEAR enough room at the start.

Q: When I call a DO file from BASIC that contains a DOSPLUS instruction, I get a syntax error. I protected the proper amount of memory when I entered BASIC. Can you put a DOS command in a DO file and call it from BASIC?

A: Yes. If you want to continue the execution of the program then you should precede each instruction in the DO file with CMD (i.e. CMD DIR:1). If you will run another program or rerun the current program, then you may begin the DO file with "CMD" by itself. This will cause an exit from BASIC and you will no longer be required to precede the DOS commands with "CMD". The last instruction can then reenter BASIC and run the same or different program.

Q: Sometimes when I use FORCE or JOIN nothing happens. I JOINed the keyboard to the printer and it didn't work. What did I do wrong?

A: When you use FORCE or JOIN you should always be using similar devices i.e. both input or both output. If you joined the keyboard (input) to the printer (output), the system would be scanning the printer for input. Obviously this wouldn't work. The proper command to use with dissimilar devices is COPY. If you were to COPY the keyboard to the printer then it would act much like a typewriter. Remember similar devices use FORCE or JOIN and dissimilar devices use COPY.

Q. I have DOSPLUS 3.5 and I'd like to modify the Disk BASIC to default to more than 1 file buffer. Is there a way to do this, as there was on 3.4?

A. Yes. The byte for the file buffers on DOSPLUS 3.5 BASIC is in sector 12H, byte 0AH. The byte for TBASIC is sector 06H, byte 26H. These bytes are the same for both the Model I and Model III systems. These may be altered using DISKDUMP.

Q. I have a Model I TRS-80 with a doubler installed in the expansion interface. I have just received my DOSPLUS 3.5 upgrade, and the disks are single density. Has there been a mistake?

A. No. All Model I DOSPLUS 3.5 systems, as shipped from MSS, are single density. If you have a double-density system you may make a double-density DOSPLUS 3.5 by following these simple steps:

1. Format a single or double sided double-density diskette to the desired number of cylinders.

2. Use the SYSGEN program to place a DOSPLUS 3.5 system on the diskette. For example, if the newly formatted diskette is in drive 1, type:

```
SYSGEN :1
```

3. Optionally, use the COPY command to move any utilities or other files from the original DOSPLUS 3.5 diskette onto the double-density diskette. For example:

```
COPY :0 :1,E,I,SPW="PASSWORD",NEW
```

The "NEW" parameter was included because HELP/CMD exists on both masters and only should be copied once. Of course, single drive users cannot perform this procedure. If you are a single drive user and therefore unable to SYSGEN the type of system disk you require, contact Micro-Systems Software Technical Support.

Q. I'm trying to use the FILTER command in DOSPLUS 3.5 to install the DVORAK/FLT and EPSON/FLT filters, but after I install them, they don't have any effect. Why?

A. You're probably neglecting to install the proper driver for the device in question. Whenever to wish to use a filter on a device, you must install a driver for that device which supports the character translation. For instance, to filter the @KI device using the DVORAK/FLT file, type:

```
ASSIGN @KI KI/DVR  
FILTER @KI DVORAK/FLT
```



View from the Programmer's Den

by Steve Pagliarulo

**EDITOR'S NOTE:** This is the first installment of this particular column and I thought that I'd take a moment to introduce it. Steve Pagliarulo is the chief programmer at MSS and the principal author of the DOSPLUS family of disk operating systems. This column will be his opportunity to air those ideas for new software that are currently being considered by the development staff here at MSS. You may, if you wish, comment on anything seen in this column. But bear in mind that this is simply our own company rumor mill. The fact that it appears here is no guarantee that we'll do it, but it does indicate that we are at least giving the project some thought.

At this time, there are several projects that are still "on the board" here at Micro-Systems and several more that are slated to come up soon. I thought that it would be more organized if we addressed this program by program and discussed the current status and future plans.

MTERM

The version of MTERM for the Apple IIe should be ready in about 2 weeks. This is FAR behind schedule, but a contract for a major OEM interrupted matters and now we are once again working in this area. The program will be functionally identical to all other versions of MTERM, and shouldn't require a great deal of adjustment time for users that have run MTERM on other micros.

The version of MTERM for the Model II, functioning under DosPLUS II, is done and awaiting a manual and final proofing of the code. MTERM for the Model II functioning under TRSDOS has been shelved until further notice.

MTERM 2.0 is being planned now. The second generation of MTERM programs is now being laid out. These programs may be written in some high level language such as "C" instead of assembler for portability, the decision hasn't been made yet. Many new features will be included and some of them directly from suggestion letters. This program will probably appear on the IBM PC first and work its way out the other micros from there. Remember, this program hasn't even been STARTED yet, so don't come looking for upgrades until we have notified you that they are ready.

Model 4 Editor and Assembler

Micro-Systems has closed a deal with Computer Applications Unlimited to jointly develop a version of M-ZAL for the TRS-80 Model 4 in the native mode. The text editor is already done and the assembler and linker modules are next. This program will be available soon from Micro-Systems or CAU.

This will be the first true Model 4 assembler, running in the actual Model 4 native mode. 80x24 video is supported in the editor. The program will function under both TRSDOS 6.x and DOSPLUS IV.

## New Product Announcements

This issue, we have three brand new pieces of software to announce, all of them for the TRS-80 Model 4. Micro-Systems is also working on new software for the IBM PC, so watch this space next issue...

### DOSPLUS™ IV

Disk Operating System

for the TRS-80™ Model 4 Microcomputer

Micro-Systems Software Inc. announces DOSPLUS IV, the new alternative operating system for the TRS-80 Model 4. DOSPLUS IV ushers in a new age of efficiency and power for the Model 4, offering you the ultimate in features and convenience.

DOSPLUS IV is the culmination of all of our previous efforts in TRS-80 operating systems. It has all of the simple, user friendly operation of DOSPLUS 3.4 and all of the powerful, flexible capacity of DOSPLUS 3.5. And all of this with a touch of class.

DOSPLUS IV is truly programming elegance. The system has been written to be 100% media and program compatible with TRSDOS™ 6.0, so there won't be any problems transferring to the new system. DOSPLUS IV even uses the same version of MicroSoft BASIC (with certain enhancements, of course) to insure program compatibility. And it provides all this while still giving you a TREMENDOUS increase in speed (in most operations).

From the DOS side, DOSPLUS IV features things such as automatic installation of ALL drivers (no need to use SET and FILTER to create "phantom" devices), global wildmask capacity on many library commands (ATTRIB, COPY, or REMOVE up to an entire disk at one time), piping and filtering (similar to systems such as UNIX and MS/DOS), and all of the same commands that you would expect from DOSPLUS.

On the BASIC side of things, there is an array sort utility to replace the CMD"O" that TRSDOS 6.0 takes away, a keyword space insertion function to save you hours of needless typing and editing, shorthand, INPUT@ (controlled screen formatting), and label addressing. DOSPLUS IV also causes BASIC to load and save programs many times faster than TRSDOS 6.0.

For the novice programmer that just wants the simplest, fastest, most reliable operating system they can have AND for the experienced programmer who wants the slickest, most powerful, device independent system they can have, DOSPLUS IV has it all! If this system sounds too good to be true, don't worry. It's better than that!

The DOSPLUS IV manual comes complete with a system technical reference manual (no extra cost options here). DOSPLUS IV includes disk and editing utilities and directory verification/repair programs that others want to charge you extra for.

Your operating system is a serious investment, treat it as a serious matter and get the only serious operating system for the Model 4; DOSPLUS IV! Price: \$149.95

## 6.0 PLUS™

### The TRSDOS 6.0 Enhancement Series

Micro-Systems Software enthusiastically introduces the release of **6.0 PLUS**, a series of advanced enhancements to TRSDOS version 6 for the TRS-80 Model 4. Finally there is a package that will enable the novice and expert alike to increase their programming speed and ability above the limits created by TRSDOS 6.0. This enhancement package is titled **6.0 PLUS**.

**6.0 PLUS** is equipped with a series of BASIC enhancements that make any programmers life easier. Now possible with this package will be multi-array sorting, comprehensive cross referencing, and the ability to search and replace BASIC text. Also included will be label addressing, more descriptive error messages, and an expanded OPTION command. Have you thought about all the time necessary to convert programs from Model III BASIC to Model 4 BASIC? Well, **6.0 PLUS** will allow you to load Model III disk BASIC programs into the native Model 4 disk BASIC and do all keyword space insertion, saving you hours of valuable time and effort. Additions to the OPTION command provide for this compatibility with Model III Disk BASIC. Screen formatting for attractive applications software displays are permitted by Micro-Systems Software's exclusive INPUT@ keyword. Think about what all these features will mean for you.

Have you ever had the misfortune of losing all the data on your disk for some unknown reason or because your just power went off for a split second? You probably wished there was some way to repair that blown byte or sector. **6.0 PLUS** will aid you in repairing these annoying errors. Included in the enhancement package is a full range of disk management programs including a disk editor, a file editor, and a directory verification/repair utility. Direct access is permitted to any track of the disk, which allows you to correct any byte that may be in error. Even if the unfortunate victim on your disk happened to be your directory, **6.0 PLUS** will rebuild it. **6.0 PLUS** can mean the difference between losing a track's worth of information or an entire disk.

We have all at one time or another made the mistake of REMOVEing the wrong file. Once this is accomplished you know you can look forward to the wonderful task of rewriting the whole non-existant thing. But wait! No problem here either, just use the RESTORE command. Error-proofed RESTORE has the ability to rebuild this lost file as long as the disk space has not been reallocated. You may never lose another file again in this manner.

**6.0 PLUS** is a "must have" and a valuable "toolbox" for the programmer. You will never understand how you ever could have lived without the enhancements after using them. This package will be one of the most valuable pieces of software you have ever purchased and also one of the most inexpensive. This package allows the TRSDOS user to utilize some of the powerful utilities of DOSPLUS IV without having to purchase an entire operating system. Micro-Systems Software created **6.0 PLUS** for the TRSDOS user that wants more than just an ordinary operating system. **6.0 PLUS** gives you the power you strive for. Price: \$49.95

## MTERM

### TRS-80 Model 4 Smart Terminal Software

Also new from Micro-Systems Software this summer is **MTERM**, the smart terminal program, for the TRS-80 Model 4. "Wait!", you say, "MTERM isn't new, I've seen it before!". True, but what is new is that **MTERM** now comes in a native Model 4 version. Joining the TRS-80 Models I and III, IBM PC, and Zenith Z-100 versions is this latest version of **MTERM**. Functioning under either TRSDOS 6.0 or DOSPLUS IV, this is possibly the first assembly language applications software available for the Model 4's native mode.

**MTERM** has such great features as user definable Macro Keys, auto dial support with phone number tables, translation tables on SEVEN system devices for complete character mode translation capability (with a little user setup, this can often be used to provide limited terminal emulation), spooled printer output, built in screen printer, screen re-formatting for narrow or wide text, and more!

Not to be forgotten are the standard **MTERM** features such as full time character receiving (even while "off line" at menus), simple menu driven operation (be an **MTERM** expert in 30 minutes), and a clear easy-read manual.

With so many versions of **MTERM** for different microcomputers, you never have to re-learn your terminal operations. Just purchase the copy of **MTERM** that is right for your computer and most of what you learned on the other system will prove to be true everywhere. Universal command compatibility is one of **MTERM**'s strongest selling features for the user with several machines.

Although **MTERM** has all of the features and functions of other terminal programs, it is priced at far less. No software library should be without a copy. Model 4 version includes full support of the 80x24 video, and use of the additional 64K RAM (if present). So get the only terminal program available for the native Model 4 and get a bargain of price vs. performance at the same time. Get **MTERM**. Price: \$79.95

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All products available from computer dealers everywhere or directly from:

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Log-out

by Mark R. Lautenschlager, Editor in Chief

Micro-Systems gets a SIG

Recently, Micro-Systems Software acquired the Telecommunications SIG on CompuServe™. For those of you who were used to finding us on PowerSOFT's XTRA-80 SIG, look for us now on page PCS-52. From the programmer's area, use the "R MCONN" command and from within another SIG, the command is "R SIGMIC" at any function prompt.

The intended purpose of the SIG is an ongoing discussion of telecommunications hardware and software, but there is a section set aside for support of Micro-Systems Software products. Leave a message to SYSOP requesting access, and if you are a registered owner, we'll let you into section 4. Remember, the SIG itself is open and anyone is welcome to join. The only area with membership requirements is section 4.

Addition to the FORMS LETTER by Barry N. Gordetzer

R. Walter Steur of Williamsville, NY, writes in with the following observations:

...The second printer problem addressed in the FORMS Letter concerns the inability to send a CHR\$(0) to the printer as a control code. Mr. Gordetzer's solutions unfortunately throw the baby out with the bath water! He mentions the MX-80 with Grafrax-plus as using CHR\$(0) as a control code. The Grafrax-plus manual by David Lien explicitly addresses (in Appendix G) this problem as existing in the Model I, but not in the Model III, as a peculiarity of the ROM driver, NOT the DOSPLUS printer driver. The solution in the manual is very simple:

POKE 14312,0 (in the Model III this would be: OUT 251,0)

There is no need to disable the DOSPLUS printer driver. But the manual mentions that this POKE technique can upset the printer's timing; to avoid losing data insert the following code:

XX IF PEEK(14312)<>63 THEN XX

(where XX is the line number in the BASIC program immediately after the above POKE). I'm quite surprised Mr. Bell of Epson was not aware of this, although I realize it's difficult to be familiar with all the computers with which the Epson printers are used. I hope that Model I users will be reassured that they don't need to emasculate their DOSPLUS in order to utilize all the capabilities of their printers...

**EDITOR'S NOTE:** Mr. Steur is at once both right and wrong. The solution he offers certainly seems reasonable enough, but his statement that the problem is not related in any way to the DOSPLUS printer driver is not correct. In fact, the DOSPLUS printer driver, whenever passed a 00, will return printer status to the calling program and not send anything to the lineprinter at all. However, I felt that this alternate solution should be given inasmuch as it will not remove the driver altogether.

#### Further fun with Epsoms

Stuart A. Cole of Gulfport, MS, writes in with this valuable series of comments regarding Epson printers and top of form codes:

Right after I started using DOSPLUS version 3.5 on my TRS-80 Model I, I began having problems. The label printing section of my mailing list no longer functioned correctly. The problem was that the printer would print a graphics block instead of performing a top-of-form command.

Investigation disclosed that the EPSON/FLT program was the culprit. The problem stems from the difference between the TRS-80 graphic code locations and those of the Epson MX-80 printer. As you know, the printer's graphic codes are equal to the TRS-80's +32.

According to Appendix B of the Epson users manual (David Lien, author), a top-of-form command is a CHR\$(12), however, the manual warns that this command may require the addition of 128 (12+128 = 140) to make it reliable. The form feed command is demonstrated and explained on page 57 as LPRINT CHR\$(140). Since CHR\$(140) is a valid TRS-80 graphics character, EPSON/FLT adds 32 and sends it to the printer as CHR\$(172).

The easiest way to get out of this mess is to change all LPRINT CHR\$(140) statements to LPRINT CHR\$(12). The disadvantages in doing this is the questionable reliability and the slow jerky movement of the printer as it executes a series of linefeeds to top-of-form. The old LPRINT CHR\$(140) resulted in a nice smooth movement.

The solution is to patch the EPSON/FLT program to convert a CHR\$(12) command into a CHR\$(140). Once the program is patched you will still have to change all CHR\$(140) statements in your programs to CHR\$(12) but now the printer will execute a fast and smooth top-of-form.

To patch EPSON/FLT, place a disk containing the program in drive 1. Type BUILD EPSON/FLT,A and press ENTER. When the prompt "Enter text (63 chars/line)" appears, type 0C=8C and press ENTER, then press BREAK. The EPSON/FLT program has now been patched...

**EDITOR'S NOTE:** Most commercial software will use the CHR\$(12) function for top-of-form all the time, as this is common to most printers. Mr. Cole's suggestion will therefore result in a smooth top-of-form in almost all cases. Certain BASIC software that is custom programmed for the Epson MX-80 (which I assume is the case with the above mentioned mailing list), may use the CHR\$(140) for a top-of-form. These programs will need to be altered.

#### Video Cassettes available

Micro-Systems has some of the Lynn Computer Services instructional video cassettes for the DOSPLUS 3.5 operating system. These cassettes are an excellent instructional tool for the novice user who is unfamiliar with DOSPLUS because they present the system visually.

Priced at only \$39.95, these cassettes will prove to be of great value when you are attempting to first set up your DOSPLUS system. It covers booting up, backing up, formatting data diskettes, and entering DOS commands. Total length is about 2 hours.

#### Super Utility Plus version 3.1a

We have for sale some of the new Super Utility Plus version 3.1a programs. This is the latest version of the powerful utility authored by Kim Watt and published by Breeze/QSD. This version corrects many of the bugs in earlier versions and is many times faster and more reliable.

80 Micro readers voted it "Utility of the Year" and in the October 1983 80 Micro 80, William Allen gives the program 5 stars. There is good reason for all this, as you will see if you order yourself a copy. Function for function, this program will rescue diskettes that no other will touch.

When you order Super Utility Plus from Micro-Systems, it comes pre-configured for DOSPLUS media. This is NOT to say that you cannot quickly re-configure (even permanently) for another system, but merely that instead of defaulting to TRSDOS format, these default to DOSPLUS in an effort to save you set up time.

I make often use of this program myself and the new version with the improved manual and backup diskette included is easily worth the price. Get yours today. Priced at only \$79.95, this may just be one of the best purchases you will ever make.

#### M-ZAL for the Models I and III

In View from the Programmer's Den, Steve Pagliarulo was discussing our plans to work with Computer Applications Unlimited in developing a Model 4 version of M-ZAL (their Z-80 assembly language development package). We also have a few copies left of M-ZAL for the TRS-80 Models I and III.

We will be selling these at a reduced price of \$99.95. These are release 2 versions of M-ZAL, but CAU will update anyone purchasing one of these copies to release 3 for free after they have registered.

You owe it to yourself, if you are an assembly language programmer, to have an M-ZAL system. There is simply none better. Purchase a release 2 from us today, pay only \$99.95 (as opposed to the regular \$149.00), and get upgraded to release 3 for free when you register your program with CAU.

## DOSPLUS IV - SPECIAL OFFER!!

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Such is the case with DOSPLUS IV, our new Disk Operating System for the TRS-80 Model 4 microcomputer. This operating system, although externally similar to DOSPLUS 3.5, bears no resemblance internally to the old system. Because of this, there is no "upgrade" between the two systems. We do, however, intend on giving you a very special offer toward the purchase of a new system.

DOSPLUS IV normally retails at \$149.95. To all of you registered Micro-Systems owners, the price will only be \$99.95 (1/3 off the regular retail price!). This 33% discount will ONLY be afforded those customers who tear out this page and return it to either Micro-Systems Software or a participating dealer.

Did you hear "participating dealer"? You sure did. This special offer is being honored at many of our dealers across the country. For the name and address of the dealer nearest you, please call one of our sales staff at (800) 327-8724. They will be happy to look it up for you. Earlier in this newsletter, you had a chance to read the product announcement and description. Now, you have the opportunity to purchase the system at great savings. Unbeatable software at unbeatable prices.

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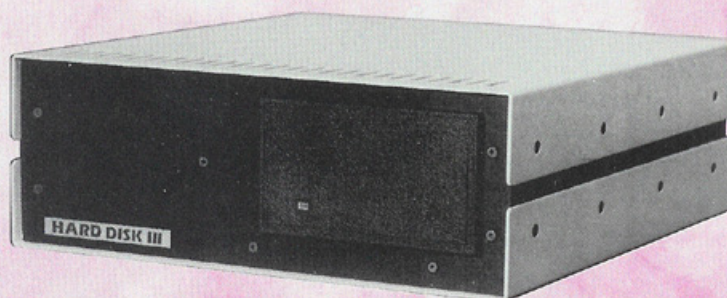






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