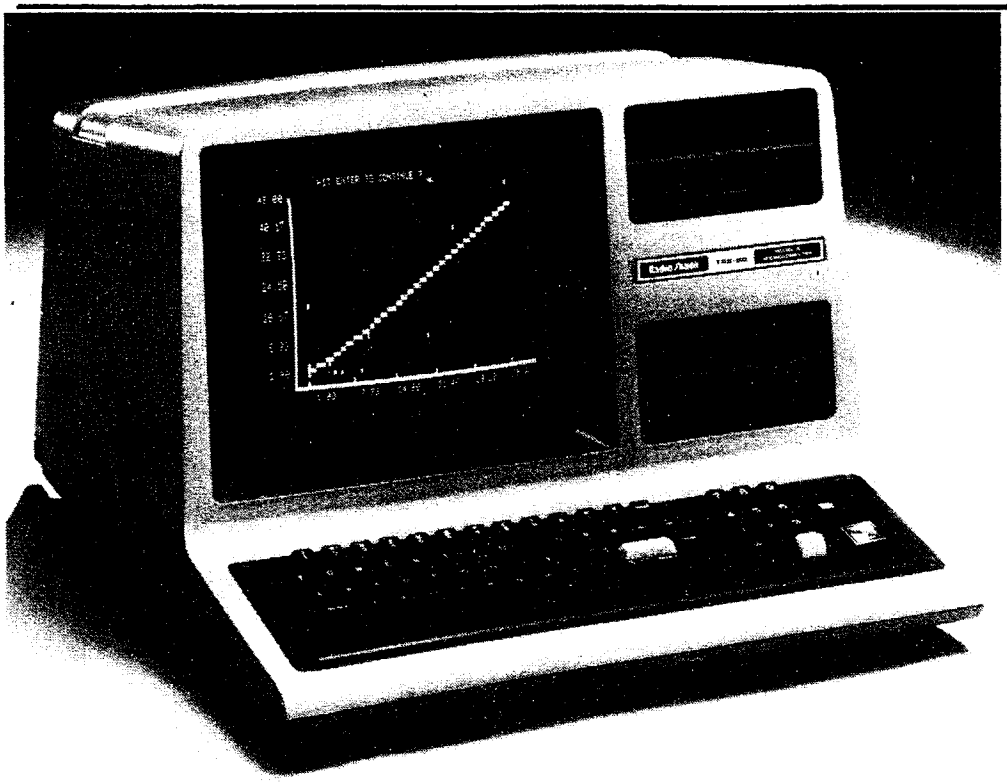
Tandy ELECTRONICS

TRS-80™ Microcomputer NEWS

SEPTEMBER, 1981

P.O. Box 229, Rydalmere, NSW. 2116

THE MICROCOMPUTER NEWSLETTER FOR TRS-80 OWNERS VOLUME 2 Issue 2



TRS-80 Model III Available NOW!

The new TRS-80 Model III is now available from your local Tandy Store! The Model III is a completely self-contained unit. Like the Model I, it is fully expandable — you can start with a 4K Level I system and let it grow to suit your needs. You can expand the Model III to 48K RAM, two double density disk drives and an RS-232 interface within the one desk top unit.

Level II BASIC. The 14K ROM includes such features as upper and lower case, two speed cassette operation (500 and 1500 baud). A real time clock, keyboard controlled screen printing, repeating keys and software for the optional RS-232 interface, are all inbuilt.

The optional disk drives are 40 track, (18 sector, 256 bytes per sector) double density units, each with a capacity of 178K bytes of storage. (Up to 670K bytes on four drives).

Prices start at $999 for a 4K Level I Model III. See page 2 for more details of the capabilities of this latest addition to the Tandy stable.

PREVIOUS NEWSLETTERS

In the last Newsletter (May 1981) there were a few 'bugs'. If you have tried to use the machine language sort, you will have come across some of them.

On page 2, line 1050, the last occurrence of 127 should read 175. Also on page 2, the fix to the General Ledger (269-4501), the $ sign in line 730 should be a 1. On page 7, make the following corrections — line 1310 should be numbered 1350. With the changes for 32K and 48K Model I's, lines 1240 and 1250 should be numbered 1320 and 1340 respectively. On page 8 in the mailing label programme for Accounts Receivable (269-1555), line 10 is missing quotation marks after the PRINT statement in line 10. In line 210 there should be a closing) at the end of the line.

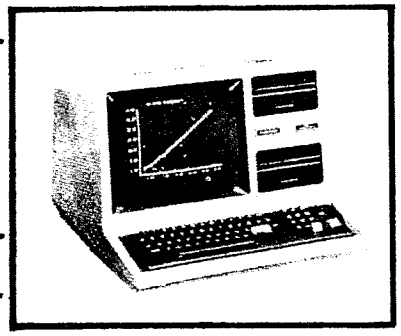
Hopefully that's it ..... until next month!

Computer Support News

In May's issue of Microcomputer News, we mentioned that there were some new programs in the pipeline. Well we're pleased to say that one group is now available. "Personalised Australian Business Software" is a suite of programs that has been produced in Australia, by Australians, specifically for Australian business conditions. It currently consists of five packages: Creditors, Debtors, Cash Receipts Journal, Cash Payments Journal and Integrated Invoicing. The General Ledger and Stock Control components are in the final stages of development.

The program packaged are all fully interactive and will be personalized to suit the requirements of individual businesses. Such things as number of debtors and creditors, starting invoice number and number of columns required for your cash receipts and cash payments. You can use just one package, in stand alone mode, or all five packages can be fully integrated. You can even buy other packages at any time and have them integrated to your existing PABS packages. When your business expands, we can increase the capacity of your data base without any loss of data. The packages are very reliable and have been tested and reviewed by one of Australia's largest and most reputable auditing firms and it came through with flying colours.

The documents produced by the packages establish an audit trail that meets the requirements of Australian Accounting standards. The package represents Tandy's positive approach to meeting the ongoing needs of small business-people in Australia who purchase our micro-computer systems.



Model I/III

Product News

Now that the Model III is available, it seems like a good time to look at the many improvements in the Model III over the Model I. Hopefully you realize that the Model III is more than just a re-packaged Model I, we have kept as many of the features of the Model I as possible, while incorporating many features that you have requested.

If you have not heard of the Model III, drop in to your local Tandy store and have a look at one.

Price Comparison

Look closely at the catalogue prices for both Model I and Model III and you will find that we brought out the Model III to give you a real price break. For example, when you upgrade a Level I the charge is $180 for the Level II ROM and another $290 for the 16K RAM and keypad upgrade (plus installation).

In the case of the Model III, we give you the Model III BASIC ROM and another 16K RAM for a total of only $399 (not $479 as priced in the RSC-4 catalogue), again plus installation. A Model I owner who upgraded his 16K Level II system with an optional Expansion Interface (E/I — to get printer capabilities) spent a total of $1648. The 16K Model III with Model III BASIC costs $1399 and includes an inbuilt printer interface. The Model I that grew to become a two drive business system with a 16K E/I, lower case kit and an RS-232 came in at $3525.90, including installation. The Model III 32K, two disk system with an RS-232 cable comes in at $3328.95. Wait a minute! That doesn't look like a price advantage does it? The Model III's double density disk drives provide approximately 310K of available storage on two drives (compared to 138K for two Model I disk drives) so a comparable Model I must include drives 3 and 4, which makes the price $4,903.90. Since we can still add two more external

. . . approximately 310K of storage on two drives . . .

drives to the Model III (for a system total of 670K of available disk space) there is no direct price comparison to a Model III with four drives. If you begin putting a price tag on all the additional features of the Model III you begin to see that we're providing you with an even better price advantage.

ROM Enhancements

We have enhanced the BASIC ROM's on both Level I and Level II. In the case of Level I we have added LLIST and LPRINT for easy printing capability. The Model III BASIC ROM includes an extra 2K to provide extra

We have enhanced the BASIC ROM's of both Level I and Level II.

features. (It does use 258 bytes more RAM for internal use). The owners manual includes a 24-page Technical Information section that includes sample Z-80 programming and examples of the use of BASIC's ROM calls including System Control, Cassette I/O, Keyboard Input, Printer Output, RS-232 Control, and Video Display Output. A memory map, ROM addresses and important RAM addresses are also shown.

Video Enhancements

Video locations are the same but we have added lower case and a special character set which includes 96 symbols for the greek alphabet, division, cents a pointing finger for annotation, faces and even card suites. Obviously some of these are just for fun but many are also useful in business applications. A scroll protect function protects up to seven lines at the top of the video and is great, for example, in protecting column headings in a table. The cursor is definable and can be set to on, off, blinking or solid. You can select any character from 0 to 255 for the cursor character (this gives you ASCII characters, graphics symbols and even the special characters as possible cursor characters!) By the way, since Model III produces standard ASCII characters for codes 32 thru 127 (unlike the Model I), it doesn't produce an up arrow, down arrow, left arrow, or right arrow on the video. The keyboard or software initiated screen print function is for printing a "snapshot" of what is on the screen (with the exception of screen graphics) and should reduce coding requirements in many new applications and offer flexibility where

. . . regarding the video, it is the same hi-resolution monitor you have seen on our Model II's . . .

lineprinter reports are already programmed. Finally regarding the video, it is the same hi-resolution monitor you have seen on our Model IIs and it is an improvement over the Model I video.

The keyboard, on the surface, looks the same but its circuitry and contact design make it virtually bounceless. The new keyboard repeating feature saves a lot of time, too. It is better than a repeat key . . . all keys repeat after about a 1 second depression. For upper case, the keyboard default condition is caps. The SHIFT-O toggles the keyboard between all caps

. . . Model III lets you interrupt a cassette, line printer, or RS-232-C operation . . .

and upper lower case. There is a difference in how characters are stored. Also, unlike Model I, the Model III lets you interrupt a cassette, line printer, or RS-232-C operation (and do it without losing your resident program) by holding down the BREAK key.

Cassette I/O

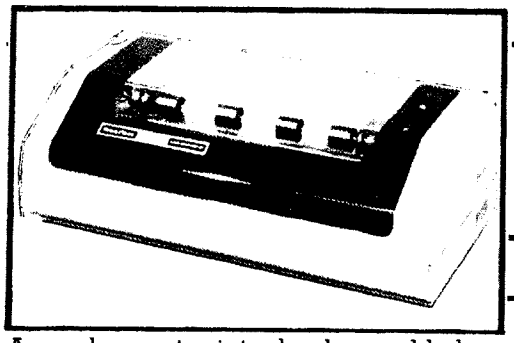
The Level I Model III loads all of our existing Level I cassettes at 250 baud.

Cassette I/O speed for Model III BASIC is selectable at power on, to either 500 or 1500 baud with the default being 1500. The 500-baud rate lets you load most existing Model I Level II tapes. You can also change the speed with a POKE from BASIC or the keyboard. You can load 500-baud Level II tape, and re-save it at 1500! It's a new analog cassette I/O that's more reliable and certainly faster.

It's a new analog cassette I/O that's more reliable and certainly faster.

Printing Features

Continued on Page 7



Peripherals

Product News

A new low-cost printer has been added to the TRS-80 lineup! The Line Printer VII is designed for those TRS-80 owners on a limited budget, who need a good quality dot matrix printer.

If the name isn't surprising, the printer is! This machine is Tandy's first dot-matrix machine to offer full graphics capabilities!

The unit includes the standard parallel interface for use with Models I, II and III and, features in addition, a four pin DIN connector for use with a serial RS-232 port. The price of this little gem (269-1167) is only $499.00!

This is a full performance printer; no narrow or strange paper for this fellow. It prints 8 inch, 80 column lines on regular 9½" tractor paper (269-9304 $12.95). Here is a run-down on its features:

•Graphic or alpha-numeric characters can be intermixed on the same line 5x7 matrix characters or 7 bit dot addressable graphics patterns.

•Switch selectable input — parallel or serial (7 or 8 bit — 8 bit required for graphics).

•Adjustable tractor 4½ to 9½ inches.

6 or 9 (graphic mode) lines per inch

• 30 CPS speed

The printer uses a unique single hammer system. The carriage movement, the motion of the hammer, and the revolution of a rigid platen accomplish all the printing wonders.

Line Printer VII will produce all the ASCII standard alphanumeric characters. Once set in the graphic mode, however, any code except those for special control and graphic information will be ignored. Special commands move the carriage to any of the 480 dot columns available in the 8" line. The impression produced by the printer in any dot column is determined by sending an 8 bit binary code. The 8th bit (most significant) signifies graphic information. The other seven bits (set to "1" or "0") correspond to the column pattern placed on the paper. Another command allows repetition of patterns for code economy.

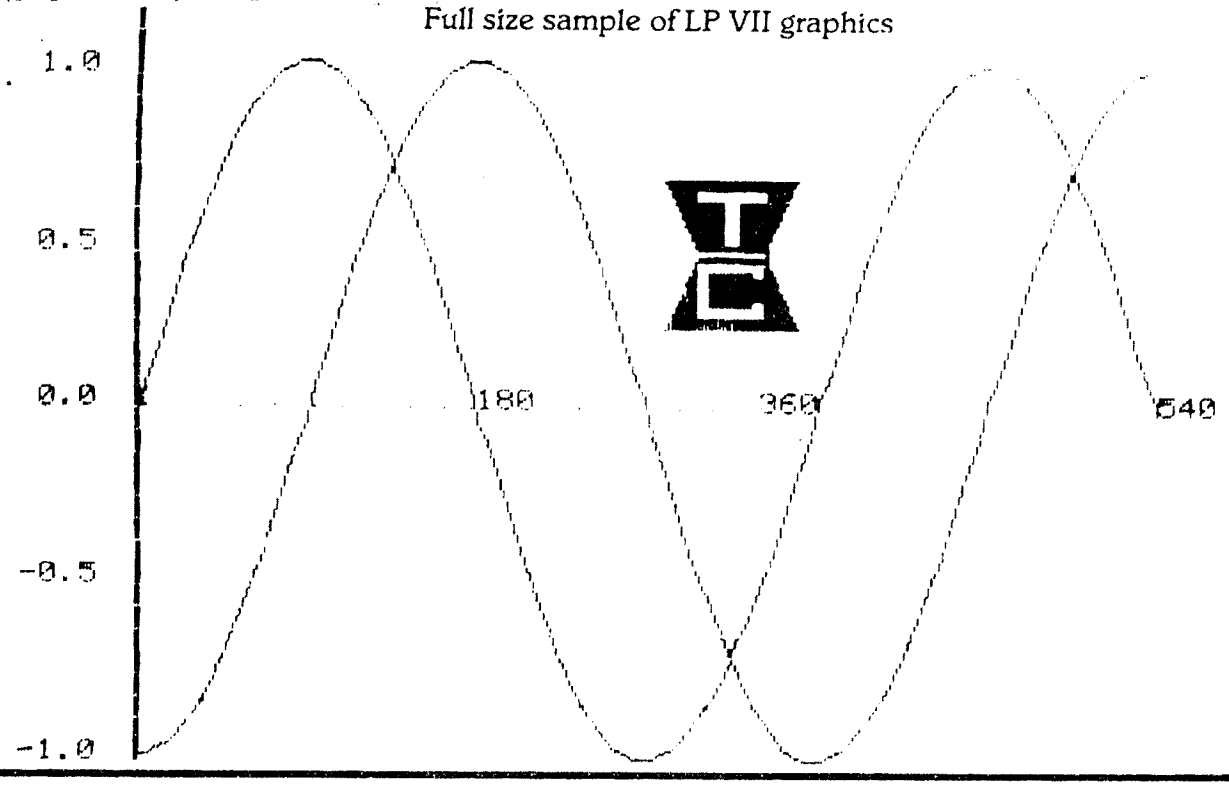
In this manner, the programmer can control all the dots produced on the page to a density of 3780 dots per square inch!

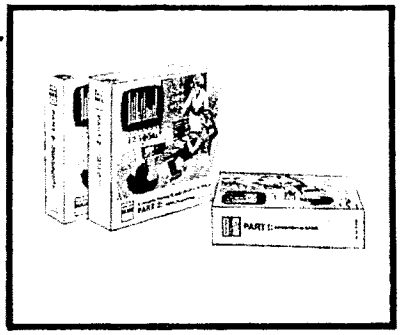
Here are the Line Printer VII graphics codes in the Tandy Standard:

DEC	HEX	FUNCTION
18	12	Set Graphic Mode
10	0A	Normal Line
13	0D	Feed (CR plus LF) prints buffer and generates new line.
26	1A	C/R — Prints buffer and issues CR but no LF
28,N	IC,N	Repeat the next dot pattern N times.
27, 16, BB	1B, 10, BB	Move carriage to dot column BB (9 bit value).

We're predicting this printer will be a real winner! Its features and performance make it an excellent choice for many users of Model I and III machines. Included in this article is a sample of the graphic capabilities of Line Printer VII. Don't forget to order the proper cable. (Model I, III — 269-1401 $59.95; Model II — 269-4401 $69.95).

Full size sample of LP VII graphics





Education

Educational Product's News

This month's article for the Educator's page is written by Dr. Lee Droegemueller, Superintendent of Independent School District 196 in Rosemount, Minnesota, a suburb of Minneapolis. Dr. Droegemueller has been an advocate of microcomputers for computer literacy for all students as well as administrative applications. Under his leadership ISD 196 has been a front runner in developing and implementing new applications of microcomputers in education.

ENROLLMENT REPORTING USING VISICALC

DR. LEE DROEGEMUELLER
SUPT. OF SCHOOLS
ROSEMOUNT, MINNESOTA

The Rosemount School District covers approximately 110 square miles of south suburban Minneapolis and St. Paul, Minnesota. The district has a total of ten elementary schools, three middle schools and two high schools. It is located in a fast growing area, with student enrollment increasing from 8,500 in 1975 to 12,500 in 1980. This growth has caused the opening of six new school buildings since 1976. The growth and additional schools resulted in attendance boundaries being changed each year. Classroom enrollment also increased during the year, with the result that rooms had to be divided at midyear.

One of the major problems caused by this continuing growth has been that the pupil/teacher ratio increases significantly during the school year. AT the beginning of the school year, the administration allocated staff positions for these increases, and when the pupil/teacher ratio dictated, these new staff positions were to be filled. To reassure the Board of Education, the public and staff that overcrowding would be promptly detected and alleviated, a timely concise, accurate report had to be developed to allow us to monitor the pupil/teacher ratio.

The information needed at the elementary level was different than that needed at the secondary level. At the elementary level statistical data was needed by grade which included pupil/teacher ratios, change data, and summary information for each building. Only summary data and changes by building were needed and reported at the secondary level. Summary data on student enrollment for the district was accumulated by individual grade. It was further consolidated by elementary, middle and high school. A special pupil weighting formula was produced which related to budget reports.

Attempts at doing this report with a calculator, paper, pencil and typewriter were frustrating. There were 600 combined entries and calculations. To further complicate the task, kindergarten children could only be counted as half because they attended school only half days. Grades seven through twelve had to be given a factor of 1.4 for state aid revenue projections. With these and other factors involved, the probability of a typing or calculating error was always quite high. Many hours were spent each month preparing this report and the question of accuracy always remained.

The overview of the VISICALC program from Tandy stated that it addressed problems which needed paper, pencil and the calculator to solve. Due to the matrix configuration and the previously stated conditions, VISICALC appeared to be a natural solution to the problem. The ease of use of the manual, and the computer data displayed on the monitor so that it could be seen just as it would be printed, were a great help. Three aspects of VISICALC which made solving this problem easy were the ability to set row or column recalculation, the automatic or manual recalculation option, and the order of recalculation. The problem was reworked several times so that more information could be reported and memory use could be reduced.

The new report provided information on elementary school enrollment, including the grade, number of students, number of teachers, average pupil/teacher ratio by class, monthly change of the number of students by secondary schools. District summaries included changes in enrollment by grade, the calculation of weighted pupil units for budget projections analysis and total enrollment summaries. Sample output is shown in Figures 1, 2 and 3.

Figure 1

CEDAR PARK

*GRADE	STDS	STAFF	AVERAGE	CHANGE
* KDG	85	1.5	28.33	6
* ONE	84	3	28.00	0
* TWO	81	3	27.00	2
*THREE	98	3.5	28.00	6
* FOUR	122	4.5	27.11	-1
* FIVE	113	4	28.25	6
*TOTAL	583	19.5	27.72	19
*SEP80	550	19.5	26.23	33

Figure 2

SUMMARY ONE YEAR

GRADE	1980-81	SEP 79	CHANGE
* KDG	978	922	56
* ONE	951	900	51
* TWO	973	948	25
*THREE	980	1108	-128
* FOUR	1169	1150	19
* FIVE	1192	1017	175
*TOTAL	6243	6045	198

PUPIL UNITS (PU)

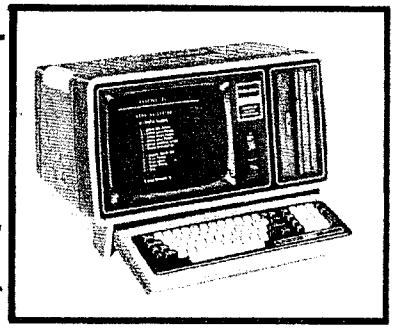
GRADE	1980-81	SEP 79	CHANGE
* KDG	489	461	28
* ONE	951	900	51
* TWO	973	948	25
*THREE	980	1108	-128
* FOUR	1169	1150	19
* FIVE	1192	1017	175
TOTAL	5754	5584	170

There is a great potential for additional applications of VISICALC in school reporting. In this particular situation the elimination of several hours of work, the increase in reports generated, and the neatness of formatted printer output all underscore the convenience of VISICALC. The VISICALC enrollment report has reduced the number of questions at Board of Education meetings, made comparisons easier for the public, helped principals answer questions on class size, and improved administative decision making.

Figure 3

DISTRICT 196 SUMMARY

	1980-81	SEP 79	CHANGE	80-81PU	SEP 79PU	CHANGE
TOTAL K-5	6243	6045	198	5754	5584	170
TOTAL MIDDLE	2952	2682	270	3718	3374.4	343.6
TOTAL SENIOR	3267	3196	71	4573.8	4474.4	99.4
GRAND TOTAL	12462	11923	539	14045.8	13432.8	613



Model II

Product News

Here's a hint for PROFILE-II users. Would you like to create your own custom MENU? Would you like to pass the program some parameters and get you or your secretary away from answering the FILENAME and SCREEN NUMBER question everytime (sometimes getting the wrong screen or report format)?

A simple custom MENU with a short description of each of the screen or report formats that you use will eliminate trying to remember which format is which.

Try this routine on a BACKUP of your PROFILE disk . . .

First, you must still have BASIC on the disk. Second, rename the current MENU to X by typing RENAME M to X and pressing [ENTER].

You must create a machine language program with DEBUG. From TRSDOS, type CLEAR and press [ENTER], now type DEBUG ON, press [ENTER], type DEBUG and [ENTER]. Press M and enter E000 for the address. Press the [F1] key and the cursor should be in the upper left hand corner of the screen at the first set of double zeros. Enter the following codes exactly. You do not have to press the space bar.

```
21 09 E0 06 0A 3E 26 CF
C9 42 41 53 49 43 20 4D
45 4E 55
```

Double check the entries you made, using the arrow keys to position the cursor and make any corrections.

Press the [F2] key, then the LETTER [O]. You should be back in TRSDOS. Now you must save this program, type

```
DUMP M (START=E000 END=E012)
```

and press [ENTER].

Build a DO file by typing "BUILD USER" [ENTER]. In the DO file, type "BASIC MENU" and press [ENTER] three times. This will store the DO file with a filename of USER.

When you return to TRSDOS READY, type BASIC [ENTER] and you are ready to create the MENU. We will give you a sample menu using "GMS" for the example file names (lines 200 thru 230). In all cases, use the file name you normally enter when using PROFILE but followed with enough 0's to make it 8 characters long.

```
5 GOTO 10
7 SAVE "MENU":END
10 CLS
20 PRINT@(3,25),"1) ADD / UPDATE
     RECORDS"
30 PRINT@(5,25),"2) PRINT FILE  (LONG
     FORM)"
40 PRINT@(7,25),"3) PRINT FILE
     (SHORT FORM)"
50 PRINT@(9,25),"4) PRINT LABELS"
60 PRINT@(11,25),"5) PROFILE
     DIRECTORY"
70 PRINT@(13,25),"6) EXPAND FILE"
80 PRINT@(15,25),"7) PROFILE MENU"
90 PRINT@(17,25),"8) EXIT TO TRSDOS"
100 PRINT@(19,28),"SELECTION = ";
110 A$=INKEY$: IF A$="" THEN 110
     ELSE A=VAL(A$): CLS
120 ON A GOTO 200, 210, 220, 230,
     240, 250, 260, 270
130 GOTO 10
200 SYSTEM "CLERK/EFC (GMS00000,1,
     HEADING FOR TOP OF SCREEN)"
210 SYSTEM "PRINT/EFC (GMS00000,1,
     INSTRUCTIONS FOR SORTING)"
220 SYSTEM "PRINT/EFC (GMS00000,2,
     OR SELECTING RECORDS)"
230 SYSTEM "LABEL/EFC (GMS00000,1,
     LABEL INSTRUCTIONS)"
240 SYSTEM "DIR/EFC"
250 SYSTEM "EXPAND/EFC"
260 SYSTEM "X"
270 SYSTEM
```

Notice the format number in lines 210 and 220. This answers the question for you when the program asks "Enter Format Number (1-5)".

Also notice, that there is no space before the format number in 200, 210, 220, or 230.

Now type GOTO 7, press [ENTER] and the program will be stored on disk with a file name of MENU.

To use this menu, type [M] from TRSDOS READY, just as before.

CLERK/EFC is the normal screen program used to enter, add or update the data. The braces are required, followed by the FILENAME filled to 8 places with zeros. The number (1-5) is the screen or print format you wish to use.
The statement after the number will be placed at the top of the screen and can be any instruction or title you wish the operator to see when using the program. Most of the PROFILE modules can be passed parameters with this method and, another advantage, when you press [BREAK] to exit the module, you will be returned directly to the MENU.

PROFILE programs that you can execute from the BASIC MENU are:

CLERK/EFC = Video screens used to add or update your data files.

PRINT/EFC = Printer formats

LABEL/EFC = Label printing

EXPAND/EFC = Used to expand the number of records

DIR/EFC = PROFILE directory

SELECTOR/EFC = Selects records for merging with other programs

Four of the modules that can not accept parameters are EXPAND/EFC, SELECTOR/EFC, DIR/EFC and SELCT/BAS.

One warning and one suggestion.

THE WARNING: Do NOT try to execute either of the DO files for the LIMITED MENU or the UNLIMITED MENU, this will kill the "M" program that you created with DEBUG.

THE SUGGESTION: You should not try to execute any of the "CREATION" programs such as CREATE/EFC or LPFORM/EFC from this menu. The "CREATION" programs CAN be called but they CAN NOT be passed any parameters and are not normally used on a day-to-day basis. They can still be executed from the original menu that you have now renamed "X".

Good luck with you new MENU. It should make using PROFILE-II a lot more enjoyable.

Model II Bugs, Errors And Fixes

General Ledger (269-4501)

In version 1.2, an extra Top-of-Form may occur when you're doing a two page asset and liability balance sheet.

To correct this, change line 1275 of the "Glbalsht" program to read:

```
1275 IFM=2ANDL>4THENP=1:GOSUB430:P=60
```

In versions 1.0 — 1.2 of General Ledger, if you wish to change the month that your system is running in, use the following procedure :

1) Go into Accounts Maintenance
2) Press the BREAK Key
3) Type FM = the # of the month ENTER
4) Type CONT ENTER
5) Press the F1 key
6) Go to System Status and check the month to be sure it is correct.

If the General Ledger's year is closed out, and it was not in the 12th month, System Status does not reset to one. To fix this problem, follow this procedure:

1) LOAD"Income" ENTER
2) Type in 1490 FM = 0 ENTER
3) SAVE "Income"

Inventory Management (269-4502)

After one year of running Inventory Management, the suggested order list is supposed to be automatically switched to the zero base ordering. We have found that it is two months off in versions 1.0 and 1.1

Make the following changes in "ORDER/BAS":

Version 1.0 —

Line 7710 should read:

```
7710 Y=P:IFNY=12THENOP=PH+1ELSEOP=PH-NY:
     IFOP<1THENOP=OP+12
```

ADD line 7715: `7715 X=OP`

Version 1.1 —

Line 7710 should read:

```
7710 Y=P!:IFNY=12THENOP=PH+1ELSEOP=PH-NY:
     IFOP<1THENOP=OP+12
```

Add line 7715 `7715 X=OP`

Accounts Payable (269-4505)

When a vendor is completely paid off, the balance in the account should be zero. Instead, it may be one cent. Check all invoices and make sure that they are correct.

To correct the problem, change the following lines in the "APCHECK/BAS" program:

```
700 W#=ABS(N#)*100:V$="":X=W#/D1#:W#=W#-
    X*D1#: V$=V$+CHR$(X-(N#<0)*128)

702 X=W#/D2#:W#=W#-X*D2#:V$=V$+CHR$(X)

704 X=W#/D3#:W#=FIX(W#-X*D3#):
    V$=V$+CHR$(X)+CHR$(W#):RETURN
```

Model I/III Bugs, Errors and Fixes

Model III TRSDOS 1.2

On page 79 of the Model III TRSDOS manual, it states that the number given in the "LINES = 'bbb'" option is "the maximum number of lines to print before an automatic form feed . . .". This is not so. In Model III TRSDOS 1.2, when the maximum number of lines is reached, the line counter restarts at one and No automatic eject is done. The line counter serves only to tell the printer driver how many lines have been printed since the last top-of-form. It is the responsibility of the programmer to examine the line counter at location 4029 Hex (16425 decimal) to determine if it is time to send the printer driver a top-of-form character (decimal 12) to eject the paper.

The manual is also in error when it states, about the LINES option, "... If omitted, 60 is used...". If no entry is made, whatever the maximum lines counter has in it will remain unchanged. The power-up default is 60, but after power-up, if the value is changed for any reason, you will need to specify 60 if that is the number of lines you need.

Also in the Model III TRSDOS 1.2 manual, under the section on Fundamental TRSDOS I/O Calls, pages 124 and 125, it should be noted that the OPEN and INIT TRSDOS I/O calls destroy the contents of the IY register. This is a bug in TRSDOS 1.2 and is scheduled to be corrected in the next release of Model III TRSDOS. Until then, if you are using the TRSDOS I/O calls in your machine language routines, remember to save and restore the contents of IY before and after a CALL to INIT or OPEN.

Tape Mailing List (269-1503)

In versions 3.0 and earlier, when printing labels the line-feeds are off and the labels print incorrectly.

To correct this problem, make the following changes to the program:

```
19010 LPRINTFI$(I,2):LPRINTFI$(I,3); "      ";
      FI$(I,4);"-";FI$(I,5): LPRINT" ":
      LPRINT" ".
19015 IFE=0THENLPRINT" ":ELSEIF
      FI$(I,1)=""THENLPRINT" "
```

Accounts Payable (269-1554)

In version 3.0 only, the program will not print or subtract the discount from the amount of the Cash Requirement Report. The checks are subtracted when printed.

To correct this problem, make the following changes to the REPORTS program:

```
173 IV$=I1$:D=ABS(CVI(I2$)):GOSUB61:DA$=D$:D=
ABS(CVI(I3$)):DU=D:GOSUB61:DU$=D$:D=CVI
(I4$):DD=D: GOSUB61:DD$=D$:V$=I5$:GOSUB57
:A1=A:V$=I6$:GOSUB57:A2=A:V$=I7$:GOSUB57:
A3=A:V$=I8$:GOSUB57:A4=A:V$=I9$:GOSUB57:A5=A
```

Real Estate Vol. I (269-1571)

In the "Rate of Return" program, the modified internal rate incorrectly equals regular internal rate of return.

To correct this, the following change should be made to the "Rate of Return" program:

```
800 R1=R1+R2:D9=0:D0=C:D0=D0-(D0*R3):FORI=1
    TOD1-1: ONAGOTO810,820
```

Model II Scripsit gives you the ability to overstrike any character using one of 10 pre-defined symbols. It is quite possible that your printer has other symbols available if you could get to them.

A case in point is the Daisy Wheel II (269-1158). The Daisy Wheel II print wheel has several characters which you may wish to use but you can not access using Model II Scripsit.

The special overprint characters in Model II Scripsit are accessed using the Ctrl 6, Ctrl 9, n sequence. Where n is a number from Ø to 9. As you receive Model II Scripsit from the factory, the 10 special overprint characters are:

Seq.	Char	Dec	Hex Value
^6^9Ø –	^	94	5E
^6^91 –	`	96	6Ø
^6^92 –	~	126	7E
^6^93 –	´	167	A7
^6^94 –	¨	19Ø	BE
^6^95 –	Ç	156	9C
^6^96 –	£	163	A3
^6^97 –	µ	165	A5
^6^98 –	°	166	A6
^6^99 –	ƒ	191	BF

Other characters that are available on the print wheel include:

Character	Dec	Hex Value
|	124	7C
à	128	8Ø
†	168	A8
™	169	A9
ª	17Ø	AA
º	171	AB
¼	172	AC
¾	173	AD
½	174	AE
¿	175	AF
é	187	BB
ù	188	BC
è	189	BD
§	192	CØ
¥	2Ø4	CC
Ä	219	DB
Ö	22Ø	DC
Ü	221	DD
¢	222	DE
ä	251	FB
ö	252	FC
ü	253	FD
ß	254	FE

To change from the defined characters to characters which you want, you will need to patch Scripsit. It is very important that if you patch Scripsit to make these changes, that you make them to a BACKUP copy first and make a record of what you patch! This will make future changes easier.

The ten characters which Scripsit will use are stored, beginning at location Hex BE49. On the diskette the ten locations come from the factory as:

5E6Ø7EA7BE9CA3A5A6BF

If you will compare this value with the Hex values for the ten characters, you will see that they match. The first two digits 5E represent the ^ , the next two represent the ~ , and so forth. To make a change, follow this procedure:

1. Write down the ten characters you want to use, in the order that you want them. Write them all down, even if you are only changing one value.

2. Use the two tables above to find the proper Hex values

3. Write the ten Hex values in the same order that you have your characters in.

4. Use the following patch:

```
PATCH SCRIPSIT A=BE49
  F=5E6Ø7EA7BE9CA3A5A6BF
  C=xxxxxxxxxxxxxxxxxxxx
```

Except that you use your ten pairs of Hex characters in place of the x's.

Here is an example — The Model II has been set to give the following overprint characters.

¢™®©¼½¾µº†

Looking at the tables, you will find that the Hex values are:

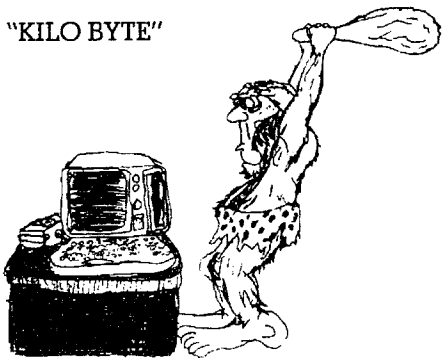
DE A9 AA AB AC AE AD A5 A6 A8

This means that the patch was:

```
PATCH SCRIPSIT A=BE49
  F=5E6Ø7EA7BE9CA3A5A6BF
  C=DEA9AAABACAEADA5A6A8
```

It is important that you record the values used for C, so that if you ever want to change the overstrike characters a second time, you can. In this case you would use the value of C (DEA9A AABACAEADA5A6A8) as the new value of F. (F stands for Find). This tells the computer what is at the memory address you specified (BE49). If it does not find the exact sequence of bytes you give it, the patch will not be made.

"KILO BYTE"



(cont. from page 2)

As far as printing goes we include the Tandy parallel printer interface in all Model IIIs (even Level I). This is an expensive extra with some popular micros as is the monitor, the keypad, lower case, etc. One of the printer con trol features of the Model III BASIC ROM is the ability to pre-set the maximum line length, then if a line exceeds this length during printing the Model III will automatically insert an end of line or carriage return so that the rest of the line will be output on a new print line. This helps if your paper is narrower than the printing width of your printer or if your printer doesn't handle over flows well (by losing data or acting abnormally). If you have programmed your own line printer operation with POKEs, be aware that the Model I was memory mapped to location 14312. Printer I/O for Model III is through port 251. Calls to the ROM LP driver are still the same however and, as we have said before although device I/O may change, if you use Tandy documented ROM routines you will be "O.K.!"

. . . if you use Tandy documented ROM routines you will be "O.K.".

Serial Communication

If you would like to work with serial communication to utilize a serial Printer or communicate with another computer as a terminal, the Model III allows you to easily develop driver programs by offering RAM addresses for setting Baud rates, word lengths and other characteristics that match the device you are communicating with (No dip switches!) ROM subroutines then allow control of character send and receive. Communications opens the door to some exciting things available to Model I/III owners. If you have an application that requires the use of the RS-232, you will appreciate the new RS-232 control firmware.

I/O Routing

Let's finish by talking about more I/O capability. It's called I/O routing which means that a device — keyboard, video, printer or serial interface, can be redirected to any other of these devices under program control. For example I/O routing could be used to route video output to a printer. Another example might be directing all printer output to the RS-232 channel. I/O routing will save you time in developing applications and continue to be one of the many examples you find in your use of the Model III that point to its added versatility.

Model I/III Bugs (from page 6)

Business Mailing List (269-1558)

New version 3.0 copies of this program should be available. These new versions include the ability to print two "up" (across) labels. The Model I version is 700-2211 and the Model III version is 700-2212. This new version is available to current owners of 269-1558

Advanced Statistical Analysis (269-1705)

In Time Series II, a "subscript out of range error" may occur.

To correct this, make the following changes:

DELETE line 1090

```
1060 GOSUB6000:JJ=0:FORJ=1TO8:JJ=JJ+1:IFZ(J)="0"
     N(K)=M+JJ-1:JL=J:GOSUB7000:JJ=0:K=K+1:
     IFMT=3M=M-JL
10090 E=0:KL=1:FORK=1TONT:E=E+1:IFZD(K)="0"THEN
     KL=KL+1: E=E-1:GOTO10100:ELSEIFZI="Y"LPRINT
     "ELEMENT #";E,"GROUP #"; KL,ZD(K)
10095 PRINT"ELEMENT #";E,
     "GROUP #";KL,ZD(K):GOSUB9900
```

Note that we added a large section in the middle of line 10090 and "chopped off" the end of line 10095.

Model II Bugs (from page 6)

TRSDOS 2.0 and 2.0a

The following sets of patches should be made to Model II TRSDOS 2.0 and 2.0a:

1. For some ranges of values, the "RAM Directory" Supervisor call (#53) has returned an erroneous value for the number of records in the file. This is caused by an invalid offset in one of the operands used in the calculation.

The following patch is for TRSDOS 2.0 and 2.0a only and will correct the code involved in the calculation. All three patches must be applied:

```
PATCH SYSTEM/SYS R=59 B=103 F=B52811 C=CD9926
PATCH SYSTEM/SYS R=59 B=120 F=CF5DEB C=CD9F26
PATCH SYSTEM/SYS R=60 B=154 F=E5E5E5E5E5E5E5E5E5E5E5
                            C=B5CA7A252BC9CF5D13EBC9
```

2. In some cases, when using the PATCH utility to modify a byte, an erroneous 'String not found — Abort' message would be returned, even when a LIST of the file would confirm the presence of the byte to be patched at the address specified. This was caused by an invalid compare when the target byte was at the beginning of a sector.

To observe the problem, attempt the following patch:

```
PATCH PATCH A=2989 F=7E C=7E
```

(The '7E' byte is the first byte in the second sector of PATCH.)

The following patch is for TRSDOS 2.0 and 2.0a only and will correct the sympton described above.

```
PATCH PATCH A=3263
      F=B79932A5323AA432321933CD
      C=9132A5323AA432321933B7C4
```

When a file uses the last (96th) directory entry, it is possible, in some cases, to be able to see the file listed in the directory, but any attempt to access the file by name will result in an invalid error 24: 'File Not Found'.

The following patch is for TRSDOS 2.0 and 2.0a only and will correct the sympton described above. Both patches must be applied:

```
PATCH SYSRES/SYS A=1682 F=5F C=60
PATCH SYSRES/SYS A=1699 F=03 C=00
```

Patches to Scripsit 269-4530

Two problems have been identified in Scripsit when you use horizontal format file.

The first is an error in storing tabs in both 1.0 and 1.0a. When a tab stop is set on certain columns, the cursor will disappear and the system will lock-up. This forces vou to RESET the computer. **This does not damage anything on the disk!** However, any text that had not been written to the disk is lost.

The second patch will correct problems in 1.0 only, in which text is lost during printout even though it looks fine on the video and/or Print prompts appear garbled.

To solve these problems, follow this procedure:

1) RESET your system and insert a Scripsit diskette.
2) Answer the DATE prompt.
3) Press the HOLD key
4) Answer the Time prompt (or press ENTER).
5) At TRSDOS Ready, carefully enter the following patches:

To correct the tab problem (1.0 and 1.0a)

```
PATCH SCRIPSIT  A=9C9E F=78C621 C=CD30DC
PATCH SCRIPSIT  A=9CB2 F=2802F680D621 C=CD40DC000000
PATCH SCRIPSIT  A=DC30 F=00000000000000000000000
    C=78FE5F3003C621C9C642C9
PATCH SCRIPSIT  A=DC40 F=00000000000000000000
    C=2805F680D642C9D621C9
```

To correct the loss of text problems (1.0 only)

```
PATCH SCRIPSIT  A=C968 F=CDCBC610FB  C=CD10DB0000
PATCH SCRIPSIT  A=DB10 F=-000000000000  C=F5783DFD862C
PATCH SCRIPSIT  A=DB16 F=0000000000000000
    C=322F90783DFD8637
PATCH SCRIPSIT  A=DB1E F=0000000000000000
    C=323A90F148C3CDC6
PATCH SCRIPSIT  A=C6D0 F=CDE1C6 C=C330DB
PATCH SCRIPSIT  A=DB30 F=000000000000 C=F5C5E52B2BBE
PATCH SCRIPSIT  A=DB38 F=00000000000000000000
    C=C24ADB2BBE23CA4ADB
PATCH SCRIPSIT  A=DB41 F=00000000000000000000
    C=237EB177E1C1C353DB
PATCH SCRIPSIT  A=DB4A F=00000000000000000000
    C=E1C1F1CDE4C6C3D3C6
PATCH SCRIPSIT  A=DB53 F=000000000000 C=FD352DC3ECC6
```

6) After making these patches, type STARTUP and press ENTER. Scripsit will load.
7) BACKUP the patched Scripsit disk!

Another problem which is occurring in both version 1.0 and 1.0a is that the printer is not pausing between pages. This happens particularly when merging documents. If you have already checked the print menu and made sure there is a Y for the question "PAUSE BETWEEN PAGES?" then insert the following patches:

Solution:

1. Reset the system at SWAP diskettes
2. Answer the Date Prompt
3. Press HOLD and press ENTER for the Time Prompt
4. Type in the following patches at TRSDOS Ready:

```
PATCH SCRIPSIT  A=C40F F=FD210390 C=390DB00
PATCH SCRIPSIT  A=D880 F=0000000000000000
    C=E521FFFF2242BDE1
PATCH SCRIPSIT  A=D888 F=00000000000000
    C=FD210390C3313C4
```

5. Type STARTUP and press ENTER
6. Scripsit is now patched and you can continue operation.