SERVICE CONTRACT INFORMATION

When you bought your TRS-80,™ a business reply card was included which you can use to get information about Radio Shack Service Contracts. In case you didn't send it in, here are a few things you might want to know.

First of all, your computer is Warranteed for 90 days from the time of delivery. The Warranty covers all parts and labor costs, as described in the Warranty Statement.

If you take out a one-year Service Contract by the 60th day of the warranty period, you will have uninterrupted service coverage for an additional year, starting at the end of the warranty period.

If you wish to take out a Service Contract after the warranty period has expired, then it will be necessary for you to bring in your entire system for an inspection, prior to the issuance of the Service Contract. There will be a service charge for this inspection — in addition to whatever charges might be incurred in placing your system in proper repair.

The annual cost of the Service Contract will be 15% of the regular retail price of the system. The entire system as purchased must be covered under the contract — selected components can not be covered separately. If you add Radio Shack components to the system, they can be added to the Contract at a charge pro-rated for the remainder of the year. We cannot offer a Contract on systems containing non-Radio Shack hardware. The annual fee for the contract must be paid in a single payment. Sorry, but we cannot accept "time-payments."

If you want to obtain further information pertaining to your specific case or if you would like us to send you a packet of information with application, phone us. If you are calling from outside Texas, use our toll-free WATS line — (800) 433-5502. If you are calling from within Texas, call (817) 390-3801. This number is not toll free. Ask for J. D. Hartmann. He is our Service Contract Administrator and will be glad to help you get the information you need.

If you would rather write, address your request to:

J. D. Hartmann
Service Contract Dept.
P.O. Box 17520
Fort Worth, TX 76102

NEW!

QUICK PRINTER II

Here's the lowest-priced, assembled and tested printer we know of! It's all new and it's designed and built by RADIO SHACK in Fort Worth, Texas. The Quick Printer II prints upper and lower case characters on 2⅜-inch wide aluminum-coated paper. The number of characters per line is software selectable to either 16 or 32. When your lines exceed the maximum length, the line will automatically "wrap around" so no output is lost to overflow. It is designed to interface directly with the Level II TRS-80 CPU (bus connector) but it will also connect to the printer port of your Expansion Interface. It may even be interfaced as a serial printer with RS-232 Interface. A built-in microprocessor controls the printer and communications with other units. This versatile printer can be used on a variety of computers. With compact dimensions (3¼x 6⅝x9⅜ inches), it will fit conveniently into any niche you have!

Quick Printer II, Cat. No. 26-1155 .... **$219.00**
Extra Paper for Quick Printer II.
Cat. No. 26-1412 .... ***Pkg. of 2 Rolls $3.95***

# TRSDOS™ 2.2 IS HERE WITH ENHANCEMENTS AND NEW FEATURES

Well, after a period of incubation in the minds of our systems software people, TRSDOS 2.2 has hatched. It will provide several new features and enhanced operations — ones that will provide improved service and performance. The new release will be available to you free if you have already purchased TRSDOS 2.1. What we want to do now is tell you a little about what changes you can expect to find.

First of all, in TRSDOS 2.1 we found that if a file written to disk happened to end on a sector boundary, errors would occur when you attempted to read it. This has been corrected. In addition, the disk I/O routines have been improved so that the probability of certain kinds of disk errors occurring is reduced. A keyboard debounce routine is included that will reduce the likelihood of printing extra characters.

The VERIFY command will now operate exactly as described in the manual — in fact, we recommend that you routinely use it. An enhanced FORMAT command may now be used to format any disk — not just blank or bulk erased disks. Of course, if you do try to re-format a disk containing information, FORMAT will tell you so and ask you to approve the re-formatting. (Bulk erasing is still recommended).

NEW SOFTWARE FROM RADIO SHACK
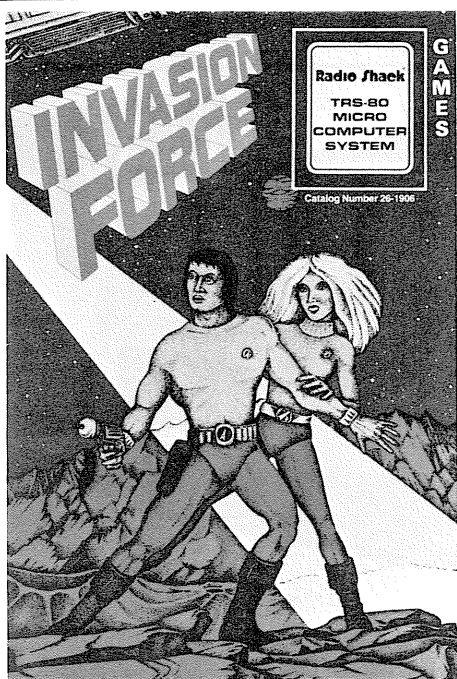
INVASION FORCE

### A New Real-Time Space Adventure That Puts You in Command of Your Own Starship

Take command of the USS Hephaestus and protect the galaxy against the hated and feared Jovians. The Command Control Display (TRS-80 screen) places all the ship's resources at your fingertips. Navigate through space using your hyper or ion engines. Use your long-range and short-range scanners to find the Jovian villians. When you do, attack with one of your four weapon systems — but you had better keep your deflector shields up to protect yourself against counter-attack!

You will have to manage your energy resources carefully so that you don't run out and get stranded in space. Keep an eye out for a space station where you can dock and replenish your supplies of energy and weapons.

This game requires split-second decisions on your part and all action is in real-time. While the clock on your screen is running, energy will be consumed and Jovian ships in your sector of space will change position.

Depending on which of 10 levels of difficulty you choose, the speed of the action will change. You'll have unending hours of fun playing this space-age adventure game. Requires 16K Level I or II.
Invasion Force,
Cat. No. 26-1906 .... *$14.95*
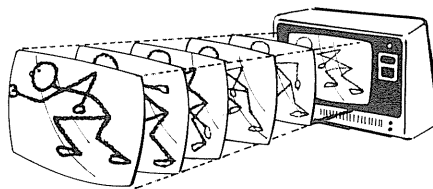
MicroMovie

Yes, that's right! You can now turn your TRS-80 into a sketch pad! And you can really bring your pictures to life by making animated movies like the professionals do.

MicroMovie brings all the graphics tools you'll need right to your fingertips. You can produce a series of frames and display them on the video screen in sequence to get animated motion (within the limits of standard TRS-80 graphics). And you don't have to redraw the whole picture at each frame — only the parts that move. If you are drawing cartoon characters, you can even include captions in the picture to produce "conversation." What's more, you can display the frames in any of 26 speeds ranging from 28 to 2½ frames per second.

But you don't have to limit yourself to everyday pictures. Abstract designs and patterns which grow and change in interesting ways can also be made.

It's up to you and your imagination! Your Radio Shack store has MicroMovie in stock now. Get yours today. Level I or II, 16K RAM required.
MicroMovie, Cat. No. 26-1903 ..... *$9.95*

MicroMarquee
Your Electronic Bulletin Board

MicroMarquee will help you get the message across! Simply type in up to 255 characters of any message you want displayed. MicroMarquee will display the message in one-inch high characters, 13 characters to the line. The message will scroll vertically until it is completely displayed — and will repeat continuously until you stop it! Level I or II, 4K RAM required.
*MicroMarquee, Cat. No. 26-1904* .. *$4.95*

Level II BASIC Course Part II

This software package is an extension of the Level II BASIC Course — Part I. It contains eight lessons on four cassettes that introduce you to more advanced BASIC programming concepts like variable types, arrays, input/output, advanced string functions and the use of machine language subroutines in BASIC programs.

These are concepts that every advanced programmer (and those aspiring to be advanced) should have under his belt! Requires Level II and 16K.
Level II BASIC Course — Part II,
Cat. No. 26-2006 .... *$19.95*
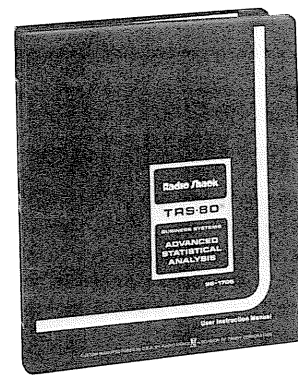
Advanced Statistical Analysis
New Software for the Data Analyst

ASA is a comprehensive statistical analysis package designed for use in business, the social sciences, medicine, engineering and other fields in which statistical analyses and decisions are made.

It contains programs to perform some of the most widely-used statistical techniques such as analysis of variance, correlation and multiple regression, matched-pair T-test, time series analyses, and Chi-square analysis.

It can also generate random samples and descriptive statistics. Under command control, you may produce histograms, bivariate scatter plots in regression, and graphs of time series data.

Data input to ASA may be from the keyboard, cassette or disk. The software needed to format your data for input from cassette or disk is included. The ASA manual gives complete information about each program, including a general description, features, limitations, step-by-step instructions and a sample run to illustrate the commands and show typical program output. For the analyst requiring more detailed information, program listings are also included.

ASA can be productively used in both research and academic environments. The sophisticated hobbyist could use ASA for seasonal analyses of utility bills or a regression analysis of a favorite stock.

Visit your local Radio Shack store soon and get more details on this powerful new computing tool. Level II, 16K RAM required.

Advanced Statistical Analysis,
Cat. No. 26-1705 .... *$39.95*

MORE SOFTWARE ON PAGE 4

SALE!

$200 OFF TRS-80™ SCREEN PRINTER

Reg. $599
NOW
$399⁰⁰

If you've been needing an economical way to get printed copy of programs and data, your wait is over! Our fast Screen Printer is now on sale! This printer will produce a copy of whatever is on your video screen — including graphics — in only 2 seconds. It will operate on a Level I or Level II system with or without Expansion Interface and uses a special aluminized paper which will not fade and is not affected by heat or light. If you are operating with Expansion Interface and a buffered cable, arrange for your local store to order a special buffered cable (Number AW-2340) from our National Parts Department. It's free when you turn in your old buffered cable.

Screen Printer, Cat. No. 26-1151 .... *Sale $399.00*
Aluminized Paper, Item No. ACP-0001 .... *Pkg. of 3 rolls/$14.95*

$300 OFF FRICTION FEED LINE PRINTER

IN JUNE ONLY

Reg. $1299
NOW
$999⁰⁰

Perfect for business, education or home use! It's a medium-speed 5x7 dot matrix impact line printer that uses roll or fanfold paper, producing one or two carbon copies. Print density is continuously variable from 10 to 16.5 characters per inch. Prints 132 characters per line maximum at 21 lines per minute. Long-lasting continuous-loop cloth ribbon. A roll-paper holder is included. Requires Level II or Disk BASIC and either the Printer Interface Cable or Expansion Interface. U.L. listed.

Friction-Feed Line Printer, Cat. No. 26-1150 .... *Sale 999.00*

$260 OFF TRACTOR-FEED LINE PRINTER

Reg. $1559
NOW
$1299⁰⁰
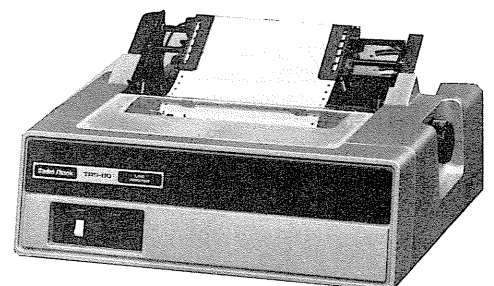
The Tractor-Feed Line Printer has the same features as the Friction-Feed Printer above but it should be used when exact placement of type is required on pre-printed invoices, payroll checks, etc. Uses fanfold paper with feed holes in margins and can make up to 5 carbons. U.L. listed.

Tractor-Feed Line Printer, Cat. No. 26-1152 .... *Sale 1299.00*

TRS-80™
Space-Saver Desk

Put that old utility table back in the garage. This space-saver desk was designed especially to hold your complete TRS-80 system.

The 2½-inch high tier is perfect for bringing the video screen closer to eye level, and "hiding" the interconnecting wiring.

In addition, the table (37½x29½x23½") will fit conveniently almost anywhere. It'll hold a basic TRS-80 system up to a two-disk system with our Quick Printer.

Space-Saver Desk,
Cat. No. 26-1304 .... only $49.95
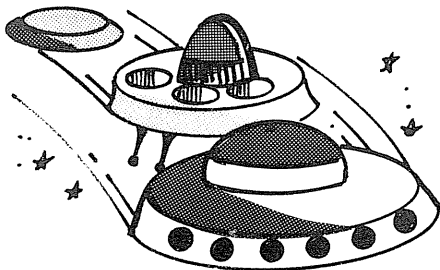
FLYING SAUCERS
A Shoot 'em Up
Game for the Whole Family

Join in the fun!! Get your own Real-Time space-age shooting gallery. Your targets are three types of flying saucers and spy satellites with different point values. Your weapon is a missile launcher that can be aimed and fired at will. But you have got to use your missiles carefully because you'll lose points when you fire a missile or let a target get away. This game is for everyone in the family. Get yours soon! Works in Level I or Level II 4K.

Flying Saucers,
Cat. No. 26-1905 .... $9.95

New Computer Owners

A new booklet called "Information Guide for New Computer Owners" is now being shipped with all TRS-80s. (Extra copies are available at most stores.)

The booklet contains some valuable tips concerning the operation of your TRS-80 — things you might not consider when you set up your system. Physical location, operating environment, handling and storage of cassettes and diskettes, troubleshooting and warranty information is just part of what's included.

Review it carefully — you should not treat your computer as casually as you may treat your hi-fi.

Or, to dig up the old saw, "If you take care of your computer, your computer will take care of you."

— ATTENTION INVENTORY CONTROL USERS —

If you have a copy of our "ICS I" program, you will certainly want to use it under the new improved TRSDOS 2.2. To do this, you must contact your local Radio Shack store and arrange to get an updated version of the ICS I Program Disk, (no charge).

Some of the programming techniques used in the original package include PEEKS and POKES into locations which have changed in the TRSDOS 2.2 Operating System. (For your information, none of our other business applications programs are affected by the changes in TRSDOS 2.2.)

We have also found a very obscure "bug" in ICS I, which could affect proper printout of an inventory item. This will also be corrected in the updated version.

Call your local store, and tell them you wish to exchange your current disk for a revised copy of ICS I, Revision #1.1.

Level I-Level II Compatibility

Please remember that Level I and Level II BASIC are not exactly the same in every respect. If you have converted Level I programs to Level II and they no longer work correctly you probably overlooked a necessary change. "PRINT AT" in Level I would be "PRINT @" in Level II. Also, whereas you can use arrays in Level I freely, in Level II any array having any dimension exceeding 10 must appear in a DIM statement.
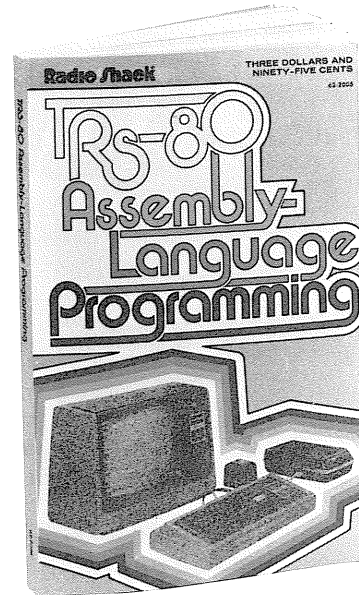
Introduce Yourself to
Assembly Language on
The TRS-80

Here is a new book from Radio Shack that will take some of the mystery out of the Z-80 microprocessor's machine language and introduce you to assembly language programming on the TRS-80.

"TRS-80 Assembly Language Programming" was written by William Barden, Jr. and despite the subject's technical nature, he has written this book in an informal, conversational style that is especially readable. Barden is not above a joke or pun now and then, either.

Among the topics covered are the instruction set of the Z-80, its different addressing modes, movement of data within memory, arithmetic and compare operations, logical operations including shifting and bit-wise operations, and, of course, assembly language programming.

Barden shows he is fully aware of his audience by asking questions at the right moment and answering them immediately.

One of the biggest mysteries of computing — to novices and experienced assembly language programmers alike — is the functioning of input and output operations. Only mad dogs and developers of system software seem to live comfortably with I/O concepts because of their dependence on specific hardware features and configurations. The chapter on I/O operations will go a long way toward removing some of the mystery for you. It does not talk in vague generalities but gives specific details about the TRS-80 keyboard, graphics display and cassette operation.

"TRS-80 Assembly Language Programming," Cat. No. 62-2006.......... $3.95

"OPERATIONS & PROGRAMMING TIPS"

The PRINT USING Statement

This article supplements the discussion of the **PRINT USING** statement which is contained on pages 3/3 through 3/6 of the Level II BASIC manual. The following point is not clear to some users. The string variable used to format your output in the PRINT USING statement is always printed *exactly* as you type it. For example,

```
   10 F$ = "SUM"
   20 A = 400.6 : B = 220.0
   30 S$ = "THE % % OF ###.# AND
###.# IS ###.#"
   40 PRINT USING S$; F$, A, B, A + B
```

would result in the printing of
THE SUM OF 400.6 AND 220.0 IS 620.6

Notice that for any format codes that appear in the string variable (S$), BASIC will go to the variables in the output list (in this case F$, A, B, and A + B) to get the information needed to fill the field.

As another example, suppose you want to list the names and phone numbers of the members of your TRS-80 users group in tabular form and you wish to have the headings "NAME" and "PHONE" at the top of your list. There are two ways you might consider printing the heading. The straightforward approach would be

```
10 X$ = "* NAME * * * * PHONE *"
20 B$ = "%                      %"
30 PRINT USING B$; X$
```

Alternatively you could do the following

```
10 PRINT USING "* NAME * * * *
PHONE *!"; " "
```

Notice two things about the second **PRINT USING** statement, namely the "!" at the end of the string literal and the empty string after the semicolon. Since **PRINT USING** requires that you have at least one format code present and one element in the output list, we chose to include the "!" and empty string since they wouldn't take much space. The advantage of this second print using as compared to the previous one is that it saves 12 bytes of memory because it does not use two variable names.

Remember, **PRINT USING** will print whatever is contained in your formatting string variable (e. g. S$ above) and look to the literals or variables in your output list to satisfy the format codes.

Variable Names in Level II Basic

In Level II BASIC there are four types of variables: 1. integer, 2. single precision floating point, 3. double precision floating point and 4. string variables. Any variable name in Level II may be identified as being one of these by adding on a "declaration character" to the name. These are

Variable Type	Declaration Character
Integer	%
Single Precision	!
Double Precision	#
String	$

If you dimension an array e. g. **10 DIM A#(5, 30),** then you must use "A#" in your program each time you mean to use this matrix. If you use "A" alone, it will refer to a different single precision variable. On the other hand, if you define variables e. g. **10 DEFDBL A-C,** then all variables beginning with A, B, B7, and CA will be double precision "automatically" and the "#" declaration character will not be needed. The same idea is true of the other variable types. Remember, too, that P$, P#, P!, and P% are all different variables.

Double Your Pleasure

Double Precision — Note #1

Some of you may have noticed that the following can happen in double precision operations.

```
   10 A# = 12.34
   20 PRINT A#
   RUN
      12.34000015258789
```

The reason this happens is that the constant 12.34 in line 10 is single precision before it is stored in A#. It happens that 12.34 (and a lot of other numbers) need the full 8 bytes of double precision in order to be represented "exactly" in memory. To avoid this problem append the double precision exponent on to any constant you mean to be double precision. For example,

```
   10 A# = 12.34D
   20 PRINT A#
   RUN
      12.34
```

Double Precision — Note #2

The arithmetic functions which are part of the basic ROM are all single precision. If you are doing double precision computations and use these functions, the effect will be that you will lose these extra digits of precision. One solution is to purchase the double precision subroutine package described in the May newsletter. If you have some experience with mathematical power series you could write the expansion of the function(s) you need.
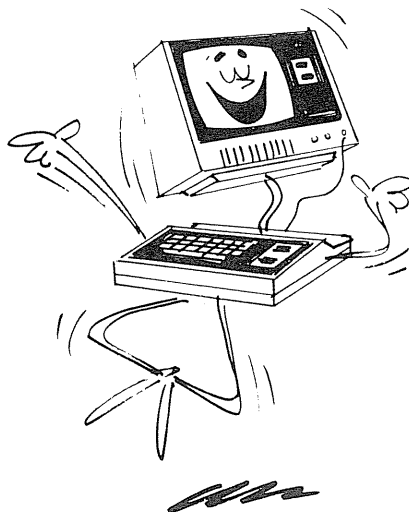
Character Size, Line Length and PRINT@ in Level II

As you know, a Level II system allows you to print 64 or 32 characters per line. You can change to 32 characters per line (32 c/l) from the normal 64 c/l by depressing the shift key and typing the right-pointing arrow. You can accomplish the same thing under program control by executing PRINT CHR$(23). You may return to 64 characters per line by pressing the clear button or executing CLS.

There are 1024 print positions on the screen, numbered from 0 in the upper left-hand corner to 1023 in the lower right-hand corner. You may print in any of these positions using the PRINT@ in 64 c/l mode. But when you change to 32 c/l mode, the number of print positions is reduced to half and the identification of the screen positions changes slightly.

Since each character takes up two of those smaller 1024 positions, you must identify the print positions by using the even-numbered of the two positions in the PRINT@ statement.

The even-numbered position identifies itself and the next higher odd-numbered positions. For example, PRINT@ 1022, "*" prints in position 1022 and 1023 in the 32 c/l mode. If you use an odd-numbered position as the location in the PRINT@ statement, nothing will be printed.

TRS-80 CLASSROOM

Use of the ON ERROR and RESUME Statements

Let's face it! There's not a programmer among us who doesn't have to go through a debugging procedure to clean up syntax and logic errors from time to time.

Even after we have a "clean" program, other run-time errors can happen — errors that bring the program to a full stop because the error sends control back to the keyboard.

Well, take heart, because the ON ERROR and RESUME statements are just what you need to keep control in your program when these errors occur.

Appendix B of your Level II BASIC Manual lists all the errors that are brought under your control. The use of these statements is quite simple, so we'll explain them briefly here.

An example of the complete form of the ON ERROR statement is

100 ON ERROR GOTO 450

You may execute this statement at any point in your program. If, at any time after this statement is executed, one of the 23 errors listed in Appendix B occurs, a branch to line number 450 in your program

will occur. Of course, what happens at line 450 is entirely up to you. You might go through some sort of recovery procedure or print a message to the program user.

In any case, the last statement of your recovery procedure will be to return to the "working" part of your program — and that is where the RESUME statement comes in. Every execution of an ON ERROR branch should be balanced by the execution of a RESUME statement. (Just as every execution of a GOSUB must be balanced by the execution of a RETURN.) If you choose to, you can return from the ON ERROR branch with a GOTO statement, but that will "turn off" the error control and the program will "bomb" on the next error.

For example, if you execute 510 RESUME 120, execution will continue with line number 120. You could say 510 RESUME NEXT and the program will continue with the line immediately following the one in which the error occurred. If the line number following the RESUME is left out, then the program will continue executing with the statement at which the error occurred. Simplicity itself!

One last thing. You may want to change the line number you branch to when an error occurs. For example — you are expecting a different kind of error and want to use a different recovery procedure. In that case, simply execute another ON ERROR statement at the point in your program at which you want the new branch point to be in operation. If you execute

300 ON ERROR GOTO 690

and an error occurs, you will branch to 690 instead of 450.

Here are a couple of applications. You might want to write a program which is written to use disk file but will automatically switch to cassette if a disk is not available. You could precede your disk I/O subroutine with

1000 ON ERROR GOTO 2000

When you attempt to open a disk file and no disk is present, a branch will occur to 2000 where a cassette I/O routine is located.

You can also selectively trap errors if the line you branch to in the ON ERROR routine has an IF . . . THEN statement executed first and checks the value of ERR.

Use of the BASIC Commands in BASIC Programs

Use of BASIC Commands in BASIC Programs

Those of you who learned BASIC on larger computer systems may think of BASIC commands (like RUN and LIST) and BASIC statements (like GOTO and A = B + C) as different. On many systems, only BASIC statements may be used in BASIC programs, while commands may only be used in command mode, i.e., by keyboard entry.

This is not true of TRS-80 Level I and Level II BASIC. Any command in your manual may be used as an executable program statement and will function exactly as it would in command mode. Let's take a simple example. When the following program executes

```
20 K$ = "THE SUM OF THE
   INTEGERS IS"
25 INPUT "SUM WHICH
   INTEGERS?", N
30 FOR I = 1 TO N:A = A + I:NEXT
35 PRINT K$, A
40 K$ = "----------"
```

```
45 PRINT K$
50 GOTO 25
```

The sum of integers from 1 to N is printed. For N = 5, the output would appear as follows:

THE SUM OF THE INTEGERS IS 15

After statement 50 is executed, a new value of N is input. But now K$ is no longer the correct label and A is not initialized to zero. Consequently the label and sum printed by line 35 will not be correct after the first run.

If the GOTO on line 50 were replaced by a RUN command, all string variables will be cleared to null, arithmetic variables will be initialized to zero and the program will begin executing at the first statement in the program. The variable A will then correctly begin summing from zero and the correct sum would be printed with the correct label.

If line 50 were replaced by the NEW command, the last operation the program would perform would be to wipe itself out of memory and initialize variables.

Note: Remember that BASIC commands always return to command mode after completing execution (the RUN command is an exception). When a command returns to command mode, the word READY is printed on the video screen followed by the prompt character ">". For example, in the program

```
10 PRINT "BEGINNING"
20 LIST
30 PRINT "LINE TWO"
```

When you run the program, BEGINNING will be printed and line 20 will list the entire program. But line 30 will never be executed because LIST returns the system to command mode.
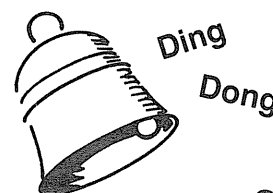
*Ding
Dong*

School's Out!

Verify Your Cassette Loads and Saves

Cassette Input/Output
Use of the CLOAD? Command

Frequently it is desirable to verify the correct completion of the input or output operation. The CLOAD? command is used for that purpose.

After you have completed the input operation using the CLOAD command or the output operation using the CSAVE command, re-position the cassette to the beginning of the file. Then type CLOAD?. This command will read the tape and compare it, byte by byte, with the contents of memory.

If any mismatches occur, the message BAD will be displayed.

CLOAD? will always verify the next file on the tape. If the file has a specific name (for example, "TACO"), then the command
CLOAD? "TACO"
will verify that specific file.

If you attempt to verify a CSAVE using a blank tape (because the aux plug was pulled out during the write operation) the computer will hang up in the CLOAD? mode.

You can exit from the hangup by inserting any known good cassette and letting the CLOAD? find a BAD tape. Or, if you are operating without Expansion Interface, you can simply press the RESET button. You can then repeat the CSAVE operation.

Note: If you are operating a two-cassette system, CLOAD? must be used with cassette #1.

Put a Little Fun In Your Life

PATTERN FUN

Here is a program that is just for fun. Follow the instructions in the REMARKS statements and have fun discovering some interesting patterns.

```
10 REM 1. RUN THE PROGRAM
20 REM 2. PRESS ANY COMBINATION
   OF KEYS
30 REM 3. THIS WILL START A
   PATTERN
40 REM 4. PRESS ANY OTHER KEYS
   TO CHANGE THE PATTERN.
50 POKE 16396,23:CLS
60 FOR N = 14336TO15360
70 PRINT (CHR$(PEEK(N)));" ";
80 NEXT N: GO TO 30
```

Paper Feed and Printer Operation

Some calls have come to us concerning the fact that printers may print some lines that are longer or shorter than others.

This will happen on TRS-80 printers if the paper is not feeding smoothly. If the printer has to exert too much force to "pull" the paper into use, irregular printing can occur. Check this before seeking repairs.

Memory Management — Level II Systems

If you want to precisely determine the memory space required by your program, we want to call your attention to Appendix A, page 16 (page A/16) in your Level II BASIC manual. This page tells you the amount of overhead required for the different types of variables, for program line numbers and other BASIC statements and features. For example, each active **FOR-NEXT** loop requires 16 bytes, and each active **GOSUB** requires 6 bytes.
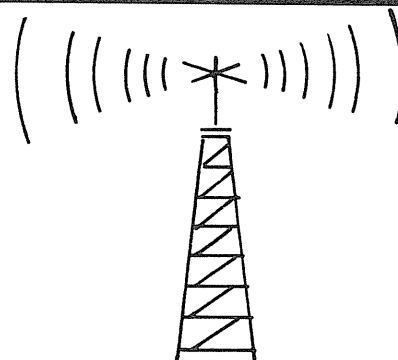
TRS-80/Amateur Radio Nets

"TRS-80 is on the air!" — That's not an announcer's voice, but you *can* listen in on several groups of "Ham" operators who meet regularly on the air to discuss computer-related topics.

Many of the Hams have their radios and computers tied together, which enables them to transmit International Morse Code and radioteletype via TRS-80 keyboards and screens.

The groups have members in most of the states, as well as Mexico and Canada. Here are the Net times and frequencies:

West Coast TRS-80 Phone Net
  Sunday 1900Z 14342.5 kHz
  WA6YKH, Net Control

East Coast TRS-80 Phone Net
  Sunday 2200Z 14342.5 kHz
  WD8SAS, Net Control

CW Net
  Daily 0200Z 14060 kHz
  VE6AMW, Net Control

RTTY Net
  Daily 0300Z 14075 kHz
  60 WPM 180 Shift
  WB6VGO, Net Control

The Z (Zulu) in the listing stands for Universal (Greenwich) time. Thanks to William R. Hickok, WD8SAS for the info.

DOS (Continued from Page 1)

A new command in TRSDOS 2.2 (APPEND) allows you to append one existing file to the end of another file. There will also be two versions of BASIC on the diskette named BASIC (which will require 400 additional bytes) and BASICR (which will require 780 additional bytes). BASICR has the capability of renumbering the lines of a program using the command, NAME. The larger memory requirement of BASICR may prevent the execution of some of our software packages. They will have to be run under BASIC.

Under TRSDOS 2.1, if you left the BASIC system to do something under DOS, the program you left behind was permanently lost. With TRSDOS 2.2 you will be able to return to BASIC (or BASICR) with programs intact. You can do this by typing "BASIC   " or "BASICR *" instead of just BASIC. Of course, whatever operations you perform while in DOS must not change memory in any way and you must return to the same version of BASIC that you left. You can also return after pressing reset or in the event of a system reboot.

Besides the renumbering command in BASICR, BASICR will also permit you to pass a DOS command as an argument when you exit BASIC and return to DOS. One example of the new command is

CMD "I", DIR

It's like CMD"S" except that DIR will be executed "automatically" when you get to DOS. At the present time the DOS command itself may not have parameters; i.e., you can't say

CMD"I", DIR:1

All these and other enhancements will be described in greater detail in the DOS manual update pages that will accompany the diskette containing the new system. Copies of 2.2 will go to the stores for distribution to their 2.1 customers.

THE NEW TRS-80™ MODEL II ANNOUNCED AT NATIONAL COMPUTER CONFERENCE
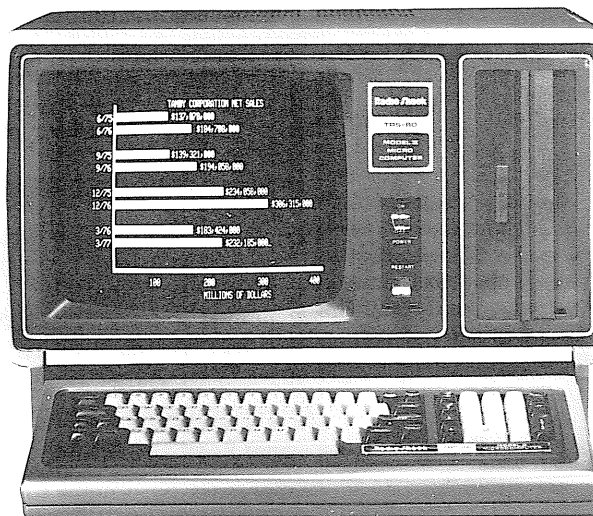
MODEL II

The biggest name in little computers is getting bigger. The announcement of the TRS-80 Model II at the NCC conference earlier this month marks the beginning of a new era of computing equipment that is available from RADIO SHACK. In moving up to this new plateau, RADIO SHACK has retained the most distinctive features of the TRS-80 Model I, namely its flexibility and expandability. But the Model II is definitely not just a bigger Model I. In operating at twice the speed of the Model I and with a larger amount of RAM memory, the increase in power which you can bring to your computing tasks is considerable. An 8-inch floppy disk is included in every system and offers an additional half-million bytes of storage. With the number of disks expandable up to four, large database applications will easily fall within your reach. The primary language of the system is an enhanced Level III BASIC and all languages and systems are loaded from disk directly to RAM memory.

Of course, applications software packages will be available from RADIO SHACK. Initial applications are likely to be General Ledger, Inventory Control, Payroll, Accounts Receivable and Mailing List. But we want to assure you that the introduction of the Model II will not affect continuing sales of and full support for TRS-80 Model I.

We will start taking the first orders on the Model II this month but shipping will not begin until at least late July. Delivery delays are expected to run three to four months.

32K 1-Disk Model II, Cat. No. 26-4001 . . . . **$3450.00**
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