

July 1979

\$1.50

SoftSide™

"your BASIC software magazine"

ALL STAR BASEBALL



NEW REDUCED PRICE!

BEYOND TRS-80

When **MICROSOFT** put Level 11 BASIC on TRS-80, you got a glimpse of its full potential.

Now Microsoft introduces:

TRS-80 FORTRAN

and TRS-80 will never be the same!

Plus

TRS-80 FORTRAN includes the finest Z-80 development software available:

**Z-80 Macro Assembler
Versatile Text Editor
Linking Loader
TOTAL PRICE: ~~\$275.00~~**



TRS-80 FORTRAN is supplied on two minidiskettes and requires a 32K system with one disk drive.

Order from

TSE TRS-80 Software Exchange

17 BRIAR CLIFF DRIVE MILFORD, NEW HAMPSHIRE 03068

Telephone (603) 673-5144



SoftSide™

JULY 1979

“ your BASIC software magazine ”

All Star Baseball David Bohlke	10
Yahtzee Al Lowe	25
Tank James Garon	40
Spelling Bee James Garon	52
Collision David Bohlke	64
Take A Part	67
Excerpt: A Page from The BASIC Handbook David A. Lien	9
Programming Hints	22, 68
TSE Market Basket Catalog TRS-80 Software Exchange	74

Publisher
Roger W. Robitaille, Sr.

Editor
George Blank

Advertising/Business Manager
Elizabeth Robitaille

Software Editor
Paul F. Johnson

Programmers
Philip Brown
Mark Ohlund, Asst.

Design/Production
Lee Hansen

Art/Production Coordinator
Sharon Demmerle

Layout/Composition
Alice Scofield
Ellie Mae Erion
Janice Miller

Customer Service
Bette Keenan

Subscriptions
Diana Bishop, Mgr.

Mailing Department
Bea Kimball, Coordinator
Lester Anderson, Courier
David K. Robitaille, Asst.

Correspondence Secretary
Freida Day

Clerical Assistants
Jeanne Stroncer
Karen Fissette
Brenda Cookinham

Accounting
Rita Ellis

Photography
Bob Farrow

Printing
Memorial Press Group

SoftSide magazine is continually seeking original articles and software for publication. Imagination and variety in concept and content are the rules at SoftSide — not the exceptions. Articles are purchased on a per-page basis, based on content and applicability. Our policies with respect to software purchase are highly individualized, and offer the programmer several options, including one-time publication rights, outright purchase, and royalties on sale of pre-recorded cassettes. For more information, please write: SoftSide, PO Box 68, Milford, NH 03055.

For uniformity, we have adopted the Radio Shack TRS-80 Level II BASIC as the BASIC dialect used within the pages of this magazine. It was chosen because it stands to become the most commonly used dialect among microcomputer users and because it shares a common heritage with the many microcomputer languages produced by Microsoft.

SoftSide is published monthly by SoftSide Publications, 17 Briar Cliff Dr. Milford, NH 03055 Telephone: 603-673-5144. Subscription rates: USA bulk rate — \$15 per year. USA first class, APO, FPO, Canada, Mexico, overseas surface mail - \$22 per year. Overseas airmail - \$27 per year. All remittances must be in U.S. funds. Mail subscription inquiries to: SoftSide Subscriptions, PO Box 68, Milford, NH 03055. Entire contents copyright 1979 © SoftSide Publications. All Rights Reserved.

Outgoing Mail

As I write this, the World Power Systems fraud has just been discovered. An escaped convict named Norman Henry Hunt bought multi page advertisements in Creative Computing, Kilobaud, and other hobby magazines offering a variety of nonexistent products for sale. This was not the first fraud for Hunt, who swindled the public and the same magazines in 1977 with a company called Data-Synch. This time, the scheme collapsed because Creative Computing employees noticed that the I/O board advertised was missing a lot of etched circuits, and editor John Craig called to set up a meeting with World Power. Since Hunt knew Craig from his previous scheme, he knew his time was up, and skipped town. The two scandals have cost hobbyists many thousands of dollars.

When you are spending hundreds of dollars, it pays to investigate the supplier carefully. A number of suspicious elements were present in the World Power ads. First of all, the ads portrayed the operation as essentially the work of one hobbyist, who invented the interfaces, wrote the manuals and the software, and tested the equipment. With fifteen new products advertised in Creative Computing, there's no one alive capable of all that. Even Tandy Corporation, with thousands of employees, could not launch so many high technology products at once and do a good job (as those of us still awaiting a good Disk Operating System from Radio Shack know full well).

A second suspicious element was the cost of the advertisements themselves. Those ads cost \$1500 a page. In Byte, Creative Computing, and Kilobaud alone, that was about \$15,000 worth. With only 150,000 TRS-80 owners out there, and non-Radio Shack equipment appealing to only a few of them, World Power Systems couldn't have made money if the products were genuine, especially since most people would wait to see if the ads were repeated. Then there was the offer of the inventor to talk to anyone, 24 hours a day. Even if one person could invent all those products, he certainly wouldn't have time to speak with every purchaser and prospect on the telephone and still get any work done.

It wasn't only hobbyists who lost money on the deal. Distributors like California Digital made advance payments for equipment. The magazine advertisements were billed, not paid in advance. And thousands of dollars worth of computer equipment was ordered in the firm name on trade credit, which Hunt intended to sell when he skipped out. Thanks to John

Craig, he was in such a hurry to leave that he left over \$100,000 worth behind.

Even if we manage to avoid the outright frauds, we can have bad experiences with reputable firms. Some of the best known computer suppliers have gone under financially, firms like The Digital Group, Polymorphic, Imsai, TDL, and Sphere. Even with a healthy firm, there can be bad experiences. I am typing this editorial on a Micro-Computer Devices Selectra-Print typewriter. When it first came to me, it didn't work. After \$30 in long distance phone calls, and two service calls from IBM, during one of which the IBM repairmen talked on the phone to the company engineer, I sent the interface back by UPS at a cost of \$10. One month later, it was returned COD by UPS, for another \$10. It cost me \$50, two full days work, plus a month of waiting to get a **brand new** printer working. It works fine now, and I'm happy with it, but I know that I can expect to spend a fortune if it ever needs service.

With software, there are similar problems. Some of it is poorly done, and even when something is well done, it may be completely unsuited for our applications. For example, I still haven't found a word processing program that meets my standards. The Electric Pencil comes close, but I need to be able to work with lower case letters, and I don't want to modify my computer. Others provide for the handling of lower case, but are too slow in operation.

What's the answer? Both hardware and software problems have the same answer — reviews. A good review should tell you what a product has to offer, what's wrong with it, and what it doesn't do. But even there remember: not everyone has the same taste, and what one person loves, another loathes.

Since I recommend reviews, I would like to close this month by describing briefly a few of my favorite programs in the TRS-80 Software Exchange. In so doing, I realize that I will be slighting some good programs, but I won't be touting any that I personally do not consider a lot of fun.

(Continued next page)



Single Player Games

My favorites are **Taipan** and **Space Battle**. **Taipan** is a historical simulation of gun running and opium smuggling in the China Sea in the 1860's, with pirates, loan sharks, storms, robbers and other hazards. If you survive the hazards, you win by building your shipping profits until you have a million dollars.

Space Battle is the best of the Star Trek type games that I have yet found. In addition to challenging battle routines, decent graphics, and animation, there's also an economic element: you're a mercenary, and you must pay for the ammunition and energy you use, as well as funeral costs for any of your crew who are killed!

Two Player Games

I really enjoy **Entrapment**, which we published in SoftSide last month. It's short enough that it doesn't take long to type in, looks simple, but is lots of fun. I also have fun with Dave Bohlke's **Baseball**. With options for pitching, batting, and an animated fielding routine, it is very nicely done. **End Zone**, by our publisher Roger Robitaille, is another good sports simulation.

Children's Games

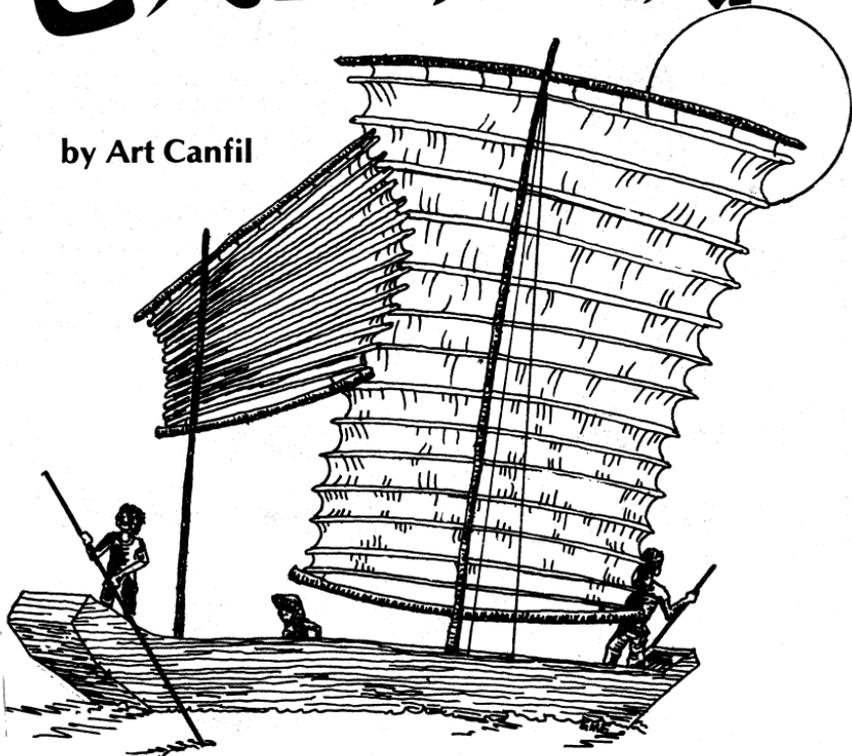
School age children love Leo Christopherson's games: **Android Nim**, **Snake Eggs**, and **Life Two**. I use them all the time to entertain the young people of the church.

My own children play **Nine Games for Preschoolers** several times a week (it's the most requested item among the hundreds of games I have on file), and Billy, age 6, and Robbie, age 5, even bring in their friends to play. Needless to say, there are many more fine games that would be mentioned here if space allowed. Monthly software reviews will be an ongoing feature in SoftSide in the months to come as we process your responses to last month's reader poll. If you have tried any good (or bad) software lately, let us know how you feel, and watch for the results in the months ahead.

GWB

七工戸人

by Art Canfil



A Single-player Game Based on the China Trade of the 1800's

Ply arms and opium in exotic oriental ports, dodging pirates, cutthroats, usurious moneylenders and tropical storms. Should you arm your ship to stand and fight, or keep it light to run swiftly? Will the price of opium still be high in Hong Kong when you return laden with the stuff from Batavia? **Warning:** If you get a polite message from Brother Wu, the moneylender or Li Yuen, the pirate, you'd better pay attention! If you outwit your enemies, you win by piling up a million dollars in profits.

Level II, 16K — \$9.95

TSE TRS-80 Software Exchange
17 BRIAR CLIFF DRIVE MILFORD, NEW HAMPSHIRE 03055

HUNG UP?



Call Softside's
TRS-80 HOTLINE

603-673-5144

Tuesday evenings 7 to 9:30 P.M.
(Eastern time)

SoftSide™ BINDERS

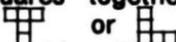
High quality walnut wood-grain vinyl. Two inch capacity to hold twelve issues comfortably; rod holders won't deface magazines. Clear vinyl pocket inside front for index. Use TSE order form, page 69.

Only \$4.95 each

TSE TRS-80 Software Exchange
17 BRIAR CLIFF DRIVE MILFORD NEW HAMPSHIRE 03055



A Topologic Puzzle, With Sound Effects!
by Solomon W. Golomb

While dominoes are made by joining two squares together, pentominoes are made by joining five squares, i.e.: 

There are twelve, each named after the letter it resembles. To win you must fit them together to form a larger, 60-square shape, such as a 6 x 10 rectangle — something like a jigsaw puzzle. Unlike jigsaw pieces, however, pentominoes can be flipped over as well as rotated. When you see that you have fallen into error you may remove pieces at will and try them elsewhere. Sounds easy? Sure it is — up until the last couple of pieces! An endless fascination for the dedicated puzzler. Top-notch graphics and sound effects.

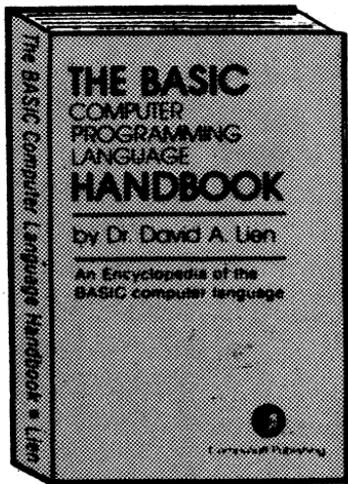
Level II, 16K — \$9.95

TSE TRS-80 Software Exchange

17 BRIAR CLIFF DRIVE MILFORD NEW HAMPSHIRE 03055

Want To REALLY UNDERSTAND The BASIC Language?

From the author of the highly acclaimed TRS-80 Users/Learners Manual comes the handbook you've been asking for! The BASIC HANDBOOK is THE definitive reference and idea book, explaining over 50 favorite versions of the BASIC language in detail as used in micros, minis and mainframes.



(360 Pages Soft Cover)

\$14.95 plus \$1.00 shipping

Not a dictionary — not a textbook, but a virtual encyclopedia of the BASIC language. Everything you need to know about the most important BASIC statements, functions, operators and commands, explained in a manner that lets you put them to work right away.

- If an alternate method to write a program using other BASIC words exists, THE HANDBOOK shows you how.
- If there's a function needed, but your machine doesn't have it, THE HANDBOOK will give you a subroutine that accomplishes the same thing.

With the BASIC HANDBOOK you can finally make those programs found in other magazines run on your computer — or know the reason why they can't. About the only thing it won't help you with is an additional 16K of memory.

ORDER TODAY!

**This HANDBOOK
is written to be used!**

TRS-80 Software Exchange

17 Briar Cliff Drive Milford, New Hampshire 03055



ALL STAR BASEBALL

Why settle for watching baseball on television when you can play it! With this game, you can make the team, but winning may be another matter. A game for two players.

by David Bohlke

It's the top of the third, the Pirates leading the Yanks 5 to 1. A fast ball just above the knees, and Dent strikes out. One down, and Johnson comes to bat. A change up, Johnson swings ... crack! ... a long fly ball ... will it clear the fence? It bounces off the fence, the throw to Stennet as cutoff man, then to Phil Garner ... Johnson is safe on third. Munson is at bat, hits a sinker down the first base line, Robinson goes for it ... out of reach, Johnson scores, Munson is safe on second base. The count is one and one on Randolph. Here comes the pitch ... a bunt! Randolph is out at first, Munson safe on third. Rivers at bat, here comes the pitch ... Whack! ... that was really hit hard ... it's going, going, over the fence! Munson and Rivers score. Yankees 4, Pirates 5, with New York at bat, two outs, and no one on base.

White comes to the plate. Here's the pitch, a hard grounder toward Garner, he hits a high fly ball toward Omar Marino ...

You set the strategy for pitching and hitting, and you have to move your player across the screen to do the fielding, but there is nothing cut and dried in this version of baseball. The catcher may miss a tag on a squeeze play at home, the shortstop commit an error on an easy double play ball, or you could even be ahead in the ninth by several runs, have two outs with no one on base, and still blow it!

Sequence of Play

Each game will be the regulation nine innings. If the game is tied after nine innings, you will need to restart the game but continue play as in an extra-inning game. Begin play by entering the



WHAT MAKES DIANA RUN?

The sight of SoftSide mail returning to the subscriptions office!

If your address is about to change (as if it's listed incorrectly on your mailing label) send us a label from a past issue along with your new address, including ZIP codes for both to:

SOFTSIDE SUBSCRIPTIONS
Diana Bishop, Manager
PO Box 88
Milford, NH 03055

names of the visiting team and the home team.

The name of the pitching and fielding team and the options available to you will be displayed at the bottom right corner of the screen. Each play will begin when you deliver a pitch by pressing the J key for a fastball; the K key for a change-up pitch; or the L key for a sinker.

If the ball is hit by your opponent; you must move your fielder to "catch" the ball. On a groundball, your player will be at the top of the screen; and the ball will approach you from the bottom of the screen. On a flyball, your player (and the homerun fence) will be at the bottom of the screen; and the ball will approach you from the top of the screen. To move your player to the left, **HOLD DOWN**

the left arrow key; and to move your player to the right, **HOLD DOWN** the right arrow key. You must move your player to intersect the moving ball to "catch" the flyball or grounder for an out. If you fail, the batter will be given a base hit. On certain occasions your player may be positioned correctly and yet miss the ball creating an error. If first base is occupied and a ground ball is hit, you may be awarded a double play (randomly selected) when you field the ball.

After the fielding team pitches the ball, the player at bat must select one of three options before the ball reaches home plate. The options available to you will be displayed on the bottom left corner of the screen. You may press the D key to swing the bat; press the S key to attempt a steal; or press the A key for a bunt attempt. If you fail to select an option, if you swing and miss the ball, or if you attempt a steal with no runners on base, the pitched ball will count as a strikeout. When you select the bunt option, it may be scored as a drag bunt, a sacrifice bunt, or a suicide squeeze depending on the number and position of the base runners. If you swing the bat and hit the ball, the outcome of the play will depend on the fielder's catching the ball as described above.

Play continues until the fielding team gets three outs (half inning). At this time the players will interchange fielding and hitting responsibilities. After each half inning a scoreboard and box score card will be displayed to keep you updated on the game totals. During each half inning the number of outs and the runs scored

this half inning will be displayed in the upper left corner of the screen. Before each pitch sequence the playing field and base runners will be displayed in the center on the screen.

Fielding Strategies

The fielding team should try to confuse the hitter by mixing-up the type of pitches delivered. This will result in more strikeouts, decreasing the offensive players' chances of scoring. The longer you play the game, the more difficult it will be to strikeout the batters due to your opponent's increased experience. Therefore the most important consideration for the defensive player is to cleanly field the ball. Your success here, as with batting, will increase with experience.

Hitting Strategies

Although the player at bat has only three options (hit, bunt, or steal), the result of each of these will vary depending on the position of the base runners and number of outs. You will also need to consider the inning, the score, and the ability of your opponent as a fielder to develop a good strategy.

If you are several runs behind it may be better not to take chances like stealing or waste an out with a sacrifice bunt. It may be wiser to swing away and hope you can get several hits and a rally started. When the score is close in the late innings and you get a runner on first or second a sacrifice bunt may be in order. Then a hit, or suicide bunt, or sacrifice fly by your next batter could be the deciding factor. In the early innings, or anytime if you're a gambler, a steal attempt is a viable option. This not only eliminates the possibility of a

double play but also puts the runner in a scoring position. These are just a few examples of total game strategies.

When you press the **D** key to swing the bat and successfully make contact with the ball either a ground ball or a fly ball will result. A ground ball can be scored as 1) a base hit single; 2) a double; 3) an error on the fielder; 4) a ground out if the fielder catches the ball; 5) or a double play if first base is occupied, the fielder catches the ball, and there are less than two outs. A fly ball can be scored as 1) an out if caught by the fielder; 2) a single, double, or triple depending on the distance the ball is hit; 3) an error on the outfielder; 4) as a home run if the ball sails over the fence; 5) or as a possible sacrifice fly if you have a runner on third, less than two outs, and the fielder catches the ball.

The Little Book of BASIC Style

by John M. Nevison

Here is the ideal reference for anyone who wants to write better programs in BASIC. **The Little Book of BASIC Style** is suitable for all levels ... from junior high school student to research scientist. A work meant to be read and reread. Achieve fluency in computing.

Indexed, illustrated. 151 pages.

\$5.95 + \$1.00 handling

TSE TRS-80 Software Exchange
17 BRIAR CLIFF DRIVE MILFORD, NEW HAMPSHIRE
03055

Pressing the **S** key for a steal attempt when first base or second base is occupied will result in either a successful steal or a throw-out. If there are runners on first and third the computer will assume you are attempting a double steal. When this is successful you will score a run and the runner on first will advance to second. On failures, the runner on first or third will be picked off.

If there are no runners on base and you press the **A** key for a bunt attempt it will be considered a drag bunt. This is scored the same as a single base hit when you are successful. When first or second base is occupied and there are fewer than two outs, your bunt will be a sacrifice bunt with the baserunners advancing one base if successful. For the times you have a runner on third with less than two outs, the bunt attempt will be scored as a suicide squeeze. Success here will result in the runner on third scoring and the batter advancing to first.

Every time there is a base hit all runners on base will advance the same number of bases as the batter. So on a single (or error) every runner on base will advance one base, on a double all runners will advance two bases, on a triple all runners will score, and on a homerun everyone, including the batter, scores.

Scoreboard

A scorecard will be printed at the end of each half inning. This

will indicate the number of runs each team has scored each inning, a current total, and a box score statistics update, showing the total runs, hits, and errors for each team. For your personal interest a hitting percentage (hits/times at bat) will also be displayed in the box score.



FOR YOUR INFORMATION

Radio Shack has added the TRS-80 II to its product line. This new computer, aimed at the business user, runs the Z-80A chip at 4 megahertz, comes with 32K of RAM and an 8 inch, double density floppy disk drive with 1/2 megabyte capacity. The price is \$3,450, and options include a systems desk for \$350, a second drive in a cabinet with power supply for \$1,150, third and fourth drives at \$600 each, and extra memory. The system includes as standard features 2 RS232 ports, a centronics parallel port, and a 24 by 80 upper/lower case display.

Another nice product from Radio Shack for those of you without \$3,500 is the Quick Printer II. At \$219 it is a real bargain, easily portable, versatile, and very handy. It uses silvered electrolytic paper about the same width as a cash register tape and is selectable for 16 or 32 characters per line, with automatic wraparound for longer lines.

```

0 *****
*   SOFTSIDE   PRESENTS   *
*   ALL - STAR BASEBALL   *
*   BY DAVID BOHLKE       *
*   *****
5 REM   *** DAVID BOHLKE   COGGON, IA   APR 7, 1979   ***
10 DEFINTA-Y: CLEAR300
20 DIM H(19), V(19), E(19), HT(19), AB(19)
29 REM   *** DEFINE STRINGS   ***
30 B1$=CHR$(188)+CHR$(188): B2$=CHR$(143)+CHR$(143)
32 RB$=CHR$(130)+CHR$(131)+CHR$(131)+CHR$(129)
34 W$=CHR$(191): W1$=CHR$(131)+CHR$(140)+CHR$(176)
36 W2$=STRING$(3, 140): W3$=CHR$(176)+CHR$(140)+CHR$(131)
40 R1$=CHR$(160)+CHR$(26)+CHR$(24)+CHR$(155)+CHR$(145)
42 F2$=CHR$(164)+CHR$(187)+CHR$(177)+CHR$(132)+CHR$(26)
44 F1$=F2$+STRING$(4, 24)+CHR$(160)+CHR$(134)+CHR$(164)
46 F2$=STRING$(5, 128)+CHR$(26)+STRING$(5, 24)+STRING$(5, 128)
48 F3$=CHR$(160)+CHR$(187)+CHR$(177)+CHR$(26)+STRING$(3, 24)
50 F3$=F3$+CHR$(161)+CHR$(134)+CHR$(164)+CHR$(129)
52 F5$=CHR$(191)+CHR$(26)+CHR$(24): F5$=F5$+F5$+F5$
100 CLS: PRINTCHR$(23)
110 PRINT"ALL STAR   BASEBALL": PRINT: PRINT
120 INPUT"VISITORS "; V$: V$=LEFT$(V$, 8)
130 PRINT
140 INPUT"HOME "; H$: H$=LEFT$(H$, 8)
399 REM   *** MAIN GAME LOOP   ***
400 FOR IN = 1 TO 18
405 ZT=IN/2: IF ZT=INT(ZT) THEN ZT=2 ELSE ZT=1
410 OT=0: BF=0: BS=0: BT=0: R=0
420 GOSUB2000
425 PRINT@256, "RUNS "; R: PRINT@192, "OUTS "; OT;
430 HT=0: ZH=0
440 GOSUB3000
450 FOR I=1 TO 888: NEXT
500 IF OT<3 GOTO 420
510 IF ZT=2 THEN H(IN)=R ELSE V(IN)=R
550 GOSUB8000
600 NEXT IN
999 GOTO 999
1999 REM   *** PRINT FIELD   ***

```

```

2000 CLS:PRINT@31,B2$;:PRINT@273,B1$;:PRINT@301,B1$;
2010 PRINT@158,RB$;:PRINT@606,W$;
2020 Y=26:FORX=69T01175STEP4:SET(X,Y):Y=Y-2:NEXT
2030 Y=26:FORX=58T0105STEP-4:SET(X,Y):Y=Y-2:NEXT
2040 IFBF=1PRINT@171,R1$;
2042 IFBS=1PRINT@27,R1$;
2044 IFBT=1PRINT@336,R1$;
2100 PRINT@448,"TEAM AT BAT";
2110 IFZT=1PRINT@515,V$;ELSEPRINT@515,H$;
2120 PRINT@498,"FIELDING TEAM";
2130 IFZT=1PRINT@565,H$;ELSEPRINT@565,V$;
2150 PRINT@641,"* KEY OPTIONS *";:PRINT@704,"* AFTER PITCH *";
2160 PRINT@770,"A : BUNT";:PRINT@834,"S : STEAL";
2170 PRINT@898,"D : HIT";
2180 PRINT@687,"* KEY OPTIONS *";:PRINT@750,"* DELIVER PITCH *";
2190 PRINT@816,"J : FASTBALL";:PRINT@880,"K : CHANGE-UP";
2200 PRINT@944,"L : SINKER";
2300 RETURN
2999 REM *** INPUT PITCH, GET SWING ***
3000 Z$=INKEY$:PRINT@999,"???";:S=0
3010 K$=INKEY$:IFK$=""GOTO3010
3020 IFK$="J"THENDP=1:GOTO3030
3022 IFK$="K"THENDP=2:GOTO3030
3024 IFK$="L"THENDP=3:GOTO3030
3026 GOTO3010
3030 Y=7:PRINT@960,CHR$(31);:PRINT@910,"????";
3040 SET(63,Y):SET(64,Y)
3050 K$=INKEY$:IFK$=""GOTO3060
3052 IFK$="A"THENS=9:GOTO3060
3054 IFK$="S"THENS=8:GOTO3060
3056 IFK$="D"THENS=1:GOTO3060
3060 PRINT@960,CHR$(30);
3065 IFS<1 OR S=8 GOTO3100
3070 IFS=9PRINT@606,W2$;:GOTO3100
3080 IFS=1PRINT@606,W1$;
3082 IFS=2PRINT@606,W2$;
3084 IFS=3PRINT@606,W3$;
3086 IFS=4PRINT@606," ";
3090 S=S+1:IFS>4THENS=5
3100 IFPOINT(63,Y+1)GOTO3200

```

```

3110 IFY>31GOTO4000
3115 RESET(63,Y):RESET(64,Y)
3120 Y=Y+1:IFDP=1THENY=Y+1:GOTO3040
3130 IFDP=2GOTO3040
3140 IFY<26THENY=Y+RND(3)-1
3150 GOTO3040
3199 REM *** HIT - ADVANCE BALL ***
3200 IFS=9GOTO3800
3205 AB(IN)=AB(IN)+1
3210 S=RND(3)-2:IFS=0GOTO3210
3220 X=63:SS=RND(3)
3230 FORA=YTOY-14STEP-1
3240 SET(X,A):SET(X+1,A)
3250 RESET(X,A):RESET(X+1,A)
3260 IFSS=1THENX=X+S*2
3262 IFSS=2THENX=X+S
3264 IFRND(2)=1THENA=A-1
3270 NEXT
3280 CLS
3299 REM *** FLY BALL FIELDING ***
3300 IFRND(2)=1GOTO3500
3310 P=RND(50):Q=832:X=RND(30):Y=RND(7)
3320 PRINT@20,"USE ";CHR$(93);" AND ";CHR$(94);" TO FIELD BALL :
";
3325 PRINT@84,"( HOLD KEY DOWN )";:X1=RND(4)
3326 PRINT@320,"F L Y B A L L";
3330 PRINT@829,F5$;
3350 SET(X,Y):SET(X+1,Y):IFX>119THENXX=0:GOTO3400
3355 PRINT@P+Q-1,F2$;
3360 IFPEEK(15168)=64THENP=P+1:IFP>56THENP=56
3362 IFPEEK(15168)=32THENP=P-1:IFP<3THENP=3
3370 PRINT@P+Q,F1$;
3380 IFPOINT(X,Y+1)THENXX=1:PRINT@320,"F L Y O U T !";:ZH=1:GO
T05000
3390 RESET(X,Y):RESET(X+1,Y):X=X+X1:Y=Y+1
3392 IFX>124 OR Y>41 THENXX=0:GOTO3400
3394 IFRND(3)=1THENY=Y+1
3396 GOTO3350
3400 IFX<2*P OR X>2*P+6 GOTO 3420

```

```

3405 PRINT@960, "***   E R R O R   ***";E(IN)=E(IN)+1:HT=1:GOT
05000
3420 PRINT@320,"B A S E   H I T !!!";HT(IN)=HT(IN)+1
3430 IFY<36THENHT=4:PRINT@455,"H O M E   R U N !!!":GOTO5000
3440 IFX>116THENHT=3:PRINT@450,"T R I P L E !!!":GOTO5000
3450 IFX>60THENHT=2:PRINT@450,"D O U B L E !!!":GOTO5000
3460 PRINT@440,"S I N G L E !!!":HT=1:GOTO5000
3499 REM   ***   GROUND BALL FIELDING   ***
3500 X=RND(80)+22:Y=41:IFRND(4)=1THENY=40
3510 PRINT@896,"USE ";CHR$(93);" AND ";CHR$(94);" TO FIELD BALL
:";
3520 PRINT@930,"( HOLD KEY DOWN )";
3530 PRINT@320,"GROUND BALL";
3540 P=RND(50)+5:Q=64:S=RND(3)-2
3600 SET(X,Y):SET(X+1,Y)
3610 PRINT@P+Q,F2$;
3620 IFPEEK(15168)=32THENP=P-2:IFP<4THENP=4
3630 IFPEEK(15168)=64THENP=P+2:IFP>58THENP=58
3640 PRINT@P+Q,F3$;
3650 IFPOINT(X,Y-1)PRINT@320,"G R O U N D   O U T";:XX=1:ZH=2:GO
T05000
3652 IFY<3 OR X>125 OR X<2 GOTO 3700
3660 RESET(X,Y):RESET(X+1,Y)
3670 X=X+5:Y=Y-2:IFY>9ANDRND(2)=1THENY=Y-1
3680 GOTO3600
3700 IFX>2*P-1 AND X<2*P+8 AND RND(2)=1 GOTO 3750
3705 PRINT@320,"B A S E   H I T";:XX=0:HT=1:HT(IN)=HT(IN)+1
3710 IFRND(3)=1THENHT=2:PRINT@450,"D O U B L E";
3720 GOTO5000
3750 PRINT@320,"***   E R R O R   ***";HT=1:XX=0:E(IN)=E(IN)+
1:GOTO5000
3799 REM   ***   BUNT ROUTINE   ***
3800 X=63:FORY=27TO23STEP-1:SET(X,Y):SET(X+1,Y):RESET(X,Y):RESET
(X+1,Y)
3801 X=X+RND(3)-2:NEXT:SET(X,Y):SET(X+1,Y)
3810 IFBT=0 AND BF=0 AND BS=0 AND RND(3)=1 GOTO3910
3820 IFBT=1 AND BF=0 AND RND(2)=1 GOTO3920
3830 IFBT=0 AND BF=1 AND OT<2 AND RND(4)<4 GOTO3930
3840 IFBF=0 AND BT=1 GOTO 3940
3850 IFBF=1 AND BS=1 AND BT=0 AND OT<2 AND RND(4)<4 GOTO3950

```

```

3860 IFBF=0 AND BT=0 AND BS=1 AND RND(3)<3 AND OT<2 GOTO3960
3890 PRINT@960,"BUNT ATTEMPT FAILED !";:XX=1:GOTO5000
3910 PRINT@960,"HUSTLED FOR A SINGLE !";:HT=1:XX=0:HT(IN)=HT(IN)
+1:GOTO5000
3920 PRINT@960,"SUICIDE SUCCESSFUL !";:HT=1:XX=0:GOTO5000
3930 PRINT@960,"SACRIFICE SUCCESSFUL ";:IFBS=1THENBT=1
3932 BS=1:BF=0:XX=1:GOTO5000
3940 PRINT@960,"SUICIDE FAILED !";:BF=1:XX=1:BT=0:GOTO5000
3950 PRINT@960,"DOUBLE SACRIFICE !!!";:BF=0:BT=1:XX=1:GOTO5000
3960 PRINT@960,"SACRIFICE SUCCESSFUL !";:BT=1:BS=0:XX=1:GOTO5000
3999 REM *** STEELS ***
4000 IFS=0GOTO4100
4005 AB(IN)=AB(IN)+1
4010 PRINT@960,"STRUCK OUT !";:XX=1:GOTO5000
4100 IFBF=0ANDBS=0ANDBT=0GOTO4010
4110 IFBS=1PRINT@960,"STEAL ATTEMPT FAILED !";:BS=0:XX=1:GOTO500
0
4115 IFBS=1GOTO4130
4120 IFBF=1ANDBT=1ANDRND(3)=1PRINT@960,"DOUBLE STEAL SUCCESSFUL
!";:HT=1:XX=0:GOTO5000
4130 IFBF=1ANDBT=0ANDRND(2)=1PRINT@960,"RUNNER STEALS SECOND !";
:OT=OT-1:BF=0:BS=1:XX=1:GOTO5000
4140 IFBF=1PRINT@960,"RUNNER PICKED OFF !";:XX=1:BF=0:GOTO5000
4150 PRINT@960,"RUNNER PICKED OFF !";:XX=1:BT=0:GOTO5000
4999 REM *** OUT OR SPECIAL CASE ***
5000 FORI=1TO400:NEXT
5010 IFXX=0GOTO5100
5012 OT=OT+1
5015 IFZH=2ANDBF=1ANDOT<2ANDRND(4)<4THENOT=OT+1:BF=0:PRINT@320,"
D O U B L E P L A Y !!";:RETURN
5030 IFZH=1ANDOT<2ANDBT=1THENR=R+1:BT=0:PRINT@320,"S A C R I F I
C E R U N";:RETURN
5040 IFZH=2ANDBF=1ANDBS=1ANDOT<2ANDRND(4)<4THENOT=OT+1:BF=0:BS=0
:BT=1:PRINT@320,"D O U B L E P L A Y !";:RETURN
5090 RETURN
5100 IFHT>0GOTO5200
5110 HT=1:PRINT@960,CHR$(31);:PRINT@960,"S I N G L E !";
5199 REM *** ADVANCE RUNNERS ***
5200 IFHT<1 OR HT>4 GOTO5000
5210 ON HT GOTO 5220,5300,5400,5500

```

What's New ? at

TRS-80 Software Exchange



X-WING FIGHTER II

Chris Freund

Piloting an X-wing fighter, you're out to destroy the Death Star! A new, improved version of an exciting space favorite. Level II, 16K. **\$9.95**

16k MEMORY KITS

Ithaca Audio

8 tested, guaranteed 16K RAM's, amazing low price. **\$99.95**

THE COUNT/VOODOO CASTLE

Scott Adams

Two exciting new adventures! Now in machine language for instant response and more excitement! Two adventures on disk **\$24.95**

Each adventure on tape for 16K, Level II. **\$14.95 each**

MMSFORTH

Miller Microcomputer Services

The latest in a high-level language software development system for the TRS-80. Complete with microforth primer manual.

Introductory Price

Level II, 16K, Tape **\$49.95**
Level II, 16K, Disk **\$59.95**

TRS-232

Small Systems Software

Our first piece of hardware will interface your TRS-80 to a whole group of serial printers through your cassette recorder jack.

\$49.95

KVP-232

Lance Micklus

KVP adapted for serial output through the TRS-232. All the famous KVP features: Debounce, Screen Printing, more! Tape only **\$24.95**

TYPING TUTOR

80 US

A multi-program teaching accurate typing skills. **\$19.95**

```

5220 IFBT=1THENR=R+1:BT=0
5230 IFBS=1THENBT=1:BS=0
5240 IFBF=1THENBS=1
5250 BF=1:RETURN
5300 IFBT=1THENR=R+1:BT=0
5310 IFBS=1THENR=R+1
5320 IFBF=1THENBT=1:BF=0
5330 BS=1:RETURN
5400 IFBT=1THENR=R+1
5410 IFBS=1THENR=R+1:BS=0
5420 IFBF=1THENR=R+1:BF=0
5430 BT=1:RETURN
5500 R=R+1:IFBT=1THENR=R+1:BT=0
5510 IFBS=1THENR=R+1:BS=0
5520 IFBF=1THENR=R+1:BF=0
5530 RETURN
7999 REM *** SCOREBOARD AND BOXSCORES ***
8000 CLS:PRINT"ALL STAR BASEBALL"
8020 FORI=1TO10:FORJ=1TO5
8030 PRINT@I*4+J*64+135,CHR$(191);
8040 NEXTJ,I
8045 PRINT@256,STRING$(56,140);:PRINT@384,STRING$(56,140);
8050 FORI=1TO9:PRINT@I*4+200,I:;NEXT
8060 PRINT@320,V$;:PRINT@448,H$;:PRINT@242,"TOTAL";
8065 PRINT@196,"INNING";
8070 HS=0:VS=0:EH=0:EV=0:HH=0:HV=0:BH=0:BV=0
8100 FORI=1TO IN:ZT=I/2:IFZT=INT(ZT)THENZT=2ELSEZT=1
8110 IFZT=2GOTO8150
8120 VS=VS+V(I):EH=EH+E(I):HV=HV+HT(I):BV=BV+AB(I)
8130 PRINT@I*2+330,V(I);:GOTO8200
8150 HS=HS+H(I):EV=EV+E(I):HH=HH+HT(I):BH=BH+AB(I)
8170 PRINT@I*2+456,H(I);
8200 NEXT
8210 PRINT@371,VS;:PRINT@499,HS;
8212 GOSUB8400
8215 IF IN=10 GOTO8300
8220 PRINT@832,"PRESS =ENTER= TO CONTINUE . . .";
8230 INPUTZ$:RETURN
8300 PRINT@832,"PRESS =ENTER= FOR ANOTHER GAME,"
8310 PRINT"OR FOR EXTRA INNINGS - ":INPUTZ$:RUN

```

```

8400 PRINT@576,"BOX SCORE :      RUNS      HITS      ERRORS
      HITTING %";
8410 PRINT@645,V$;:PRINT@709,H$;
8420 PRINT@660,V$;:PRINT@724,H$;
8430 PRINT@671,HV;:PRINT@735,HH;
8440 PRINT@682,EV;:PRINT@746,EH;
8450 PRINT@695,"";:PRINTUSING".###";HV/BV;
8455 IFBH=0PRINT@759,".000";:GOTO8470
8460 PRINT@759,"";:PRINTUSING".###";HH/BH;
8470 RETURN

```



Programming Hint



Enter from command mode:

```

CSAVE"FILENAME": FOR X = 1 TO 2000: OUT 255, 20: NEXT:
CSAVE"FILE": FOR X = 1 TO 2000: OUT 255, 20: NEXT:
CSAVE"FILENAME"

```

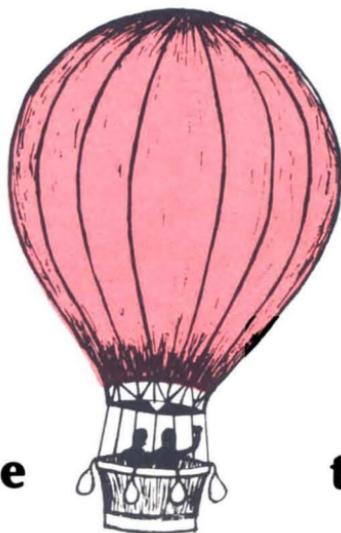
Try this to get 3 dumps with blank spaces in between without having to sit and wait to type in the next CSAVE. You can have a snack while you wait.

The OUT 255, 20 keeps the motor running on the recorder to create the space between dumps. Changing "X" changes size of the space.

Doesn't work on "CLOAD"!

Balloon Race

**Rise
far above
the surface**



**Become
part of
the wind!**

From Presque Isle, Maine to Paris, France, you must control your flight by varying height according to your knowledge of weather conditions, wind speeds and directions at various altitudes. Regulation of gas volume and ballast will cause the balloon to ascend or descend. Radio contacts,

if and when you can make them, occasionally give you your position over the Atlantic. You can see storm clouds closing in and your horizon in the distance. If you stay out of the drink and land successfully nearest Paris, you win! One to three players.

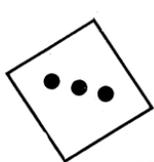
Level II, 16K

\$9.95

by Dean Powell

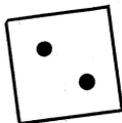
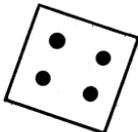


TSE TRS-80 Software Exchange
17 Briar Cliff Drive Milford, New Hampshire 03065



YAHTZEE

by Al Lowe



Here is a computer version of the popular party game. Roll your dice, take your chances, try out your strategies, and yell loud enough to let the whole neighborhood know when you get Yahtzee! Call your friends, get the pop and potato chips, and settle in for the winter six months early.

```
10 CLS:RANDOM
40 PRINT:PRINT
50 PRINTCHR$(23):PRINT:PRINT:PRINT"    Y A H T Z E E"
60 PRINT:PRINT:PRINT:PRINT"    BY    A L L O W E"
70 CLEAR 400
80 DIM S(9,13):DIM P$(9):DIM GT(9):DIM Z(6)
100 FOR T=1 TO 6
110  FOR D=1 TO 6:READ N:D$(T)=D$(T)+CHR$(N):NEXT D
120  FOR D1=1 TO 6:READ N:D1$(T)=D1$(T)+CHR$(N):NEXT D1
130 NEXT T
140 CLS:PRINTCHR$(23):PRINT:PRINT:PRINT"DO YOU WANT INSTRUCTIONS
    ?":GOSUB 8000
145 CLS
150 IF I$="Y" THEN 10000
160 CLS:PRINTCHR$(23):PRINT:PRINT:PRINT"ENTER THE NUMBER OF PLAY
    ERS":GOSUB 8000
165 PL=I:IF PL=0 THEN PL=1
170 FOR A=1 TO I:PRINT:PRINT"ENTER PLAYERS NAME":INPUT P$(A):P(
    A)=A:NEXT A
```

```

180 U$="###":L$=STRING$(64,"-"):CL$=STRING$(64," "):C9$=STRING$(
9," ")
190 S$(1)="ONE":S$(2)="TWO":S$(3)="THREE":S$(4)="FOUR"
200 '*** DRAW SCREEN ***
210 CLS:PRINT@192,L$;:PRINT@320,L$;
220 PRINT"(1) ACES..... (8) 4 OF A KIND
... "
230 PRINT"(2) TWOS..... (F) FULL HOUSE.
... "
240 PRINT"(3) THREES..... (S) SMALL STRAI
GHT"
250 PRINT"(4) FOURS..... (L) LARGE STRAI
GHT"
260 PRINT"(5) FIVES..... (Y) Y A H T Z E
E "
270 PRINT"(6) SIXES..... (C) CHANCE.....
... "
275 PRINT"(7) 3 OF A KIND... "
280 PRINT
300 IF TT=PL*13 THEN 9000
310 TT=TT+1
320 P=P+1:IF P>PL THEN P=1
325 M=0:PRINT@64,CL$;:PRINT@128,CL$;
330 PRINT@0," * * * * * "P$(P)"'S TURN * * * * *
* * *";
340 A=403:TR=0
350 FOR T=1 TO 13:IF T=8 THEN A=442
365 IF S(P,T)=0 THEN PRINT@A," ";ELSE PRINT@A,USING U$;S(P,T);
367 IF S(P,T)<0 THEN PRINT@A," **";
370 IF S(P,T)>0 THEN TR=TR+S(P,T)
375 IF T=6 THEN IF TR>62 THEN PRINT@900,"BONUS 35";:TR=TR+35
380 IF TR<63 THEN PRINT@900," ";
390 A=A+64:NEXT T
395 PRINT@925,"TOTAL ";TR;
397 GT(P)=TR
399 GOTO8100
400 GOTO 600
450 '*** ROLL ALL THE DICE ***
460 A=67

```

```

470 FOR T=1 TO 5:R=RND(6):PRINT@A,D$(R):PRINT@A+64,D1$(R):A=A+
12:Z(T)=R:NEXT T
480 GOTO 400
600 '*** ROLL SOME DICE ***
605 M=M+1:IF M>3 THEN 1000
610 PRINT@256,CL$:PRINT@256,"- - - RE-ROLL HOW MANY ????" PR
ESS E TO ENTER SCORE - - -":GOSUB 8000:K=1
612 IF I$="E" THEN 1000
614 IF I<1 OR I>5 THEN 610
615 IF K=5 THEN FOR T=1 TO 5:A(T)=T:NEXT T:GOTO 650
617 FOR T=1 TO 5:A(T)=0:NEXT T
620 PRINT@256,CL$:PRINT@275,"WHICH "S$(K)" ?":A=2
630 FOR T=1 TO K:GOSUB 8000:PRINT@289+A,I:A(I)=I:A=A+2:NEXT T
650 A=67
651 FOR T=1 TO 5
652 IF A(T)=T THEN PRINT@A,"          ";:PRINT@A+64,"
";
653 A=A+12:NEXT T:FOR T=1TO500:NEXT T:A=67
660 FOR T=1 TO 5
670 R=RND(6)
680 IF A(T)=T THEN PRINT@A,D$(R):PRINT@A+64,D1$(R):Z(T)=R
690 A=A+12:NEXT T:PRINT@256,CL$:IF M<3 THEN 600
1000 PRINT@256,CL$:PRINT@280,"S C O R E IT":GOSUB 8000:IF I>
8 THEN 1000
1005 IF I>0 THEN 1060
1010 IF I$="F"THEN IF S(P,9)=0 THEN GOSUB 2000:IF H=13 THEN S(P,
9)=25:GOTO 1200 ELSE S(P,9)=-1:GOTO 1200
1020 IF I$="S"THEN IF S(P,10)=0THEN GOSUB 2100:IF H=>1 THEN S(P,
10)=30:GOTO 1200 ELSE S(P,10)=-1:GOTO 1200
1030 IF I$="L"THEN IF S(P,11)=0THEN GOSUB 2100:IF H=2 THEN S(P,1
1)=40:GOTO 1200 ELSE S(P,11)=-1:GOTO 1200
1040 IF I$="Y"THEN IF S(P,12)=0THEN GOSUB 2000:IF H=25 THEN S(P,
12)=50:GOTO 1200 ELSE S(P,12)=-1:GOTO 1200
1045 IF I$="Y" THEN IF S(P,12)>0 THEN GOSUB 2000:IF H=25 THEN S(
P,12)=S(P,12)+50:I=Z(3):NN=99:GOTO 1060
1050 IF I$="C"THEN IF S(P,13)=0THEN FOR T=1 TO 5:S(P,13)=S(P,13)
+Z(T):NEXT T:GOTO 1200
1055 GOTO 1000
1060 ON I GOTO 1100,1110,1120,1130,1140,1150,1160,1170
1100 IF S(P,1)>0 THEN 1500

```

```

1103 FOR T=1 TO 5:IF Z(T)=1 THEN S(P,1)=S(P,1)+1
1105 NEXT T:IF S(P,1)=0 THEN S(P,1)=-1
1107 GOTO 1200
1110 IF S(P,2)>0 THEN 1500
1113 FOR T=1 TO 5:IF Z(T)=2 THEN S(P,2)=S(P,2)+2
1115 NEXT T:IF S(P,2)=0 THEN S(P,2)=-1
1117 GOTO 1200
1120 IF S(P,3)>0 THEN 1500
1123 FOR T=1 TO 5:IF Z(T)=3 THEN S(P,3)=S(P,3)+3
1125 NEXT T:IF S(P,3)=0 THEN S(P,3)=-1
1127 GOTO 1200
1130 IF S(P,4)>0 THEN 1500
1133 FOR T=1 TO 5:IF Z(T)=4 THEN S(P,4)=S(P,4)+4
1135 NEXT T:IF S(P,4)=0 THEN S(P,4)=-1
1137 GOTO 1200
1140 IF S(P,5)>0 THEN 1500
1143 FOR T=1 TO 5:IF Z(T)=5 THEN S(P,5)=S(P,5)+5
1145 NEXT T:IF S(P,5)=0 THEN S(P,5)=-1
1147 GOTO 1200
1150 IF S(P,6)>0 THEN 1500
1153 FOR T=1 TO 5:IF Z(T)=6 THEN S(P,6)=S(P,6)+6
1155 NEXT T:IF S(P,6)=0 THEN S(P,6)=-1
1157 GOTO 1200
1160 IF S(P,7)=0 THEN FOR T=1 TO 5:S(P,7)=S(P,7)+Z(T):NEXT T
1163 GOSUB 2000:IF HK11 THEN S(P,7)=-1
1165 GOTO 1200
1170 IF S(P,8)=0 THEN FOR T=1 TO 5:S(P,8)=S(P,8)+Z(T):NEXT T
1173 GOSUB 2000:IF HK17 THEN S(P,8)=-1
1175 GOTO 1200
1200 '*** PRINT SCORE ***
1210 A=403:TR=0
1220 FOR T=1 TO 13:IF T=8 THEN A=442
1230 IF S(P,T)=0 THEN PRINT@A," ";ELSE PRINT@A,USING U$;S(P,T)
;
1240 IF S(P,T)<0 THEN PRINT@A," **";
1243 IF S(P,T)>0 THEN TR=TR+S(P,T)
1244 IF T=6 THEN IF TR>62 THEN PRINT@900,"BONUS 35";:TR=TR+35
1245 IF TR<63 THEN PRINT@900," ";
1250 A=A+64:NEXT T:PRINT@925,"TOTAL ";TR:
1255 GT(P)=TR

```

```

1250 IF NN=99 THEN 1300
1260 FOR T=1 TO 100:NEXT T:GOTO 300
1300 '*** THIS SECTION FOR DOUBLE YAHTZEE ONLY ***
1320 NN=0:FOR T=256 TO 318:PRINT@T," * ";:NEXT T
1330 PRINT@256," YOU JUST HAD A DOUBLE YAHTZEE, YOU GET ANO
      THER TURN ";
1335 M=1
1340 FOR T=1 TO 2000:NEXT T:GOTO 450
1500 '** SUB CHECKS FOR DOUBLE ENTRY AND YAHTZEE **
1510 IF NN=99 THEN 1200
1530 PRINT@256,CL$:PRINT@256," ? ? ? ? YOU'VE SCORED THAT ONE
      BEFORE !! TRY AGAIN ? ? ? ? ";
1560 FOR T=1 TO 1111:NEXT T:GOTO 1000
2000 '*** CHECK FOR ILLEGLE SCORING ***
2010 H=0:J=0:K=0:L=0
2020 FOR T=1 TO 5:FOR Y=1 TO 5
2030 IF Z(T)=Z(Y) THEN H=H+1
2040 NEXT Y:NEXT T
2050 RETURN
2100 H=0:H1=0:H2=0:H3=0:H4=0:H5=0:H6=0
2110 FOR T=1 TO 5
2120 IF Z(T)=1 THEN H1=1
2130 IF Z(T)=2 THEN H2=1
2140 IF Z(T)=3 THEN H3=1
2150 IF Z(T)=4 THEN H4=1
2160 IF Z(T)=5 THEN H5=1
2170 IF Z(T)=6 THEN H6=1
2180 NEXT T
2190 IF H1+H2+H3+H4=4 THEN H=1
2200 IF H2+H3+H4+H5=4 THEN H=1
2210 IF H3+H4+H5+H6=4 THEN H=1
2220 IF H1+H2+H3+H4+H5=5 THEN H=2
2230 IF H2+H3+H4+H5+H6=5 THEN H=2
2240 RETURN
6000 ' *** CHR$(DATA) FOR DRAWING DICE. ***
6010 DATA 191,191,159,175,191,191
6020 DATA 143,143,143,143,143,143
6030 DATA 191,191,191,191,179,191
6040 DATA 143,140,143,143,143,143
6050 DATA 191,191,159,175,179,191

```

```

6060 DATA 143,140,143,143,143,143
6070 DATA 191,179,191,191,179,191
6080 DATA 143,140,143,143,140,143
6090 DATA 191,179,159,175,179,191
6100 DATA 143,140,143,143,140,143
6110 DATA 191,179,183,187,179,191
6120 DATA 143,140,141,142,140,143
8000 I$="": / *** INKEY$ INPUT ***
8010 I$=INKEY$:IF I$="" THEN 8010
8020 I=VAL(I$):RETURN
8030 / *** ***
8100 / *** SPECIAL SUB ***
8102 PRINT@256,CL$:
8104 PRINT@256," * * * * * THIS IS YOUR FIRST ROLL *
* * * * *";
8115 A=67
8120 FOR T=1 TO 5:R=RND(6):PRINT@R,D$(R):PRINT@A+64,D1$(R):Z(T
)=R:A=A+12:FOR W=1 TO 100:NEXT W:NEXT T
8140 M=M+1:GOTO 600
8990 / *** TOTAL UP SCORE & CHECK FOR RECORD BREAKER ***
9000 RC=360:RC$="AL LOWE"
9010 CLS:PRINT"THE RECORD FOR THE HIGHEST SCORE IS. . . ";RC
9015 PRINT"AND WAS SET BY ";RC$:PRINT
9020 FOR T=1 TO PL
9030 PRINTP$(T);"'S SCORE IS ";GT(T):PRINT
9040 IF GT(T)>RC THEN PRINTP$(T);" HAS BEATEN THE RECORD BY";GT(
T)-RC;"POINTS. ":RR=99:PRINT
9050 NEXT T
9054 PRINT
9055 IF RR=99 THEN PRINT"TO ENTER YOUR SCORE INTO THE RECORD, ED
IT LINE 9000":END
9989 GOSUB 8000
9999 RUN
10000 CLS: / *** INSTRUCTIONS ***
10020 PRINT" YAHTZEE"
10060 PRINT"YAHTZEE CAN BE PLAYED BY UP TO NINE (9) PLAYERS."
10070 PRINT"YOU NEED NOT USE THE ENTER KEY EXCEPT TO ENTER THE
PLAYERS."
10080 PRINT"-names."

```

```

10090 PRINT"THE COMPUTER WILL ROLL THE DICE FOR YOU THE FIRST TI
ME. "
10100 PRINT"THEN YOU MUST DECIDE HOW MANY DICE YOU WISH TO RE-RO
LL. "
10110 PRINT"IF YOU DO NOT WISH TO RE-ROLL THE DICE.  PRESS  E"
10120 PRINT"YOU MUST THEN CHOOSE WHICH CATIGORY TO SCORE IT UNDE
R. "
10130 PRINT"THE COMPUTER WILL THEN COMPUTE YOUR SCORE. "
10140 PRINT"IF YOUR SCORE IN THAT CATIGORY IS ZERO THEN THE COMP
UTER WILL "
10150 PRINT"PRINT **   AND THAT SECTION CAN NOT BE SCORED AGAI
N"
10160 PRINT"NO SECTION MAY BE SCORED MORE THAN ONCE, EXCEPT FOR"
10170 PRINT"YAHTZEE. "
10180 PRINT:PRINT"           PRESS SPACE BAR TO CONT. "
10190 GOSUB 8000:CLS
10200 PRINT"EXAMPLE. .... "
10210 PRINT:PRINT"YOUR FIRST YAHTZEE  WILL SCORE  50 POINTS. "
10220 PRINT"THEN LETS SAY YOU GET A SECOND YAHTZEE WITH 5 FOURS.
"
10230 PRINT"IF YOU HAVE NOT SCORED THE FOUR'S YET.  YOU WILL
10240 PRINT"WANT TO ENTER IT UNDER YAHTZEE.  IT WILL GIVE YOU"
10250 PRINT"ANOTHER  50 POINTS, PLUS ENTER A SCORE OF 20 UNDER"
10260 PRINT"THE FOUR'S.  IF THE FOUR'S HAVE ALREADY BEEN SCORED"
10270 PRINT"YOU WILL GET ANOTHER TURN. "
10280 PRINT:PRINT"SO ALWAYS ENTER FIVE OF A KIND AS YAHTZEE. "
10999 PRINT@985, "PRESS SPACE BAR TO CONT. "; :GOSUB 8000:GOTO 160

```

Histogram/Scattergram

by Gary S. Breschini

Histogram constructs a five- to fourteen-element bar graph. User specifies the range of data and number of bars in graph; program sets upper and lower response limits for each bar element. Graph composed in "real time" as data is entered.

Scattergram plots XY information for visual analysis of trends. Extensive documentation.

Level II, 16K.....\$9.95

TRS-80 Software Exchange

KEYBOARD-80

by John Adamson

**Turn Your TRS-80 into an Electronic Organ
With KEYBOARD-80
And Any Audio Amplifier!**

Play your favorites, from Scott Joplin to Paul McCartney, on a full 3-octave chromatic scale. Although you can record your music for later playback, the unique live keyboard lets you listen as you play. Machine language tape for 16K, Level II TRS-80.

Level II, 16K Tape — \$9.95

TSE TRS-80 Software Exchange
17 BRIAR CLIFF DRIVE MILFORD, NEW HAMPSHIRE 03055

BARRICADE

by SMALL SYSTEMS SOFTWARE

BREAK THROUGH THE 5-WALL BARRICADE WITH THE HIGH-SPEED BALL AND KEYBOARD CONTROLLED PADDLE! TRAP THE BALL AMONG THE WALLS AND WATCH IT DESTROY THE 100 BLOCKS! SELECT FROM 8 SPEEDS, 4 PADDLE SIZES, AND 3 BALL-ANGLE LIMITS TO CHALLENGE EXPERTS AND BEGINNERS. THREE SCORES WITH THE BEST OF EACH SAVED TO BE CHALLENGED BY OTHER PLAYERS. **NOBODY** CAN ACHIEVE THE MAXIMUM **WEIGHTED SCORE** OF 33,000! 4K, LEVEL I AND II.

Machine language action game for TRS-80's — \$14.95

TSE TRS-80 Software Exchange
17 Briar Cliff Drive Milford, New Hampshire 03055

PORK BARREL



THE GAME CONGRESSMEN

NEVER STOP PLAYING — REELECTION

By Rev. George Blank

Okay so you've just been elected to Congress. You're young and looking forward to a long and rewarding career. And why shouldn't you be? Everyone loves you, or you wouldn't have been elected in the first place. It should be a snap, right?

The next thing you know, you're seated in the halls of Congress, tossing around billions of dollars like confetti at a ticker tape parade; Department of Defense, 340 billion last year, and looking for 380 billion this year; HEW got 30 billion last year, and say they need 10 billion more. By now, you're beginning to wonder — what about my effect on unemployment?

Just when you're beginning to think that it might pay to keep a lower profile, (at least until you get the hang of it), the agenda moves into roll call voting. Sure you've got all the figures. You know what percentages of your constituency are blue collar workers, unemployed, elderly, farmers, etc., but the word is out that the President wants you to vote "yea" on this issue, and "nay" on that issue, and you wonder ... "Why is he doing this to me?" And the lobbies! Your district is telling you NO on increased Social Security benefits, but the liberal lobby keeps saying YES, YES, YES, and after all ... **what about reelection?**

That's the scenario in this superb simulation from the author of Santa Paravia, 'Round the Horn, Troll's Gold. After you and up to 5 other players have finished your term in the hot seat, comes the moment you've been waiting for as you're up for reelection. How you fare depends entirely on your ability to be all things to all people at all times.

Available for Level II, 16K TRS-80 Microcomputers — \$9.95

TSE TRS-80 Software Exchange
17 Briar Cliff Drive Milford, New Hampshire 03055

Accounts Receivable II

HEBBLER SOFTWARE SERVICES

A comprehensive accounts receivable program with billing package offering menu oriented operation, audit trail with running balance for each account, date, description and exact amount for every filed transaction, special input procedures, automatic error checks — uses random data files.

The package which allows you to:

- **Maintain receivables files on 200 accounts**
 - **Add new accounts any time**
 - **Change information**
 - **Perform selective information search**
 - **Assign terms**
 - **Print listing of overdue accounts**
 - **Print statements automatically for unpaid accounts**
 - **Print a custom message on statements**
 - **Print mailing labels**
 - **Print an accounts receivable summary for all accounts or unpaid accounts only**
 - **Post charges and credits at the keyboard**
-

Package includes one master diskette, one data diskette, and in depth instruction manual. Requires TRS-80 with 16K memory, two disk drives, and line printer. **\$79.95**

TSE TRS-80 Software Exchange
17 Briar Cliff Drive Milford, New Hampshire 03055

Business Software

DISK PAYROLL

Written to be a useful tool for the individual who has joined the growing number of men and women using microcomputers in their business to save time and increase accuracy in record keeping. Even if you have never seen a computer before, you can run **DISK PAYROLL**. The programs included on the diskette are **interactive**, that is, they ask questions in English and expect you to type answers on the keyboard. All data files are handled on your diskette automatically — no cassette tapes are necessary.

A comprehensive 24-page manual with step-by-step instructions on how to run each program is included in the package. Quarterly summaries as well as payroll information can be printed on line printer. Programs supplied on a high quality 5¼ inch diskette. Price, \$59.95

INVENTORY SYSTEM 2.2

This program allows for the creation, maintenance and review of over 2000 inventory items per clean diskette. The system is designed to operate under Radio Shack BASIC, DOS2.1, with a minimum memory allocation of 16K RAM. Data maintained for each inventory item includes: description (up to 15-character length in any combination of alphanumeric or punctuation), vendor name of code (any 8-character alphanumeric or punctuation combination), quantity of inventory item on hand, cost per unit, retail price per unit, reorder point, quantity sold, quantity purchased.

Inventory System 2.2 is based upon the utilization of "random files" with 6 sub-records per random file buffer. This method of data storage allows for maximum utilization of diskette space and is briefly discussed in the Radio Shack DOS 2.0 Users Manual. It is assumed the user is familiar with the TRS-80 operation methods as well as Radio Shack Disk BASIC and DOS 2.1. If you need information in depth, consider Inventory 2.3 as an alternative.

Price, \$59.95

TSE TRS-80 Software Exchange

17 BRIAR CLIFF DRIVE MILFORD, NEW HAMPSHIRE 03055

SoftSide Presents:

A Page from The BASIC Handbook by David A. Lien

The STRING\$(n,ASCII code) function is used with the PRINT statement to print an ASCII character (n) number of times.

For example, PRINT STRING\$(10,65) prints the ASCII character A (ASCII code 65) ten times.



Function

TEST PROGRAM

```
10 REM 'STRING$' TEST PROGRAM
20 PRINT STRING$(23,42);
30 PRINT "STRING$ FUNCTION ";
40 PRINT STRING$(23,42)
99 END
```

SAMPLE RUN

***** STRING\$ FUNCTION*****

VARIATIONS IN USAGE

Some computers (e.g. the TRS-80 Level II) allow string characters (enclosed in quotes) or string variables in the STRING\$ function.

For example, 10 PRINT STRING\$(10,"A")

prints the letter A ten times.

```
10 AS="B"
20 PRINT STRING$(5,AS)
```

prints the letter B five times.

TEST PROGRAM

```
10 REM 'STRING$' TEST PROGRAM
20 PRINT "ENTER ANY LETTER, NUMBER OR SYMBOL";
30 INPUT AS
40 PRINT STRING$(20,"");
50 PRINT STRING$(20,AS)
99 END
```

SYSTEM COPY

by Kalman Bergen

At last! A program which allows you to make backup copies of object ("system") tapes. No more worrying that a dropout will send you 'back to the Shack' for a new editor-assembler or chess program. Features include copy, verify read, rename, and verify write. No knowledge of machine language required, so order yours today!

For 16K, Level II — \$9.95

TSE TRS-80 Software Exchange
17 BRIAR CLIFF DRIVE MILFORD, NEW HAMPSHIRE 03055

16K MEMORY KITS

by ITHACA AUDIO

**Everything you need to up-grade your
TRS-80 to a 16K system**

- 8 tested and guaranteed 16K RAM's
- New programming jumpers
- Easy-to-follow instructions
- Only tool required is a household screwdriver

Each kit is 100% guaranteed against failure. Add high quality, high density memory for less than you would expect to pay!

\$99.95

TSE TRS-80 Software Exchange
17 Briar Cliff Drive Milford, New Hampshire 03055

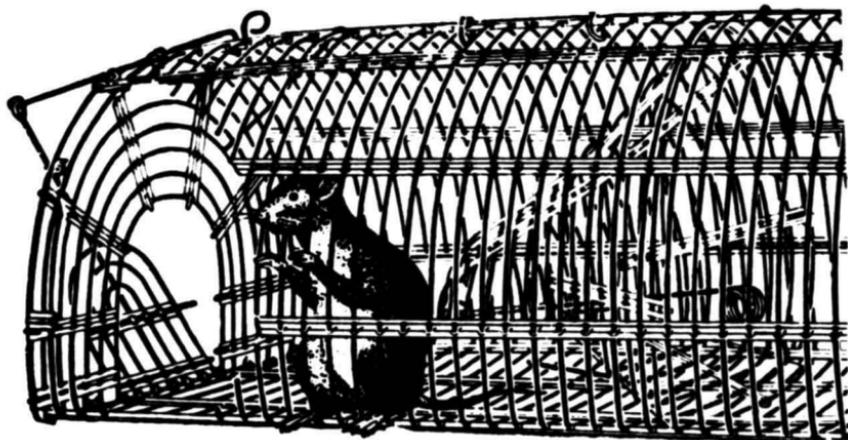
Amazing MAZES

by Robert Wallace

Remember trying to teach a rat to run through a maze in psychology class? **AMAZING MAZES** gives you a rodent's-eye viewpoint as you attempt to escape from a sinister maze in a race against the clock. Keep Moving ... whenever you stop to catch your breath, the passageways change! Excellent use of high-speed graphics and real-time input make this a fast-paced challenge of skill and dexterity

For 16K, Level II

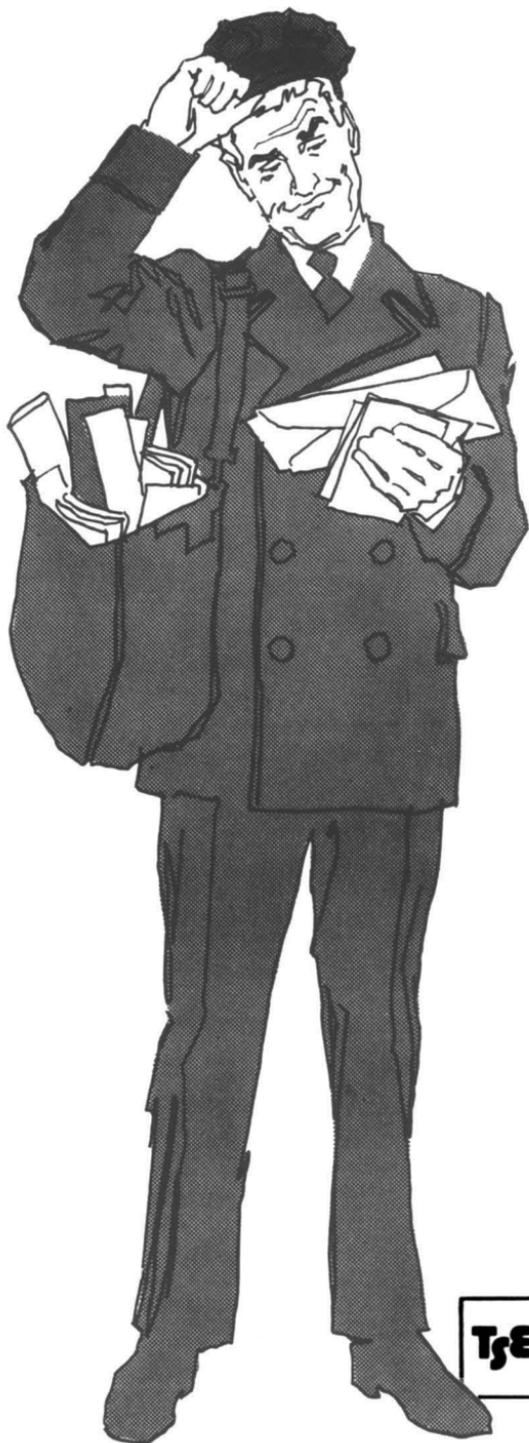
Amazingly priced at only \$7.95



TSE TRS-80 Software Exchange
17 Briar Cliff Drive Milford, New Hampshire 03065

MAIL LIST II

by BUS-80



IDEAL for all sorts of small mailing applications, such as small businesses, clubs, churches; for advertising, newsletters, announcements, press releases -- endless possibilities. We use it for a 15,000-name mailing list, yet it is perfect for lists as short as 100 names! You can store 1000 records per data disk, use as many disks as you like . . .

Each record includes:

RECORD NUMBER
RECORD CODE
COMPANY NAME
NAME
ADDRESS
CITY/STATE/ZIP
PHONE NO.
GREETING
PRODUCT CODES
DATE

Utilities include SORT, MERGE, MOVE, BREAK, EXAMINE, and UPDATE.

Prints levels 1, 2, or 3 across.

Sequential file structure makes the most efficient use of disk space: all alphabetic items can be as long as necessary.

Allows data entry on a 4K, Level II cassette system.

2 Disk Drive, 32K minimum \$99.95

TSE TRS-80 Software Exchange

17 Braer Cliff Drive Milford New Hampshire 03055



TANK

TUTORIAL

SEARCH AND CAPTURE

by James Garon

Surely, deep down in the heart of every ex-GI is the desire to get his hands on a tank and run amok! This game is dedicated to all the men and women of the First Armored Division who ever hunted armadillos with tanks along the shores of Cowhouse Creek. The object is to be the first to run over each of the targets presented with your clumsy, hard to handle, tank.

```
0 'TANK SEARCH AND CAPTURE  
  BY JAMES GARON  
  928 N. ROMNEYA #6  
  ANAHEIM, CA 92801
```

Lines 10-40

When the program is first run, Line 20 is skipped. The test at Line 500 will then cause the instructions to be printed. The "RUN20" at Line 1050 allows us to skip the instructions on subsequent games.

Since the tanks are three print positions wide by two high, the string B will be used in the construction of each tank to drop the cursor one position (CHR\$(26)) and back it up three (STRING\$(3,24)). The tread patterns for each tank are stored in the strings D and E.

```
10 CLEAR 999:RANDOM:GOTO 30  
20 CLEAR999:G%=1  
30 DEFINT I-Z DEFSTR A-H:DIM A(1,7),R(2) B=CHR$(26)+STRING$(3,24  
)  
40 H="BBB":D=H+B+H:H="MMN":E=H+B+H
```

Lines 100-170

Sixteen tanks are drawn - eight for each player - and stored in the string array A(I,J). I indicates which player (0 for black; 1 for white) while J determines the direction in which the tank is pointing (0=north or up, 1=northeast, 2=east or right - - 6=west or left, 7=northwest). Having the tanks stored as strings allows them to be printed (which is a much faster process than "SET"ting or "POKE"ing.)

```
100 A(0,0)=" "+CHR$(168)+" "+B+CHR$(170)+CHR$(183)+CHR$(191):A(1,0)=" "+CHR$(168)+" "+B+CHR$(170)+STRING$(2,191)
```

```
110 A(0,1)=CHR$(160)+CHR$(180)+CHR$(134)+B+CHR$(139)+CHR$(158)+CHR$(129):A(1,1)=CHR$(160)+CHR$(180)+CHR$(134)+B+CHR$(139)+CHR$(159)+CHR$(129)
```

```
120 A(0,2)=CHR$(168)+CHR$(188)+" "+B+CHR$(170)+CHR$(190)+CHR$(131):A(1,2)=CHR$(168)+CHR$(188)+" "+B+CHR$(170)+CHR$(191)+CHR$(131)
```

```
130 A(0,3)=CHR$(184)+CHR$(173)+CHR$(144)+B+CHR$(130)+CHR$(135)+CHR$(164):A(1,3)=CHR$(184)+CHR$(189)+CHR$(144)+B+CHR$(130)+CHR$(135)+CHR$(164)
```

```
140 A(0,4)=CHR$(168)+CHR$(156)+CHR$(188)+B+CHR$(130)+CHR$(171)+CHR$(131):A(1,4)=CHR$(168)+STRING$(2,188)+B+CHR$(130)+CHR$(171)+CHR$(131)
```

```
150 A(0,5)=CHR$(160)+CHR$(158)+CHR$(180)+B+CHR$(152)+CHR$(139)+CHR$(129):A(1,5)=CHR$(160)+CHR$(190)+CHR$(180)+B+CHR$(152)+CHR$(139)+CHR$(129)
```

```
160 A(0,6)=" "+CHR$(168)+CHR$(188)+B+CHR$(130)+CHR$(171)+CHR$(190):A(1,6)=" "+CHR$(168)+CHR$(188)+B+CHR$(130)+CHR$(171)+CHR$(191)
```

```
170 A(0,7)=CHR$(137)+CHR$(184)+CHR$(144)+B+CHR$(130)+CHR$(173)+CHR$(135):A(1,7)=CHR$(137)+CHR$(184)+CHR$(144)+B+CHR$(130)+CHR$(175)+CHR$(135)
```

Lines 500-520

If this is not the first game, Lines 510 and 520 draw the playing field. The lower right hand corner must be "POKED" rather than printed to avoid scrolling (POKE16382,142). (While the poke address of the lower right corner is 16383, odd numbers are not used in 32-character-per-line format). Notice that semi-colons(;) are often not required between items to be printed.

```

500 IF G%=0 THEN 5000
510 CLS:PRINT@66,CHR$(23)STRING$(31,176);:PRINT@962,STRING$(30,1
40);:FOR I=130 TO 898 STEP 64:PRINT@I,CHR$(149);:NEXT:PRINT@I,CH
R$(141);
520 FOR I=190 TO 958 STEP 64:PRINT@I,CHR$(170);:NEXT:POKE 16382,
142:PRINT@268,CHR$(185)CHR$(149);:PRINT@818,CHR$(170)CHR$(167);

```

Lines 600-650

P and Q are the positions where the black (P) and the white (Q) tanks will be printed. N and U determine which way they will point initially (N=3: SE, U=7: NW). L and S determine the color of the tank (S=1: white, L=0: black). Since L has not been mentioned in the program, Level II automatically sets it to zero. The time (T) will be divided by 10 before it is displayed, so T=1E3 (1000) provides 100 "seconds" of playing time. The string F will be used in Line 635 to display the time and score. G% is equal to one after the first game. This removes an extra pause between subsequent games.

Since two people will be pressing keys at the same time, the INKEY\$ function is not satisfactory. R (16438) points to a "work area" in Level II where the keys @ -A-B-C-D-E-F-G are detected. R+1 (16439) refers to the keys H-I-J-K-L-M-N-O and R+2 (16440) refers to the keys P-Q-R-S-T-U-V-W. If J is being pressed, then (PEEK(R+1) will equal 4 (binary 0000100). If K is pressed, PEEK(R+1)=8 (binary 00001000). If L is pressed, PEEK(R+1)=4+8 (binary 00001100). The AND operations in Lines 640, 645 "pull out" the the bit -bi(nary digi)t- corresponding to the key being tested. Y is used to tell the computer which player's keys to scan. X keeps track of which tank has just moved; O and V are amounts to be added to the current positions of the black and white tanks respectively. (if O=-64 then the black tank will be printed one position higher, etc.)

```

600 P=132:Q=888:N=3:S=1:U=7:Y=5:R=16438:T=1E3:PRINT@P,A(L,N);:PR
INT@Q,A(S,U);:F=" TIME:##.# BLACK:### WHITE:###":ON G% GOTO 61
5
605 PRINT@12,"PRESS ENTER TO BEGIN";
610 IF INKEY$<>CHR$(13) THEN 610 ELSE PRINT@0,CHR$(30);
615 GOSUB 920
620 IF N=8 N=0 ELSE IF N<0 N=7 ELSE IF U=8 U=0 ELSE IF U<0 U=7
625 IF X=1 P=2:V=0:O=0

```

```

630 PRINT@P,D;:P=P+0:PRINT@P,A(L,N);:PRINT@0,E;:Q=Q+V:PRINT@0,A(
S,U);:GOSUB 900
635 T=T-1:PRINT@0,USING F;T/10;SB,SW;:IFT>0 O=0:V=0 ELSE 1000
640 Y=1-Y:ON Y GOTO 645:R1=PEEK(R+1):IF R1 AND 8 THEN 700 ELSE I
F R1 AND 4 THEN U=U-1:GOTO 620 ELSE IF R1 AND 16 THEN U=U+1:GOTO
620 ELSE 635
645 R0=PEEK(R):R2=PEEK(R+2):IF R2 AND 8 THEN 650 ELSE IF R0 AND
2 THEN N=N-1:GOTO 620 ELSE IF R0 AND 16 THEN N=N+1:GOTO 620 ELSE
635
650 :X=0:ON N GOTO 710,720,730,740,750,760,770

```

Lines 700-780

Forward moves are checked for legality and made if possible (in Line 630 actually). Two comments are in order at this point. 1) a phrase such as, "if P-880" is interpreted in exactly the same way as the phrase, "if $P < > 880$ " with one exception: the first way is faster. 2(a phrase like, "if $P < > 880$ AND $P < > 884$ " is executed identically to the phrase, "IF $P < > 880$ IF $P < > 884$ ", with the same exception as above: the TRS-80 can perform an "IF" faster than an AND.

```

700 IF P-880 IF P-884 IF P-328 IF P-332 IF P>191 O=-64
705 GOTO 625
710 IF P-812 IF P-876 IF P-880 IF P-260 IF P-324 IF P-328 IF P>1
F P+8-64*INT((P+8)/64) O=-60
715 GOTO 625
720 IF P-748 IF P-812 IF P-196 IF P-260 IF P+8-64*INT((P+8)/64)
O=4
725 GOTO 625
730 IF P-684 IF P-688 IF P-748 IF P-132 IF P-136 IF P-196 IF P<83
2 IF P+8-64*INT((P+8)/64) O=68
735 GOTO 625
740 IF P-136 IF P-140 IF P-688 IF P-692 IF P<832 O=64
745 GOTO 625
750 IF P-760 IF P-692 IF P-696 IF P-140 IF P-144 IF P<832 IF P-4
-64*INT((P-4)/64) O=60
755 GOTO 625
760 IF P-824 IF P-760 IF P-208 IF P-272 IF P-4-64*INT((P-4)/64)
O=-4
765 GOTO 625

```

```
770 IF P=884 IF P=888 IF P=824 IF P=272 IF P=332 IF P=336 IF P>1  
91 IF P=4-64*INT((P-4)/64) O=-68
```

```
775 GOTO 625
```

```
780 Z=P:P=O:X=1:ON U+1 GOTO 700,710,720,730,740,750,760,770
```

Lines 900-940

These lines are actually two subroutines. The one at Line 920 is called first (in Line 615). VV is a number from 1 to 9 which will appear on the playing field at position M. If M happens to fall on a barrier, then M is moved to the middle of the arena. CHR\$(49) thru CHR\$(57) correspond to the digits from 1 thru 9. If VV were printed directly, it would have unwanted blanks on each side of it. If the routine is entered at Line 900 (see Line 630), then a check is first made to determine if a previously placed number is still on the field. If it is, then no action is taken, but if it is gone, Line 910 adds its value to the correct player's score (SB=black; SW=white).

```
900 IF PEEK(15360+M)=48+VV RETURN
```

```
910 IF X=0 SB=SB+VV ELSE SW=SW+VV
```

```
920 VV=RND(9):M=2*RND(29)+66+64*RND(13)
```

```
930 IF M=266 OR M=268 OR M=818 OR M=270 OR M=820 OR M=822 M=544
```

```
940 PRINTM,CHR$(48+VV):RETURN
```

Lines 1000-1050

The feature of interest here is the use of **SGN** with the **ON GOTO** to determine which player has won, or if a tie has occurred.

```
1000 PRINT@66,CHR$(30)"GAME OVER:":PRINT@110,"HIT ENTER";
```

```
1010 ON SGN(SW-SB)+1 GOTO 1020,1030:G="BLACK WINS:":GOTO 1040
```

```
1020 G="TIE SCORE:":GOTO 1040
```

```
1030 G="WHITE WINS:"
```

```
1040 PRINT@88,G:
```

```
1050 IF INKEY$=CHR$(13)THEN 1050 ELSE RUN 20
```

Lines 5000-5200

When many lines of text are to be displayed with 32 characters per line, it is easier to type the line in 32 character-size in the first place. Hit a **SHIFT** and a **>** before entering the line. When you reach the end of a line on the screen, hit a **✓** **WITHOUT SHIFT** and begin the next line of text. This allows you to see the text as it will appear when the program is run. To leave a blank line between lines of text (see Line 5030) use the **✓** more than once.

```
5000 CLS:PRINT@4,CHR$(23)"TANK (SEARCH AND CAPTURE)
```

THE OBJECT OF THE GAME IS TO COLLECT AS MANY POINTS AS POSSIBLE BEFORE TIME RUNS OUT. A NUMBER WILL APPEAR ON THE PLAYING FIELD AT A RANDOM LOCATION. THE PLAYER WHO DRIVES HIS TANK

```
5010 PRINT"OVER THE NUMBER WILL HAVE HIS
```

SCORE INCREASED BY THE VALUE OF THAT NUMBER. PLAYERS ARE CALLED 'BLACK' AND 'WHITE' AND THEIR TANKS LOOK LIKE THIS:

```
5020 PRINT@700,A(0,2)"
```

```
"CHR$(27)A(1,6):PRINTTAB(5)"BLACK
```

```
WHITE":GOSUB 6000:CLS:PRINTCHR$(23);
```

```
5030 P=268:Q=292:N=2:U=6:PRINT"PLAYERS CONTROL THE TANKS BY MEANS OF SIX KEYS AS SHOWN:
```

```
BLACK
```

```
A S D
```

```
WHITE":PRINT@P,A(0,N):PRINT@Q,A(1,U)"
```

```
J K L
```

THESE KEYS ARE IN TWO GROUPS ON EACH SIDE OF THE KEYBOARD. THE

```
5040 PRINT"OUTER KEYS IN EACH GROUP ARE FORTURNING. (PRESS ENTER FOR DEMO).":GOSUB 6010
```

```
5050 PRINT@512,CHR$(31)"PRESSING 'A' TURNS BLACK COUNTERCLOCKWISE.":PRINT@974,"(PRESS ENTER)";
```

```
5060 N=N-1:IF N<0 N=7
```

```
5070 PRINT@394," ";:PRINT@P,A(0,N):GOSUB 7000:PRINT@394,"A":GOSUB 7000:IF INKEY#=CHR$(13) ELSE 5060
```

```
5080 PRINT@532,"J":PRINT@550,"WHITE";
```

```
5090 U=U-1:IF U<0 U=7
```

```
5100 PRINT@418," ";:PRINT@Q,A(1,U):GOSUB 7000:PRINT@418,"J":GOSUB 7000:IF INKEY#=CHR$(13)ELSE 5090
```

```
5110 PRINT@512,"SIMILARLY, THE 'D' AND 'L' KEYS ROTATE THE TANKS CLOCKWISE. . .";
```

```
5120 U=U+1:N=N+1
```

```
5130 IF U=8 U=0
```

```
5140 IF N=8 N=0
```

```
5150 PRINT@402, " "; :PRINT@426, " "; :PRINT@P, A(0, N); :GOSUB 7000:PR
INT@402, "D"; :PRINT@426, "L"; :PRINT@0, A(1, U); :GOSUB 7000:IF INKEY$
=CHR$(13)ELSE 5120
```

```
5160 N=3:U=5:PRINT@P, A(0, 3); :PRINT@0, A(1, U); :PRINT@512, CHR$(31)"
THE 'S' AND 'K' KEYS (THE MIDDLEKEYS IN EACH GROUP) WILL MOVE
THE TANKS FORWARD. NOTICE THAT
EACH TANK LEAVES A TRAIL BEHIND
```

```
IT AS IT TRAVELS. (PRESS ENTER). ":GOSUB 6010 :PRINT@384, CHR$(31)
```

```
5170 FOR P=P TO P+544 STEP 68:PRINT@P, A(0, N); :GOSUB 7000:PRINT@9
22, " "; :GOSUB 7000:PRINT@922, "S"; :PRINT@P, D; :NEXT:PRINT@P, A(0, N)
; :FOR Q=QT00+480STEP60:PRINT@0, A(1, U); :GOSUB 7000:PRINT@922, " ";
:GOSUB7000:PRINT@922, "K"; :PRINT@0, E; :NEXT:PRINT@0, A(1, U); :GOSUB
6000
```

```
5180 CLS:PRINT CHR$(23)"SOME FINAL NOTES:
```

```
YOU CANNOT TRAVEL THRU ANY SOLIDWHITE BARRIER (SUCH AS THE ONES
YOUR TANKS ARE FACING WHEN THE
GAME STARTS - OR THE WALLS OF
THE PLAYING FIELD. )
```

```
AS THE GAME PROGRESSES, THE
NUMBERS BECOME HARDER TO FIND
```

```
5190 PRINT"AMONG THE LETTERS. THERE IS
<ALWAYS> A NUMBER OUT THERE.
```

```
IF A NUMBER IS HARD TO SEE,
IT MAY BE A 3 OR AN 8 HIDING
```

```
IN THE TRACKS LEFT BY THE
BLACK TANK. GOOD LUCK!!":GOSUB 6000
```

```
5200 GOTO 510
```

Lines 6000-6010

Waits until ENTER is pressed before continuing.

```
6000 PRINT@974, "(PRESS ENTER)";
6010 IF INKEY$=CHR$(13)RETURN ELSE 6010
```

Line 7000

```
7000 FOR I=1 TO 150:NEXT:RETURN
```

Waiting loop.

ST80D

Lance Micklus'
ST80-the Smart
Terminal Program-
just got SMARTER!!

ST80D contains extensions for disk drive systems to exchange files with a timesharing computer or another TRS-80.

USING ST80D, your TRS-80 can do all this and more:

- Gather and pre-format data, store it on disk, then transmit it to a timesharing computer for processing.
- Processed data from the timesharing computer can then be sent back to the TRS-80.
- One TRS-80 can generate a data base and share it with another TRS-80 thousands of miles away by telephone.
- Users may customize their terminal program by redefining the translation tables. Conversion from one set of tables to another takes only seconds.
- Auto logon feature sends your account name, number and password upon request.
- ST80D can transmit any type of TRS-80 ASCII file, including BASIC programs stored in ASCII format, and most BASIC data files. Binary files can also be transmitted from one TRS-80 to another, allowing even machine language programs to be sent over the phone.

ST80D is a practical, full-feature terminal program that has been used on a variety of timesharing systems. These include IBM 370, Honeywell Sigma/6, Harris/7, DECSYSTEM 20, Dartmouth Timesharing, CDC Cyber and HP 2000.

If you're looking for a professional quality product, **not an amateur program**, then order ST80D today!

For 32K
disk systems -
\$79.95

TSE TRS-80 Software Exchange

17 Briar Cliff Drive Millis, New Hampshire 03055

X-WING II

by Chris Freund

For the thousands who have enjoyed X-Wing Fighter, X-Wing II presents a totally new element in the game!



You are Pilot of an X-Wing fighter ...

Your Mission, Destroy the Death Star!



Where X-Wing I left Death Star looming on the screen, X-Wing II lets you guide your fighter into the trench, find the exhaust port, aim and fire — all the while avoiding enemy fighters. Excellent graphics, 12 levels of play, and extensive INKEY\$ commands make this one of our most exciting "real-time" games.

Level II, 16K — \$9.95

TSE TRS-80 Software Exchange

17 BRIAR CLIFF DRIVE MILFORD, NEW HAMPSHIRE 03055

Special Purpose Software

8080-Z80 CONVERSION

Here's a program for machine language freaks — it permits you to enter 8080 codings and returns the Z-80 equivalent. In addition, it also stores the equivalents in the order they were entered for review at a later time.

Level II, 16K Price, \$15.00

RENUMBER

This program can renumber a 12K program in just 32 seconds. Offers complete user control with respect to which lines are renumbered, and how, including all GOSUB's and GOTO's. Needs no external tables. Runs in 1300 bytes of high memory, regardless of program size. Specify 4, 16, 32 or 48K version when ordering.

Digital Cassette for Level II — \$15.00

Disk, all 4 versions on one — \$25.00

Source Listing — \$20.00

MICRO TEXT EDITOR

Versatility in text composition and editing through use of a non-destructible cursor, graphics capability and interface option with cassette tape or TRS-80 printers are feature elements of this program. Commands include: Delete, Insert, ASCII Code, Repeat, Print, Save, Load, Clear, and End.

Level II, 4K or 16K Price, \$9.95

TSE TRS-80 Software Exchange

17 Briar Cliff Drive Milford, New Hampshire 03055

GENERAL LEDGER I

by Michael Kelleher

Designed for application in a small to medium volume business not requiring the implementation of a "double-entry" bookkeeping system.

Capabilities include:

- ✓ Ability to establish, define, delete and sort up to 400 general ledger accounts.
- ✓ Post up to 200 entries and/or adjustments to transaction data files per session.
- ✓ Automatic updating to maintain "to-date" account totals. All transaction data files supported by user-selected reports.
- ✓ Maximum hardware flexibility system with 1 to 4 disk drives.
- ✓ Full complement of line printer reports.
- ✓ "Error-trapping" routines.
- ✓ Looped program format allows access to sub-programs from Master Directory. Avoids necessity to "re-boot".

Although the General Ledger 1.0 System provides a comprehensive, flexible accounting system, it has not been designed for use by a large volume business operation utilizing a rigorous dual-entry accounting system. However, if a double-entry system is in use, reconciliation reports are provided by the General Ledger 1.0 System.

Disk 32K

\$79.95

TSE TRS-80 Software Exchange
17 BRIAR CLIFF DRIVE MILFORD, NEW HAMPSHIRE 03055



Does your child hate spelling?
Here's a program to transform your TRS-80 into a
speaking, spelling FUN machine ...

The first step in using Spelling Bee is to teach the TRS-80 how to spell the words. If possible, use the word list that your child brings home from school. The easiest way to enter the list (up to twenty words) is to type

RUN 1 ENTER

The computer will respond with instructions for entering the words, and a large cursor will appear at the left side of the screen. From this point on, every word you type will be displayed in GIANT letters (about 4" tall). Each word may be up to ten characters in length and may contain apostrophes **CAN'T**, hyphens **GOOD-BY** or blanks **GRAND PRIX**. Two editing keys are provided in case of error: the ← works in the usual way, erasing one character each time it's pressed. The **CLEAR** key will erase the entire word, allowing

you to begin that word again. When the word is spelled correctly, press **ENTER** and the computer will store the word in a special DATA statement at line 1000. (Programming note: if you type in the program yourself, be sure to type as many slashes (/) as line 1000 will hold before running the program. This reserves space for the DATA.

NEVER EDIT line 1000. Should you wish to type in your own DATA statement, use any vacant line number **SMALLER** than 999). If your list contains fewer than twenty words, the final entry must be XXX.

The second step is to give your computer a voice. When the final word has been entered, the computer will direct you through the process of creating an audio tape. The instructions which appear on the screen tell you which wires to pull, which buttons to press, and exactly how

far to rewind a blank tape. Don't forget to remove the small plastic plug from the **MIC** jack. This will allow the built-in condenser microphone to pick up your voice. (Put it back after recording so that future **CSAVES** will not be spoiled by room noise). The first time thru, you may wish to step through the procedure without actually making a recording. This way you can get used to pacing your voice so that you can comfortably say your "lines" during the time that the "on-the-air" light is traveling across the screen. When you are through rehearsing, hit **BREAK** and type **RUN 2**

This command tells the computer to help you with the audio tape from the beginning. Should you make an error while recording, simply **BREAK** and

RUN 2 again.

When the final word has been recorded, the computer will instruct you to rewind the tape. You **DO NOT** need to unplug the **REMOTE** wire. The computer has disconnected this wire in software. When the tape is rewound, pressing **ENTER** will effectively plug the **REMOTE** wire back in.

Now it's time to test the program. This time, just type **RUN**

and answer the question, "Do you want instructions?" with the word "no". Again the computer will tell you which wires to pull, buttons to press and how far to rewind your audio tape. (Notice

that the tape is wound to one spot for recording and to a different spot for playback). Pressing **ENTER** at this point begins the main program. The recorder should turn on automatically, speak the first word and shut itself off. Wait for the **GIANT** cursor, then type in your response. If you spell the word correctly, the computer will say so (on the screen) and the next word will be spoken by the recorder. If you spell the word incorrectly, press **CLEAR** and try again. If the second attempt is wrong, the correct spelling will be displayed (in **GIANT** letters). Press **ENTER** to hear the next word.

After your response to the final word, your score will be given, and the audio tape may be rewound (again without pulling the remote wire). Now **CSAVE** the program on a different tape from the audio and it will be ready to use until the next word list arrives home from school.



0 CLEAR2E3:GOTO6000
SOFTSIDE PRESENTS
SPELLING BEE
BY JAMES GARON

1 CLEAR2E3:TZ=1:GOTO10
2 CLEAR2E3:TZ=2

10 PRINT"WAIT A SEC. . .":DEFSTR\$="H:DEFINT1-2:DINH(25):E=CHR\$(34):
D=CHR\$(191):GOTO5140

50 CLS:PRINT:PRINTTAB(6)H(18)H(15)H(4)H(11)H(11)H(8)H(13)H(6):PR
INT:PRINTTAB(21)H(1)H(4)H(4):N=0:S=N

95 PRINT@304,"REMIND THE AUDIO TAPE SO THE PLACE WHERE THE LEADE
R JOINS

THE TAPE APPEARS IN THE LEFT-HAND WINDOW AS SHOWN:

"TAB(18)STRING\$(25,176):PRINTTAB(15)STRING\$(5,D)"===== "D;D;"—
—"D"—"D"———"STRING\$(5,D):PRINTTAB(18)STRING\$(25,131)

96 V=16256:K=128:PRINT"REMOVE 'EAR' AND 'AUX' WIRES.
LEAVE OTHER WIRE IN.
PRESS 'PLAY'.

Small Business Bookkeeping

Recommended for
small businesses



FOR
DISK

The Dome Bookkeeping System, fully compatible with your TRS-80 disk system! Optional reporting to line printer; supports cash system of accounting, applying expenses to any of the forty-two accounts.

by Miller Microcomputer Services
and Roger W. Robitaille, Sr.

Available for 32K
Disk Systems — \$24.95

TSE TRS-80 Software Exchange
17 Briar Cliff Drive Millfold, New Hampshire 03055

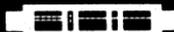
```

PRESS ENTER TO BEGIN...
97 PRINT@602,D;:FORI=1TO30:IFINKEY$=""NEXT:PRINT@602,""::FORI=1
TO30:IFINKEY$=""NEXT:GOTO97
98 PRINT@256,CHR$(31)
99 READD:IFLEFT$(D,3)="XXX"THEN300ELSEGOSUB10000:Y=0:N=N+1:GOSUB
5000
200 IFA=LEFT$(D,LEN(D))PRINT@704,H(2)H(14)H(17)H(17)H(4)H(2)H(19
):S=S+1:GOTO99ELSEY=Y+1:IFY<2PRINT"PRESS CLEAR AND TRY AGAIN":GO
SUB4000:GOTO200
210 E="":FORI=1TOLEN(D):M=ASC(MID$(D,I,1)):IFM<64THENE=E+H(M-65)
ELSEIFM=32THENE=E+CEELSEIFM=45THENE=E+HEELSEIFM=39THENE=E+APELSEIF
M=46THENE=E+F
215 NEXT
220 PRINT@576,"THE CORRECT SPELLING IS":PRINT
230 PRINTE:PRINT"PRESS ENTER..."
240 B=INKEY$:IFB=""THEN240ELSEIFASC(B)-13THEN240ELSE98
300 PRINT@832,"YOUR SCORE IS"5"OUT OF"N
REWIND TAPE - THEN PRESS ENTER":OUT255,4
310 IFINKEY$=""THEN310ELSEND
999 G=""
1000 DATA //////////////////////////////////////
////////////////////////////////////
////////////////////////////////////
////////////////////////////////////
////////////////////////////////////
1500 V=VARPTR(G):L=PEEK(V+1)+256*PEEK(V+2)
1520 FORI=L+8TOL+238:POKEI,6:NEXT

```

SPELLING BEE

REWIND THE AUDIO TAPE TO THE PLACE WHERE THE LEADER BEGINS
THE TAPE APPEARS IN THE LEFT-HAND WINDOW AS SHOWN



REMOVE LEADER AND TAPE WIPES
LEAVE OTHER WIRE IN
PRESS "PLAY"
PRESS ENTER TO BEGIN...

```

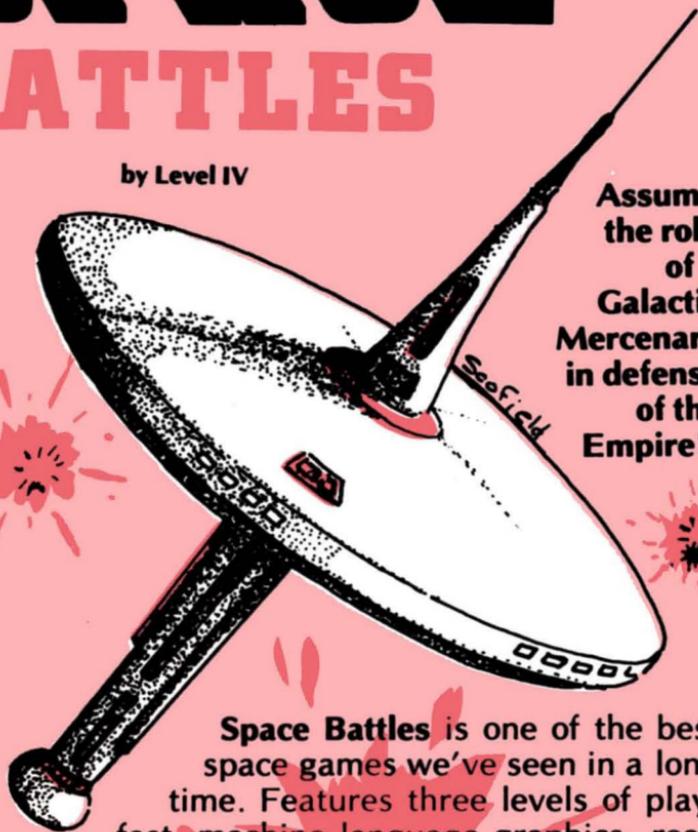
1530 CLS:PRINT"SPELL EACH WORD CORRECTLY. PRESS ENTER AFTER EACH
WORD.
THERE IS ROOM FOR UP TO 20 WORDS.
IF YOU ENTER FEWER THAN 20 WORDS, THE LAST WORD MUST BE 'XXX'
1540 K=L+8
1550 FORN=1TO20
1560 PRINT@256, "WORD #\"W\"?":GOSUB5000:IFA=""THEN1560
1570 FORI=1TOLEN(A):POKEK,ASC(MID$(A,I,1)):K=K+1:NEXT
1580 IFA<>"XXX"THENPOKEK,44:K=K+1:NEXT:FORK=KTOK+2:POKEK,88:NEXT
2000 RESTORE:CLS:PRINT"REMOVE PLASTIC PLUG FROM 'MIC'
REMOVE 'AUX' WIRE AND 'EAR' WIRE.
LEAVE OTHER WIRE IN.
REWIND A BLANK TAPE SO THE PLACE WHERE THE LEADER JOINS THE
TAPE APPEARS IN THE SMALL RIGHT-HAND WINDOW (AS SHOWN):
2001 PRINTTAB(18)STRING$(25,176):PRINTTAB(15)STRING$(5,D)"===="
D="D"===="D;D;D"-----"STRING$(5,D):PRINTTAB(18)STRING$(25,131)
2005 PRINT"PRESS RECORD AND PLAY.
(IF YOU MAKE AN ERROR ON THE AUDIO TAPE, HIT BREAK THEN 'RUN 2')
PRESS ENTER TO BEGIN..
2007 PRINT@418,":":FORI=1TO30:IFINKEY$=""NEXT:PRINT@418,D;:FORI
=1TO30:IFINKEY$=""NEXT:GOTO2007
2009 CLS:PRINT
2010 READA:IFLEFT$(A,3)="XXX"THEN3000ELSEPRINT"PRESS ENTER; WHEN
THE TOP OF THE SCREEN LIGHTS,
SAY, "E"SPELL THE WORD: "A;E
2020 B=INKEY$:IFB=""THEN2020ELSEIFASC(B)-13THEN2020
2030 K=191:V=15360:GOSUB10000:GOTO2010
3000 PRINT"
REWIND YOUR TAPE; PRESS ENTER WHEN TAPE IS REWOUND.":OUT255,4
3010 IFINKEY$=""3010
3020 OUT255,0:PRINT"YOU MAY NOW 'RUN' THE PROGRAM.":END
4000 IFINKEY$<>CHR$(31)4000
5000 P=448:A=""
5010 PRINT@P-64,CHR$(30);
5020 PRINT@P,CHR$(31):IFLEN(A)<10PRINT" "STRING$(5,176)
5030 B=INKEY$:IFB=""THEN5030ELSEZ=ASC(B):IFZ=31THEN5000
5040 L=LEN(A):IFZ=8ANDL>0A=LEFT$(A,L-1):P=P-6:GOTO5010
5050 IFZ=32IFL<10PRINT@P,C:GOTO5090
5060 IFZ=45IFL<10PRINT@P-64,H:GOTO5090
5062 IFZ=39IFL<10PRINT@P,AP:GOTO5090

```

SPACE BATTLES

by Level IV

Assume
the role
of a
Galactic
Mercenary
in defense
of the
Empire!!



Space Battles is one of the best space games we've seen in a long time. Features three levels of play, fast, machine language graphics, real-time input, and "smart" enemy ships that move and shoot! You'll find that playing the part of a mercenary isn't simple. It's not enough to eliminate the aliens; you must turn a profit, missiles are expensive, the rewards are small, and watch out for the radiation belts!!! Available on Level II, 16K Tape or 32K Disk.

Tape — \$14.95

Disk — \$19.95

TSE TRS-80 Software Exchange

17 Briar Cliff Drive Milford, New Hampshire 03055

```

5865 IFZ=461FL(18PRINT@,F:GOTO5890
5870 IFZ=13PRINT@,C:RETURN
5880 Z=Z-65:IFZ<0ORZ>250RL)9THEN5820ELSEPRINT@,H(Z)
5890 A=A+B:P=P+6:GOTO5820
5140 C="      ":H=" "+STRING$(5,176)+CHR$(26)+STRING$(5,24)+"
      ":AP=CHR$(27)+"      "+CHR$(175)+CHR$(26)+STRING$(5,24)+C:F=" "+
CHR$(140)+"
5200 B=CHR$(25)+CHR$(27):C=CHR$(26)+STRING$(5,24):H(0)=B+D+STRIN
G$(3,179)+D+C+CHR$(143)+"      "+CHR$(143):H(1)=LEFT$(H(0),6)+CHR$(
157)+C+CHR$(143)+STRING$(3,140)+CHR$(135):H(2)=B+D+STRING$(4,131
)+C+CHR$(143)+STRING$(4,140)
5285 H(3)=B+D+STRING$(2,131)+CHR$(139)+CHR$(180)+C+CHR$(143)+STR
ING$(2,140)+CHR$(142)+CHR$(129):H(4)=B+D+STRING$(3,179)+CHR$(131
)+C+CHR$(143)+STRING$(4,140):H(5)=B+D+STRING$(3,179)+CHR$(131)+C
+CHR$(143)+"      "
5210 H(6)=B+D+CHR$(131)+STRING$(3,179)+C+CHR$(143)+STRING$(3,140
)+CHR$(143):H(7)=B+D+STRING$(3,176)+D+C+CHR$(143)+"      "+CHR$(143
):H(8)=B+STRING$(2,131)+D+STRING$(2,131)+C+STRING$(2,140)+CHR$(1
43)+STRING$(2,140)
5215 H(9)=B+STRING$(3,131)+D+CHR$(131)+C+CHR$(143)+STRING$(2,140
)+CHR$(143)+"      ":H(10)=B+D+CHR$(176)+CHR$(140)+CHR$(131)+"      "+C+CH
R$(143)+"      "+CHR$(131)+CHR$(140)+"      ":H(11)=B+D+"      "+C+CHR$(143)
+STRING$(4,140)
5220 H(12)=B+D+CHR$(131)+D+CHR$(131)+D+C+CHR$(143)+"      "+CHR$(14
3):H(13)=B+D+CHR$(140)+CHR$(176)+"      "+D+C+CHR$(143)+"      "+CHR$(131
)+CHR$(143):H(14)=B+CHR$(190)+STRING$(3,131)+CHR$(189)+C+CHR$(13
9)+STRING$(3,140)+CHR$(135)
5225 H(15)=B+D+STRING$(3,179)+D+C+CHR$(143)+"      ":H(16)=B+CHR$(
190)+STRING$(3,131)+CHR$(189)+C+CHR$(139)+CHR$(140)+CHR$(142)+CH
R$(141)+CHR$(183):H(17)=B+CHR$(191)+STRING$(3,179)+D+C+CHR$(143)
+"      "+CHR$(131)+CHR$(140)
5230 H(18)=B+D+STRING$(4,179)+C+STRING$(4,140)+CHR$(143):H(19)=B
+STRING$(2,131)+D+STRING$(2,131)+C+"      "+CHR$(143)+"      ":H(20)=B+D
+"      "+D+C+CHR$(139)+STRING$(3,140)+CHR$(135):
5235 H(21)=B+CHR$(143)+CHR$(176)+"      "+CHR$(176)+CHR$(143)+C+"      "+C
HR$(131)+CHR$(140)+CHR$(131)+"      ":H(22)=B+D+"      "+CHR$(176)+"      "+D+C
+CHR$(143)+CHR$(140)+CHR$(143)+CHR$(140)+CHR$(143)
5240 H(23)=B+CHR$(131)+CHR$(140)+CHR$(176)+CHR$(140)+CHR$(131)+C
+CHR$(140)+CHR$(131)+"      "+CHR$(131)+CHR$(140):H(24)=LEFT$(H(23),1
3)+"      "+CHR$(143)+"      ":H(25)=B+STRING$(2,131)+CHR$(179)+CHR$(143

```

The MAGIC of Leo Christopherson

Android Nim

The newest version of TRS-80's first animated graphics game - Android NIM - now with more animation and **sound!**

Level II, 16K - **\$14.95**

Snake Eggs

Here is a computerized reptilian version of 21 complete with arrogant snakes and appropriate **sound.**

Level II, 16K **\$14.95**

Life Two

Two in one: Game of Life, at an astounding 100 generations a minute, plus Battle of Life with animated creatures and **sound.**

Level II, 16K **\$14.95**

Cubes

Cubes gives you the solution to Instant Insanity^{®*}, a numbered block puzzle. Drive your computer nuts trying to figure how to arrange the 4 blocks on your screens. Each side shows four different numbers. Level II, 16K

* Instant Insanity[®] is a Parker Brothers registered trademark

\$9.95

TSE TRS-80 Software Exchange

17 BRIAR CLIFF DRIVE

MILFORD, NEW HAMPSHIRE 03055

INVENTORY 2.3

The programming of the **FUTURE** is here
NOW



Proper inventory management is the backbone of a profitable business, yet it's very difficult to keep current on price increases, shrinkage, low-on-stock items and profitable items versus losers, without an efficient and prompt method of surveying your inventory levels at any given time. The Inventory 2.3 System provides the small-to-medium volume business with an efficient method of establishing and maintaining inventory records. Features of Inventory 2.3 include:

- The ability to establish over 2200 inventory item records per clean diskette. Each inventory item record contains data on the vendor, quantity on hand, cost per unit, retail price per unit, reorder points, quantities purchased and sold, and sales history.
- File search by inventory item description or batch/sequence number assignment.
- System operation with 1 to 4 user selectable disk drives.
- Informative reports analyzing both inventory costs and supplies.
- Sophisticated recovery routines with each program to catch data entry errors and to prevent computer "lock-out" through lack of proper line printer interface, etc.
- A looped program format to allow access to any sub-programs whenever a different inventory file function is desired.

A comprehensive manual guides you step by step during your first-time run of the system; your conversion of data from a manual system to the computer system; and regular run procedures throughout the year (update file, add or delete items, monitor activity monthly or weekly, check for low stock, run inventory control reports).

Requires a minimum system configuration of 32K, Level II TRS-80 microcomputer with at least two mini-disks and line printer. Two disks are recommended. \$79.95

TSE TRS-80 Software Exchange

17 Briar Cliff Drive Milford, New Hampshire 03055

```

) >CHR$(131)+C+CHR$(140)+CHR$(143)+STRING$(3,140):C=" "
5290 ONTOTO999,2000:GOTO50
6000 CLS:INPUT"
DO YOU NEED INSTRUCTIONS";A$:IFLEFT$(A$,1)O"Y"10
6010 CLS:PRINT"
SPELLING BEE WAS CREATED TO GIVE SPELLING PRACTICE AT MANY
LEVELS OF DIFFICULTY. IT IS DESIGNED TO BE USED WITH THE
CASSETTE RECORDER. THE DESIRED WORDS ARE RECORDED ON TAPE
AND THE COMPUTER PLAYS THEM ONE AT A TIME WHILE THE USER
6020 PRINT"SPELLS THE WORD. IF THE SPELLING IS CORRECT, THE TAP
E
WILL AUTOMATICALLY ADVANCE TO THE NEXT WORD. IF THE SPELL-
ING IS NOT CORRECT, THE USER IS GIVEN ANOTHER OPPORTUNITY
TO SPELL THE WORD. IF THE SPELLING IS STILL INCORRECT, THE
6030 PRINT"COMPUTER WILL SPELL THE WORD CORRECTLY, WAIT UNTIL TH
E
USER PRESSES 'ENTER' AND THEN PROCEED WITH THE NEXT WORD.
THE SCORE IS KEPT, AND DISPLAYED AT THE END.
TO CORRECT ERRORS, USE ] OR 'CLEAR':GOSUB6999
6040 CLS:PRINT"IF YOU HAVE PREVIOUSLY PREPARED AN AUDIO TAPE,
TYPE 'RUN' AND ANSWER THE QUESTION.
' 'DO YOU WANT INSTRUCTIONS ?' WITH THE WORD 'NO'".

6050 PRINT"TO PREPARE YOUR OWN SET OF WORDS, TYPE 'RUN 1' AND TH
E COM-
PUTER WILL ASSIST YOU. WORDS MAY BE UP TO 10 CHARACTERS IN
LENGTH. THEY MAY INCLUDE SPACES (GRAND PRIX), HYPHENS (GOOD-BY),
APOSTROPHES (DON'T) AND PERIODS (MRS.)
6060 PRINT"A FINAL NOTE: THE COMPUTER WILL WRITE ITS OWN DATA ST
ATE-
MENT AT LINE 1000. DO NOT EDIT THIS LINE. ";
6070 PRINT" IF YOU WISH TO USE
YOUR OWN DATA STATEMENTS, WE SUGGEST LINES 400 THRU 900.

":END
6999 PRINT@960,"(PRESS 'ENTER' TO CONTINUE)";
7000 A$=INKEY$:IFA$=""THEN7000ELSERETURN
10000 OUT255,4:FORI=1TO600:NEXT:FORI=VTOI+63:POKEI,K:NEXT:FORI=V
TOI+63:FORJ=1TO35:NEXT:POKEI,32:NEXT:OUT255,0:FORI=1TO400:NEXT:R
ETURN

```

Don't Miss Out!

If you've moved recently, or are planning on moving in the near future, please verify by filling out the form below. This way, you'll be sure not to miss any issues of Softside. [include your present label]



Name: _____

Address: _____

City: _____

State: _____ Zip Code: _____

When Effective: _____

GET RID OF YOUR G / & # : ? ! !)
D # / ? ! ! :) TYPEWRITER ...

Effortless typing is here!

The Electric Pencil by Michael Shroyer is a true word-processing program for the TRS-80. Enter your manuscript, and let your computer do the work. Editing? Just position the cursor with the arrow keys ... one-key commands let you change, delete, or insert. Fully adjustable margins, left/right justification, variable spacing, page headings, and much more! Save and recall your text with tape or disk files. Typing everything from letters to reports is fast and incredibly easy using

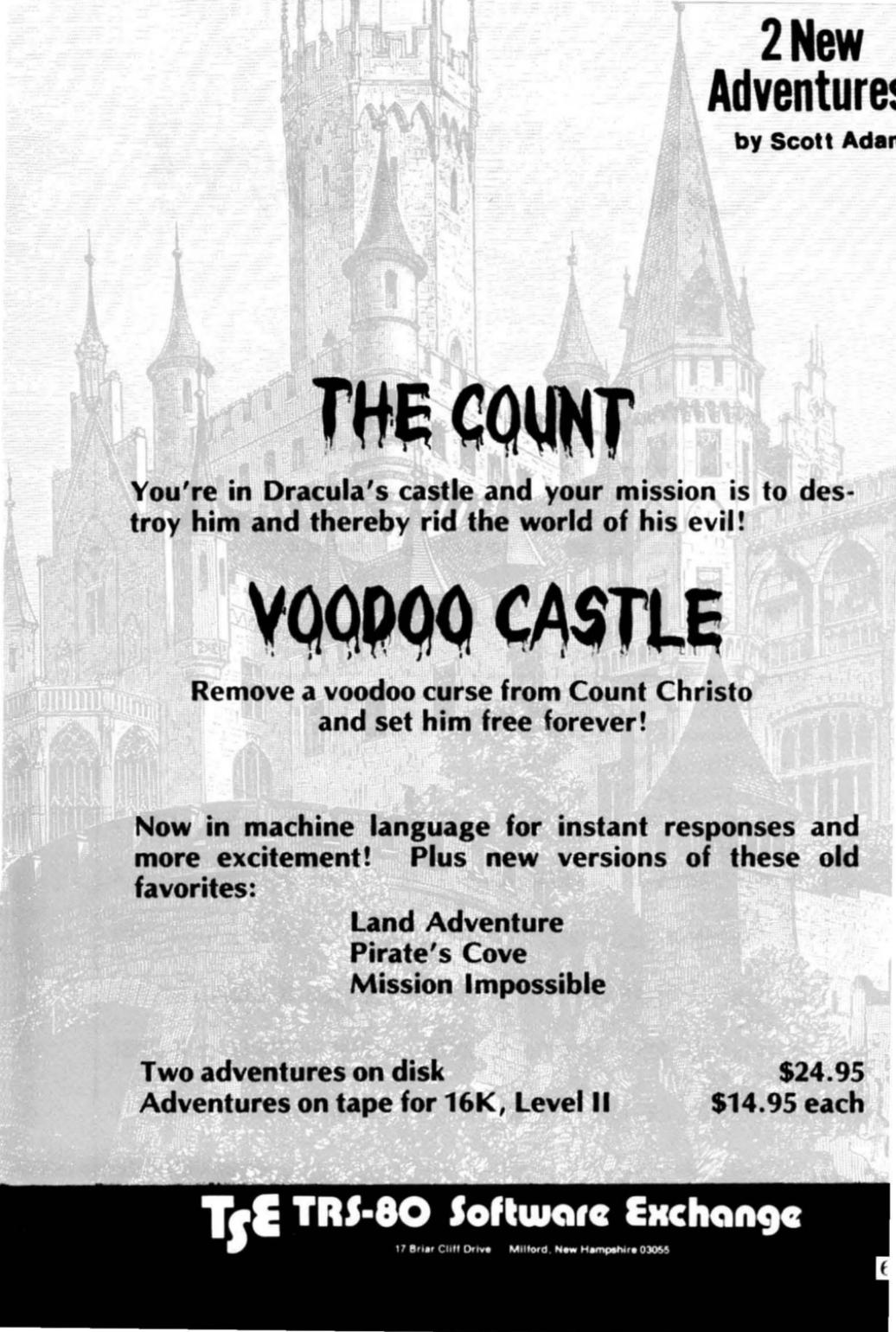


The Electric Pencil.

Level II, 16K tape - \$100.00

Disk version - \$160.00

TSE TRS-80 Software Exchange
17 Briar Cliff Drive Milford, New Hampshire 03055



2 New Adventures

by Scott Adams

THE COUNT

You're in Dracula's castle and your mission is to destroy him and thereby rid the world of his evil!

VOODOO CASTLE

Remove a voodoo curse from Count Christo and set him free forever!

Now in machine language for instant responses and more excitement! Plus new versions of these old favorites:

Land Adventure
Pirate's Cove
Mission Impossible

Two adventures on disk
Adventures on tape for 16K, Level II

\$24.95
\$14.95 each

T&E TRS-80 Software Exchange

17 Briar Cliff Drive Millford, New Hampshire 03065

Collision!

by David Bohlke

Gentlemen, start your engines! They're off! at the hundred-mile marker it's Andretti in the lead, with Unser five seconds behind. Now here comes Clark, in third position, past Unser on the backstretch. He's gaining on Andretti, challenging on the third turn . . . he hit the wall! The car is spinning back across the speedway into the infield. Clark is out . . . he's all right! But the race is over for Jimmy Clark!

```
0  COLLISION -- A GAME OF SKILL BY DAVID BOHLKE
    =====
5  CLEAR200:DEFINT A,R,C,M,N
20  CLS:PRINT@17,"* COLLISION *":PRINT
25  PRINT"      THIS IS A DRIVING REACTION GAME WHICH TESTS YOUR S
    KILLS IN"
30  PRINT"AVOIDING ONCOMING AUTOS.  DUE TO THE CURVATURE OF THE R
    OAD, YOU"
35  PRINT"MUST ALSO STEER YOUR CAR TO AVOID CRASHING INTO THE GUA
    RDRAILS. "
40  PRINT"TO STEER RIGHT PRESS THE -N- KEY, AND TO STEER LEFT PRE
    SS THE"
45  PRINT"-B- KEY.  YOUR TOTAL SCORE FOR FIVE ATTEMPTS IS A COMBI
    NATION "
50  PRINT"OF THE TIME YOU SURVIVE COLLISION; AND THE NUMBER OF A
    UTOS"
55  PRINT"YOU SUCCESSFULLY PASS. ":PRINT
57  PRINT"DAVID BOHLKE, COGCON, IA  FEB 11, 1979":PRINT
60  INPUT"=ENTER= THE NUMBER OF PLAYERS (1-5) ";PL
```

```

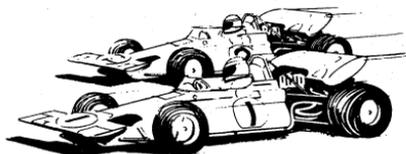
65 PL=ABS(INT(PL)):IFPL>5RUN ELSE CLS
70 FORI=1TOPL
75 PRINT"=ENTER= NAME OF PLAYER # ";I::INPUTPL$(I)
80 IF LEN(PL$(I))>9PRINT"USE LESS THAN 10 LETTERS !":GOTO75
85 NEXT:CLS
100 PRINT"=ENTER= SPEED : "
105 PRINT"SLOW(S) NORMAL(N) FAST(F) ";:INPUTA$
110 IFA$="S"THENCS=20:GOTO120
112 IFA$="N"THENCS=10:GOTO120
114 IFA$="F"THENCS=1:GOTO120
116 PRINT:GOTO100
120 PRINT:PRINT"=ENTER= TRAFFIC : "
125 PRINT"LIGHT(L) MEDIUM(M) HEAVY(H) ";:INPUTA$
130 IFA$="L"THENCN=13:GOTO140
132 IFA$="M"THENCN=9:GOTO140
134 IFA$="H"THENCN=5:GOTO140
136 PRINT:GOTO120
140 PRINT:PRINT"=ENTER= ROAD CURVATURE : "
145 PRINT"LONG CURVES(L) GENTLE CURVES(G) MANY CURVES(M) ";
147 INPUTA$
150 IFA$="L"THENCR=50:GOTO160
152 IFA$="G"THENCR=30:GOTO160
154 IFA$="M"THENCR=10:GOTO160
156 PRINT:GOTO140
160 CLS:A$=CHR$(153)+CHR$(166)
165 RC$=CHR$(155)+CHR$(167)
170 R$=STRING$(4,153)+STRING$(20,128)+STRING$(4,166)
200 FOR GA=1 TO 5
220 FOR Z=1 TO PL
230 IFZ=1PRINT@960,PL$(Z); " PRESS =ENTER= FOR YOUR TURN ";:INPUT
X$:CLS
240 R=960+RND(20):A=20:AM=RND(3)+1
250 R1=30:R2=0:R3=1:CT=0:CP=0
300 GOSUB500:GOSUB600
310 S(Z,GA)=CT+CP*5
320 IFZ+1>PLGOTO350
330 PRINT@896,PL$(Z+1)
335 INPUT"PRESS =ENTER= FOR YOUR TURN ";A$:CLS
350 NEXT Z
360 GOSUB700

```

```

380 NEXT GA
400 PRINT@960, "PRESS =ENTER= FOR ANOTHER GAME "; : INPUTA$: RUN
500 PRINT@R, R$: IFRND(CN)=1PRINT@R+RND(18)-61, RC$: : CP=CP+1
502 PRINT@0, CT+CP*5;
505 PRINT@A, A$: : IFPOINT(A*2, 3)ORPOINT(A*2+3, 3)RETURN
510 R2=R2+1: IFR2>R1THENR1=RND(10)+CR: R2=0: R3=-R3
515 R=R+R3: IFR>995THENR=995ELSEIFR<960THENR=960
520 C$=INKEY$: IFC$="B"THENA=A-AMELSEIFC$="N"THENA=A+AM
530 IFA<5THENA=5ELSEIFA>60THENA=60
590 FORC=1TOCS: NEXT: CT=CT+1
599 GOT0500
600 M1=A*2+2
610 FORN=2TO6+RND(5)
615 FORM=M1TOM1+N*4: IFRND(4)>2GOTO625
616 IFM<0ORM>127GOTO625
620 SET(M, N)
625 NEXT: M1=M1-RND(4): NEXT
650 RETURN
700 CLS: PRINT@18, "* COLLISION *"
705 PRINT@200, "ROUND : "
710 PRINT@248, "TOTALS"
715 FORI=1TOPL: PRINT@I*128+192, PL$(I); : T(I)=0: NEXT
720 FORI=1TOGA: PRINT@I*7+204, I; : NEXT
730 FORI=1TOGA+1: FORJ=1TOPL
732 PRINT@I*7+J*128+202, CHR$(191);
734 NEXT: NEXT
740 FORI=1TOPL+1: PRINT@I*128+128, STRING$(64, 140); : NEXT
750 FORI=1TOPL: FORJ=1TOGA
754 T(I)=T(I)+S(I, J)
755 PRINT@I*128+J*7+203, S(I, J);
759 NEXT: NEXT
770 FORI=1TOPL: PRINT@I*128+248, T(I); : NEXT
799 RETURN

```



TAKE A PART:

Collision

This month in our Take A Part feature, instead of looking at the way our program does something, we will consider an alternative. Once you have **Collision** entered into your computer and working, substitute this for the present line 520:

```
520 C=PEEK(15100):IF C=32 THEN A=A-AM ELSE IF C=64 THEN A=A+AM
```

Now play the game, using the right and left arrow instead of B and N.

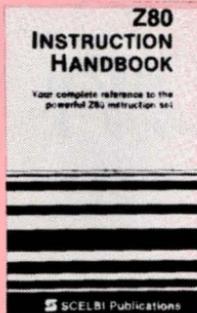
This moves the car as long as the key is held down. There are a number of PEEK locations that can be used, but 15100 was chosen because it is a nice round figure. Here are some of the possible contents for location 15100:

No key Pressed	0
Up Arrow	8
No Key Pressed	0
Up Arrow	8
Down Arrow	16
Left Arrow	32
Right Arrow	64

To explore this feature, enter this program in memory and play with the different keys on the keyboard:

```
1000 CLS
1010 PRINT@, "" :FOR M=15060 TO 15150
1020 PRINT M;PEEK(M);
1030 NEXT
1040 GOTO 1010
```

Reference



Z80 Instruction Handbook Scelbi Publications

Convenient pocket-size manual describes Z80 capabilities in easy-to-understand terminology. Designed as a practical reference to mnemonics, machine codings and usage — for programmers of every level, from beginner to professional ... anyone working in Z80 machine or assembler language.

Price, \$4.95 + \$1.00 handling

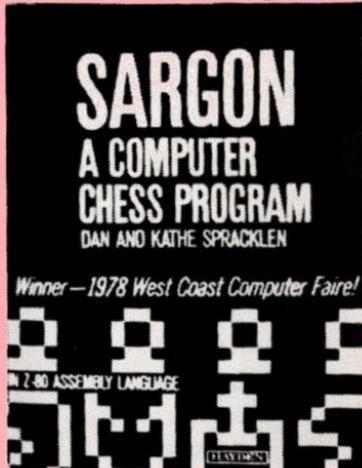


The BASIC Handbook

Dr. David A. Lien

Definitive reference work explaining over 50 versions of the language in detail. All you need to know about the major statements, functions, operators, and commands pertaining to use in micro, mini and mainframe computers.

Price, \$14.95



SARGON A COMPUTER CHESS PROGRAM

DAN AND KATHE SPRACKLEN

Winner—1978 West Coast Computer Faire!



Sargon: A Computer Chess Program

Dan & Kathe Spracklen

Documentation covering all algorithms in Sargon can be found in this comprehensive guide book. Contains table of contents, block diagram, 4 part introduction, Z80 listing and index to subroutines.

Price, \$14.95

TSE TRS-80 Software Exchange

17 Briar Cliff Drive Milford, New Hampshire 03055

KVP

by Lance Micklus

**A UTILITY PROGRAM
THAT GREATLY EXTENDS
THE KEYBOARD, VIDEO,
AND PRINTER
SUBROUTINES IN YOUR
LEVEL II ROM!**

KVP runs under DOS or Level II BASIC. It is relocatable under your control, and so may be used simultaneously with other machine language programs. At least 16K of memory is required.

**Here are some of the
things you'll be able to do:**

USE AN EXTERNAL KEYBOARD
Or, use any other serial input device
in place of the TRS-80 keyboard

**ELIMINATE A COMMON SOURCE
OF PROGRAM ERRORS** by running
your keyboard in upper case only, or
run in upper/lower case mode just
like a typewriter

**PRACTICALLY ELIMINATE KEY-
BOARD BOUNCE** The amount of
debouncing is user-adjustable

**DISPLAY UPPER AND LOWER
CASE LETTERS** on your video
monitor screen

**SIMULATE A RADIO SHACK
SCREEN PRINTER** using an ordinary
printer

**USE MOST ANY ASCII SERIAL
PRINTER** such as Teletype 33 or
Spinterm

**TELL THE TRS-80 YOU HAVE NO
PRINTER AT ALL**

**EXCHANGE PROGRAMS WRITTEN
IN BASIC WITH OTHER COM-
PUTERS** From the Sorcerer to the
IBM 370 (and TRS-80's, too!)

THE LIST GOES ON AND ON!

Self-relocating for 16K, 32K or 48K systems

\$24.95 on tape \$29.95 on disk

TSE TRS-80 Software Exchange

17 Briar Cliff Drive Milford, New Hampshire 03065

PROGRAMMING HINT



One way to add interest to a game is with real time action. This routine will pause a few seconds for an input, then continue if none is given, setting an input flag (I\$ = "F") to indicate that no input was provided. Then you can test for I\$ equal to F to assess a penalty if you wish. The timing can be adjusted with the FOR loop.

```
10 FOR A = 1 TO 500: I$ = INKEY$: IF I$ = " " THEN NEXT: I$ = "F"  
20 IF I$ = "F" PRINT "YOU WERE NOT FAST ENOUGH!"
```

PERCOM

DISK DRIVES Now in Stock

The TRS-80 Software Exchange is pleased to offer single and dual Percom Disk Drives for your TRS-80. These are reliable, high quality drives, fully compatible with the TRS-80 and Radio Shack's drives.

Enjoy these advantages:

- Fast access time
- 110K/40 tracks vs. Radio Shack's 89K/35 tracks
- Lower cost — save \$100 over comparable units
- Available NOW!

Single Drive \$399.00

Dual Drive \$799.00

Cable (required) — \$29.95

NOTE: All disks require TRSDOS software, available only from Radio Shack.

TSE TRS-80 Software Exchange

17 Briar Cliff Drive Milford, New Hampshire 03055



I N V E N T O R Y 'S' by **BUS-80**

Inventory 'S' is an exciting advance in small business software for the TRS-80. Its in-memory system of data storage solves the problems of both sequential and random access files while providing extremely fast, random access to any record. Other advantages include the ability to use any combination of characters for stock number, an exceptionally flexible record format (field names are user-definable), and the ability to store data to tape or disk and upgrade at any time. Up to 150 items can be stored per 16K of available memory, with stock number, description, cost, vendor, reorder, and profit data in each record. An important feature is the ability to use your present stock numbers (a sort function is included), unlike competing systems which force you to use a different "record number" User-definable screen and printer reports let you see just the data you need, when you need it.

Inventory 'S' is an extremely powerful business management tool which can be used effectively with a 16K, tape based system or a 48K, disk and printer system — a claim nobody else can make!

Tape version, 16K (min.), Level II — \$24.95

32K Disk version — \$39.95

(same as tape, but on diskette with additional Disk I/O)

TSE TRS-80 Software Exchange
17 BRIAR CLIFF DRIVE MILFORD NEW HAMPSHIRE 03055

TIRED OF DISK ERRORS?

**STOP BLAMING YOUR DRIVES —
FIX YOUR DOS!**

NEWDOS

NEWDOS, by Apparat, is the third generation disk operating system for your TRS-80. NEWDOS corrects over 70 errors and omissions in TRSDOS 2.1 and disk BASIC, yet the two are completely compatible! Programs and files saved under one can be used with the other interchangeably. Going from TRSDOS 2.1 to NEWDOS is like going from Level I to Level II: more power, more convenience, greater speed.

NEWDOS has the power to:

- Use all DOS commands (incl. directory) in BASIC
- Automatically load and run a BASIC program on power-up
- Produce variable cross-reference tables
- Open 'E' to add to sequential files
- Append files
- Use your line printer as a screen printer
- Renumber BASIC programs
- End keyboard bounce

And, best of all, say goodbye to system crashes, lost data and wasted time caused by your old, bug-ridden system software.

**You paid \$500 for your disk drive —
why struggle with it?**

Apparat's NEWDOS is fully documented and available for only \$49.95 from:

TSE TRS-80 Software Exchange

17 Briar Cliff Drive Milford, New Hampshire 03055

NEWDOS +

If NEWDOS is the Cadillac of disk-operating systems, then NEWDOS + has to be the Ferrari. NEWDOS + retains all the features of the original NEWDOS, and adds the following utilities:

- Editor-assembler for disk
- Disassembler (Z80 machine code)
- LM Offset-allows transfer of any system tape to a disk file (automatically relocated)
- BASIC1-Level one BASIC saved on disk
- LV1DSKSL - not a typo, this saves and loads BASIC1 programs to disk
- DIRCHECK-tests and lists disk directory
- Superzap-display/print/modify any location in memory or on disk

Superzap alone is worth the price of this package. With it, we've quickly recovered lost programs, restored killed data files, and saved many hours of effort. The NEWDOS + manual is another plus: clear and concise, it even includes a byte-by-byte explanation of the directory file ... invaluable if you ever need to save a crashed disk!

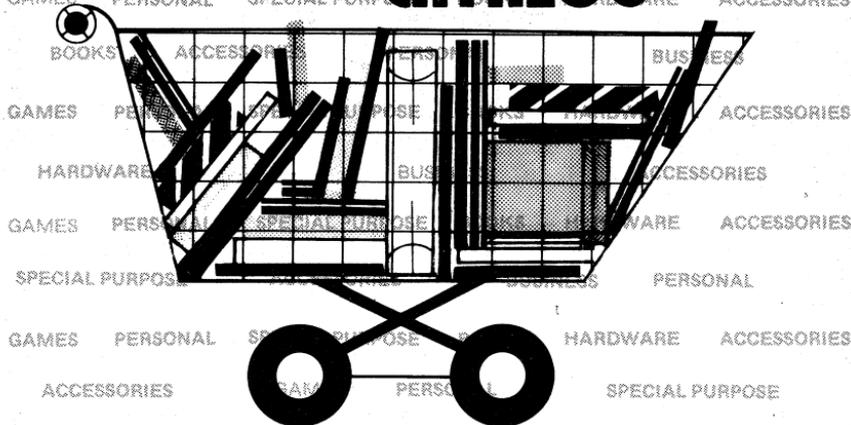
The price for all this computer power? That's the best part!
NEWDOS +, Just \$99.95

NOTE: Use of this software may require documentation available only with the purchase of Radio Shack TRSDOS 2.1 and/or the Radio Shack Editor/Assembler

TSE TRS-80 Software Exchange

17 Briar Cliff Drive Millford, New Hampshire 03065

GAMES PERSONAL SPECIAL PURPOSE BOOKS HARDWARE ACCESSORIES
TSE Market Basket
 BUSINESS HARDWARE BUSINESS PERSONAL
CATALOG
 GAMES PERSONAL SPECIAL PURPOSE BOOKS HARDWARE ACCESSORIES



GAMES

Warfare I 4-game anthology, Level II, 16K \$7.95

Backgammon by Scott Adams Level II, 16K \$7.95

X-Wing Fighter II by Chris Freund Level II, 16K \$9.95

Taipan by Art Canfil - Level II, 16K \$9.95.

Cribbage by Roger W. Robitaille, Sr. Level I or II, 16K \$7.95

Sargon Chess by Dan & Kathe Spracklen Level II, 16K \$19.95

Chess Companion by Michael Kelleher Level II, 16K \$7.95

Three D Tic Tac Toe by Scott Adams Level I or II, 16K \$7.95

Concentration by Lance Micklus Level I or II, 16K \$7.95

Amazin' Mazes by Robt. Wallace Level II, 16K \$7.95

Time Bomb by David Bohlke Level I or II, 16K \$4.95

Balloon Race by Dean Powell, Level II, 16K, \$9.95

Snake Eggs with sound by Leo Christopherson Level II, 16K \$14.95

Life Two by Leo Christopherson with Sound, Level II, 16K \$14.95

Android Nim with sound by Leo Christopherson Level II, 16K \$14.95

Cubes by Leo Christopherson Level II, 16K \$9.95

Mastermind II by Lance Micklus \$7.95

Mastermind II source list \$20.00

Robot/Breakaway Game duo by Lance Micklus Level II, 4K \$7.95

Tycoon by David Bohlke Level II, 16K \$7.95

Slalom by Denslo Hamlin Level II, 16K \$7.95

9 Games for Preschool Children by George Blank Level II, 16K \$9.95

Ten Pin by Frank B. Rowlett, Jr. Level II, 16K \$7.95

All Star Baseball by David Bohlke, Level II, 16K \$7.95

End Zone by R. W. Robitaille, Sr. Level I or II, 16K \$7.95

Atlantic Balloon Cross by Dean Powell Level II, 16K **Special price, \$99.95**

Space Battles by Level IV, Level II, 16K Tape or 32K Disk, Tape - \$14.95, Disk - \$19.95

X-Wing Fighter by George Blank Level II, 16K \$7.95

Star Trek III.3 by Lance Micklus Level II, 16K \$14.95

Dog Star Adventure by Lance Micklus Level II, 16K \$9.95

Adventures on tape by Scott Adams Level II, 16K Choose one: Adventureland, Pirate's Cove, Mission Impossible, The Count, Voodoo Castle, \$14.95.

Adventures on disk by Scott Adams. Pirates Cove plus Adventureland, The Count, Voodoo Castle for 32K disk system \$24.95.

Safari by David Bohlke Level II, 16K \$7.95

Treasure Hunt by Lance Micklus Level I or II, 16K \$7.95

'Round the Horn by George Blank Level II, 16K \$9.95

Pork Barrel by George Blank Level II, 16K \$9.95

Kamikaze by Russell Starkey Level II, 16K \$7.95

All Star Baseball by David Bohlke Level II, 16K \$7.95

Air Raid by Small System Software Level I or II, 4K \$14.95

BUSINESS

Appointment Log by Michael Kelleher Level II, 16K \$9.95

Accounts Receivable II by S. Hebbler 32K disk systems \$79.95

Inventory II by BUS-80 Dual disk systems only \$150.00

Mail List II by BUS-80 32K disk systems \$99.95

General Ledger I by Michael Kelleher 32K disk systems \$79.95

Payroll by Stephen Hebbler for disk systems \$59.95

Small Business Bookkeeping by R. W. Robitaille, Sr. Level I or II, 4K **with journal** \$22.00 **without journal** \$15.00

Small Business Bookkeeping for Disk by Miller Microcomputer Services and R. W. Robitaille, Sr. 32K \$24.95

Inventory 2.2 by M. Kelleher and R. W. Robitaille, Sr. 16K disk systems \$59.95

Inventory Modular by R. W. Robitaille, Sr. Level I or II, 16K \$20.00

Inventory System 2.3 by M. Kelleher. Improved version, \$99.95

Electric Pencil by Michael Shryer, Level II, 16K, 32K Disk, \$150.00

Accounts Receivable II by S. Hebbler, Requires 32K disk system, \$79.95

General Ledger I by M. Kelleher, requires 32K Disk, \$79.95

Small Business Bookkeeping For Disk, by Miller Microcomputer Services and Roger W. Robitaille, Sr., 32K Disk. With journal \$31.95; without journal \$24.95.

SPECIAL PURPOSE

Calculator by R. W. Robitaille, Sr. Level I or II, 4K \$2.95

NEWDOS by Apparat \$49.95

NEWDOS+ by Apparat \$99.95

Moving Signboard by Circle Enterprises Level I or II, 4K \$9.95

Three Monitors for Disk by Small Systems Software Disk for 16 through 48K (all on one) \$29.95

Math Drill by D. L. Brown Level II, 16K \$4.95

RPN Calculator by Russell Starkey Level II, 16K \$9.95

Ham Radio by Michael Kelleher Level II, 16K \$9.95

Ham Radio ARS I.1 for 32K disk \$24.95

Electronics Assistant by John Adamson Level II, 16K \$9.95

Preflight by Stephen Hebbler Level II, 16K \$20.00

KVP Extender by Lance Micklus Tape, \$24.95 Disk, \$29.95

KVP 232 by Lance Micklus - KVP adapted for the TRS-232.

Tape \$44.95

ST80 Smart Terminal Level II, 16K \$49.95

ST80D SMARTER Terminal for disk systems \$79.95

Basic Statistics by Steve Reisser Level II, 16K \$20.00

Micro Text Editor by Don Coons Level II, 4K or 16K \$9.95

Text80 by Frank B. Rowlett, Jr.* For 32K disk systems \$59.95

Drill Masters by Computer Graphics — specify title desired Level II, 16K \$7.95 EACH: German, Chinese, Russian, Italian, Spanish, or Music Theory.

8080-Z80 Conversion Level II, 16K \$15.00

Renumber by Lance Micklus Level II, available in 4 through 48K (specify when ordering) \$15.00

Renumber source listing \$20.00

Renumber on disk all versions on diskette \$25.00

Machine Language Monitor by Small Systems Software Level I or II, 16K \$26.95

Fortran by Microsoft, 32K 2 Disks - new low price \$195.00

MMSForth by Miller Microcomputer Service, 16K Disk - powerful new compiled language - \$65.00 with documentation.

PERSONAL

Tarot by Frank B. Rowlett, Jr. Level I or II, 16K \$9.95

Biorhythms by Frank B. Rowlett, Jr. Level I or II, 4K \$4.95

Personal Finance by Lance Micklus Level II, 16K \$9.95

Advanced Personal Finance by Lance Micklus For 32K disk systems \$24.95

Keyboard 80 James Garon Level II, 16K \$9.95

Home Financial Management by Michael Kelleher Level II, 16K \$9.95

Keyboard-80 by John Adamson, Level II, 16K \$9.95

For more detailed descriptions of our TRS-80 software and accessories, send for the TSE catalog — it's free! Write or call today for your copy:

TRS-80 Software Exchange
17 Briar Cliff Drive
Milford, NH 03055
603-673-5144

BOOKS

Sargon Handbook by Dan & Kathe Spracklen \$14.95 plus \$1.00 shipping

The BASIC Handbook by Dr. David A. Lien \$14.95 plus \$1.00 shipping

Z80 Instruction Handbook by Scelbi Publications \$4.95

The Little Book of BASIC Style by John Nevison \$5.95 plus \$1.00 shipping

HARDWARE

ACCESSORIES

Cassettes boxes of ten each.
C-10, \$6.50 plus \$1.00 shipping
C-20 \$7.50 plus \$1.00 shipping

Diskettes Dyan, box of 5, \$24.95 plus \$1.00 shipping Verbatim, box of 10 \$34.95 plus \$1.00 shipping

Diskette Storage Box \$5.00

TRS 232 by Small Systems Software \$49.95

Percom Disk Drives single or dual, for TRS-80's. Single drive - \$399.00; Dual Drive - \$799.00; Cable (required) \$29.95

Floppy Armour.™ Protective envelope for shipping floppy disks, 5-pack \$4.95 plus \$1.00 shipping & handling

16K Memory Kits by Ithaca Audio, 16K RAM's \$99.95

Signed:

TSE

Been searching for an easy way to get into machine language?

SIMPLE SIMON, published in the March 1979 issue of PROG/80, comes to your rescue. Features included are:

- Program entry
- Hex and decimal constants
- Memory scan/display
- Disassembler

SIMPLE SIMON

by Rev. George Blank

Find out what's going on in your Level II ROM, examine and modify the DCB's, create machine language subroutines, and more! written in BASIC so it's easy to understand and customize.

A lot of computer power for just \$4.95

TSE TRS-80 Software Exchange
17 Briar Cliff Drive Milford, NH 03055

Ready to get serious? **SUBSCRIBE TO PROG/80** the magazine dedicated to serious programmers...beginners to professionals

SUBSCRIPTION RATES - 6 issues per year

USA
Bulk mail - \$15.00
First Class Mail - \$21.00
Overseas airmail - \$27.00

Canada
Mexico
APO/FPO
Overseas surface mail

\$21.00

Check/Money Order enclosed Master Charge VISA

SIGNATURE _____

ACCOUNT # _____

EXP. DATE _____ INTER. # _____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Telephone orders accepted for Master Charge or VISA accounts. Call Monday through Friday, 9:30 to 5:30 EST at 603-673-6144

PO BOX 68, MILFORD, NH 03055

SoftSide™

BACK ISSUES

OCTOBER

•Cribbage •State Capital Quiz •Death Star
•Calculator •Pillbox •Programming Hints

NOVEMBER

•End Zone •Troll's Gold •Shopping List •Octal to Hexadecimal •Level I to Level II Conversion
•Bad Code Puzzler •What They Never Told You About Level II

DECEMBER

•Spelling Bee •Santa Paravia on Fiumacolo
•Biorhythms •Six Million Dollar Clock •Chess Clock •Mortgage Calculation

JANUARY

•Round the Horn •Writing Good Computer Games •Ten Pin Bowling •High Speed Graphics •Comput-A-Sketch •Kiddy Slot

FEBRUARY

•Form 1040 •Concentration •Elements Quiz
•Cribbage UPDATE •Writing Good Computer Games (Part 2) •Hints for Disk Users

MARCH

•Tarot •Metric/English Converter •Dive Bomb
•Personal Finance (Checkbook) •Jig Saw

APRIL

•Safari •Rabbits and Foxes •Personal Finance (Checkfinder) •Series Circuits •Don't It Make My Brown Eyes Blue •Spring Flowers
•Excerpt: A page from The BASIC Handbook

MAY

•Dog Star Adventure •Awarī •Letter Crunch
•Math Drill •Super Sub

JUNE

•Atlantic Balloon Crossing •German Word Quiz •Nim •Home Appliance Record System
•Entrapment

Ordering Information

While still available, back issues are \$2.50 EACH, shipped via First Class Mail. Send check, money order or Master Charge/VISA payment with order to: SoftSide, PO Box 68, Milford, NH 03055. If you really can't wait any longer than necessary, telephone your charge card order any weekday between 9:30 and 5:30:

603-673-5144

floppy ARMOUR

TM

High density, ultra lightweight polymer shipping envelopes for floppy disks. Best protection available against mail damage.

5-pack — \$4.95 plus \$1.00 shipping charge

TSE TRS-80 Software Exchange
17 Briar Cliff Drive Milford, New Hampshire 03055

SoftSide™

"your BASIC software magazine"

PO BOX 68 MILFORD, NH 03055

Return Postage Guaranteed

U.S. POSTAGE
PAID
—BULK RATE—
PERMIT NO. 21
MILFORD, NH 03055