SoftSide™

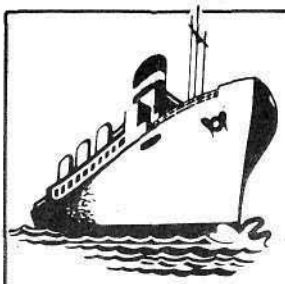
July 1980

S-80* EDITION

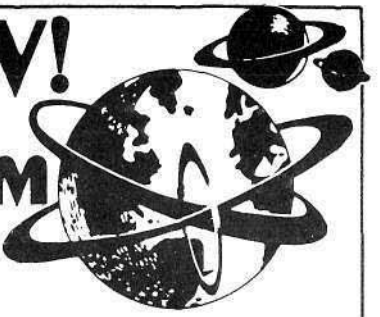
$2.00

$9.95 with cassette

"I'd rather be playing Adventureland"



NEW! FROM



AVALON HILL

One Player Simulation Games

* **B-1 Bomber**
* **Nukewar**
* **North Atlantic Convoy Raider**
* **Midway Campaign**

For one to four players

* **Planet Miners**

At last! Quality computer simulation games from the leader in war gaming! All games available for 16K Level II TRS-80, 16K Applesoft in ROM or Apple II Plus, and 16K Pet 2001 computers.

$14.95 each!

The Software Exchange

6 SOUTH ST., MILFORD, N.H. 03055 (603) 673-5144

SoftSide™
YOUR BASIC SOFTWARE MAGAZINE VOL.2, NO.10

IN THIS ISSUE . . .

Adventures
by James Garon 17
Micro-80 Pinball Machine
by Garth Jensen 22
Take Apart: Pinball
by Garth Jensen 30
Adventureland
by Scott Adams 36
Adventure Interpreter
by Scott Adams 44
Lost Dutchman's Gold
by Teri Li 58

REGULAR FEATURES . . .

Outgoing Mail 6
Programming Hints 14
Input 50
Bug Report 70
Market Basket 74
Convenient Order Forms 78

---

cover illustration of
Adventureland by
Elaine Cheever

SoftSide™

STAFF

SoftSide Publications — The Software Exchange

Publisher
Roger W. Robitaille, Sr.
Editor-in-Chief
George Blank
Editor
James Garon
Copy Editor
Sheila Jahnle
Creative Director
Elaine Cheever
Typographical Director
Janice Miller
Production
Laurie Miller
Gail Nash
Donna Bennett
Bookkeeping
Doris Miller

Customer Service
Bette Keenan
Shipping
Bea Kimball, Mgr.
Donna Jean
Subscriptions
Diana Bishop, Mgr.
B. Cookinham
Karen Fissette
Donna McMahon
Balinda Perry
Mail Department
Gary Young, Mgr.
Glen Ohland, Asst.
Donna Cookinham
Robin Rossi
Printing
Memorial Press Group

Publishing Coordinator
Elizabeth Robitaille
Director of Marketing
Joseph Breton
Receptionist
Kathy Maloof
Phoebe Fensterman
Order Department
Mary Edwards, Mgr.
Courier
Lester Anderson
Programming
David K. Robitaille
Eric Skyten
Copy Division
Anmar Williams
Linda Fedas
Pam Demmons

FOR YOUR ORDERING CONVENIENCE, TOLL-FREE
9 AM - 9 PM, EST — Mon. - Fri.; Sat. 12-4

1-800-258-1790

If you live in NH,
or have any questions concerning your order:

(603) 673-5144

During the summer our programmers will be taking a much-needed and well-deserved break—therefore, effective July 1st we will be temporarily suspending our HOTLINE service.

SoftSide Magazine is continually seeking original articles and software for publication. Imagination and variety in concept and content are our primary criteria for acceptance. Payment varies with length, suitability, ease of editing and quality.

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 prerecorded cassettes. Program submissions should use Radio Shack Level II Basic, should run in Level II **and** Disk BASIC, and may **not** employ coding techniques that cannot be accurately presented in a line listing, such as SYSTEM modules and "super graphics" or other hybrid methods. For more information, please write: **SoftSide,** PO Box 68, Milford, NH 03055.

SoftSide is published monthly by SoftSide Publications, 6 South St., Milford, NH 03055. Subscription rates: USA bulk rate -- $18 per year. USA first class, APO, FPO, Canada, Mexico, overseas surface mail --$25 per year. Overseas airmail -- $30 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 by SoftSide Publications. All rights reserved.

PLEASE NOTE: TRS-80 is a registered trademark of Radio Shack, a division of Tandy Corporation. The Software Exchange is not connected in any way with Radio Shack or Tandy Corporation.

Unlock the hidden power of your computer!

PROGRAM FAST & EASY!

Use ROM routines in your BASIC and Assembly Language programs!

All you need to know is in...

PATHWAYS THROUGH THE ROM

REFERENCE GUIDE TO LEVEL II BASIC

$19.95 plus $1 shipping

SUPERMAP from Fuller Software previously sold at $18.95

TRS-80 Disassembled Handbook by Robert Richardson previously sold at $10.00

Hex Mem monitor written in BASIC by John Phillip

Z-80 Disassembler by George Blank

DOS Map by John Hartford

Description of the contents of the Level II BASIC ROM by memory location, by function, and in lesson format. Includes several BASIC and Assembly Language programs in listing format to examine and use ROM routines.

The Software Exchange

6 South Street, Box 68, Milford, NH 03055 603-673-5144

OUTGOING MAIL

THE MAKING OF AN EDITORIAL

Sitting comfortably in front of your computer, savoring with sweet anticipation the luscious programs which beckon from the following pages, you may never have wondered what transpires behind the scenes here at the luxury office suites of SoftSide in Beautiful Downtown Milford. There is a story behind the words you are reading at this moment. A story that must be told. (However, we are not implying that it must be READ—feel free to abandon me here in mid-sentence and succumb to the blandishments of this month's adventures.)

A prize-winning editorial begins with an idea; the lack of trophies on my desk attests to this fact. The idea takes on life as it is typed into SCRIPSIT's forgiving arms. Brief moments later we see a finished document emerging from the printer.

Next step is a whisper quiet ride in our lushly carpeted elevator, down to the second floor where we pause briefly but reverently just outside the Art Room door.

This is the place where the merely mediocre is made immortal. The skill of these excitingly beautiful artisans is beyond belief. (I am not ashamed to say that I know an artisian well.)

Gail, who has come to be known as "Twinkle-fingers"—ostensibly for her amazing speed and accuracy on the typesetting machine—sets up the text in its magazine format. When she has finished her blistering display of keyboard dexterity, the machine clicks to itself for a few moments

and then disgorges a box about the size of an ostrich egg which contains a wide roll of film. When the film has been developed, accompanied by many strange gurgling sounds and mood-altering odors, it is ready to be "pasted-up".

Elaine and Donna take over now. Starting with only a few sheets of thin cardboard, faintly marked with arcane symbols (meaningful only to the true Artist) and using their Official Artist's Implements, they draw borders, insert illustrations, and even correct spelling errors discovered at the last second. This is accomplished by physically cutting out the offending letter, and delicately but firmly inserting a tiny piece of film containing the correct one. When the finished article comes back from the printers, there is no sign of the original mistake, as you can sea.

The next major event in the life of our editorial is the dreaded Deadline Day. This is the day when the sheets of cardboard containing the treasured document are slipped into an envelope along with all the other articles, programs and special features that comprise a typical SoftSide.

A trusted courier then whisks the precious envelope off to the printers. About a week later, a truckful of cartons is unloaded in the notorious Bulk Mail Room. It is here that a skilled crew of high-school students prepare thousands of SoftSides for world-wide distribution. Adults are not allowed to assist in this endeavor, since our company insurance does not cover deafness caused by radio rock music inflicted at maximum volume.

Scant days later (or weeks if you live on the west coast and don't have a first class subscription), SoftSide is in your mailbox, ready to provide you with still another month of programming ecstasy.

James

TO ORDER CALL TOLL-FREE 800-258-1790 (in NH call 673-5144)

Prices subject to change without notice.

Prices do **not** include shipping

COD orders require 25% cash deposit.

EFFECTIVE JUNE 1st 1980

6 South Street,
Milford, NH 03055

	LIST PRICE	OUR PRICE
TRS-80 COMPUTERS:		
Level II, 4K	$619.00	$559.00
Level II, 16K, no keypad		669.00
Level II, 16K, w/keypad	849.00	749.00
EXPANSION INTERFACES:		
COMM-80 Interface		179.95
Expansion Interface, no RAM	299.00	269.00
Expansion Interface, 16K RAM (NEC)	448.00	369.00
Expansion Interface, 32K RAM, (NEC)	597.00	459.00
DISK DRIVES:		
Percom, TFD-100, 40-track	399.00	389.00
Percom, Dual TFD-100's	795.00	775.00
Percom, TFD-200, 77-track	675.00	650.00
Percom, Dual TFD-200's	1350.00	1300.00
CompuThink, Dual Drive, Dual Sided		1295.00
DISK DRIVE ACCESSORIES:		
2-Drive cable for TRS-80	29.95	29.00
4-Drive cable for TRS-80	39.95	39.00
Percom Data Separator		29.95
Extender Card	15.95	15.00
PRINTERS:		
Centronics 730	795.00	719.00
Centronics 737	995.00	895.00
Centronics 753-2	3196.00	2695.00
Centronics 779-2	1559.00	995.00
RS Quick Printer II	219.00	209.00
RS Line Printer III	1960.00	1813.00
NEC 5530 SpinWriter	2995.00	2595.00
LRC 7000+	389.00	369.00
LRC 7000+ (64 col)	405.00	389.00
PRINTER CABLES:		
QPII to Expansion Interface Cable	19.95	19.00
LRC to TRS-80 cable		20.00
LRC to APPLE cable		20.00
LRC to EXIDY cable		20.00
LRC to PET, IEEE cable		59.00
LRC to RS232C male, cable		65.00
LRC to RS232C female, cable		65.00
730 or 737 to TRS-80 cable		29.00
779 or 753 to TRS-80 cable		35.00
PERIPHERIALS:		
Novation CAT Modem	189.95	179.00
UDS 103-LP		195.00
RS-232-C Interface Board	99.00	89.00
TRS-232 Printer Interface		39.95
DATA Dubber		49.95
16K Memory Kit, Keyboard		99.00
16K Memory Upgrade Kit, E.I.		95.00
Percom Electric Crayon, w/cable		279.00
Busy Box, TRS-80		109.95
Busy Box, APPLE		114.95
BSR X-10, Starter Kit		124.95
ATARI COMPUTERS:		
ATARI 800 Computer System	1080.00	875.00
ATARI 400 Computer	630.00	515.00
ATARI 410 Program Recorder	89.95	65.00
ATARI 810 Disk Drive	699.95	565.00
ATARI 820 Printer	599.95	470.00
Joystick Controllers	19.95	18.95
Paddle Controllers	19.95	18.95

COMM-80

HARDSIDE in conjunction with MICROMINT has solved the TRS-80 I/O bottle-neck. This new expansion interface, designed by Steve Ciarcia, is described in detail in the June issue of BYTE magazine. The COMM-80 provides the most used features of the RS expansion interface into a single low-cost ($180 vs. $400) unit. The COMM-80 has a full 8-bit parallel port compared to the RS' printer-only port. There is also a built-in RS-232-C interface (no extra board to purchase). A BUS connector is provided for future expansion. And to really clean up the I/O bottle-neck, up to 16 of these units can be chained together and addressed separately. The unit connects, with the cable supplied, directly to the CPU/Keyboard or expansion interface. This is the only interface you need to turn your TRS-80 into a time-sharing terminal with provisions for a printer. Terminal software is included. COMM-80 ..... $179.95

DEALER INQUIRIES INVITED

TO ORDER TOLL-FREE
1-800-258-1790
(in NH call 673-5144)

HARDSIDE™

6 South Street, Milford, NH 03055 (603) 673-5144

SoftSide grows up!

The best little BASIC computer magazine is becoming the best FULLSIZE BASIC computer magazine! Starting with our very next issue, your troubles are over. No longer will you eagerly reach for the latest issue of SOFTSIDE only to find you've grabbed the TV Guide by mistake.

We'll have more exciting pages, wider LLISTings, and more than a few surprises in store. I can hear you asking, "What surprises?" Sorry; if we told you, they wouldn't be surprises any longer, would they?!

SoftSide Publications

6 South St., Milford, NH 03055 (603) 673-5144

To order call Toll-Free 1-800-258-1790

(In NH call 673-5144)

Create, debug, document & modify - 5 WAYS

UTILITY

FROM NEPENTHE

The UTILITY program consists of five modules to assist you in the creation and debugging of programs, the preparation of program documentation and the modification of program files. With UTILITY, you can: quickly locate any string of characters in your program, change any strings within your program, produce a line number cross-reference on screen or printer, select from three degrees of program compression, create a formatted, "structured" line listing.

UTILITY is available on disk for $29.95

Call 1-800-258-1790 (in N.H. 673-5144)

The Software Exchange

Add a whole new dimension to your computer!

SOUNDWARE™

FROM CAP ELECTRONICS

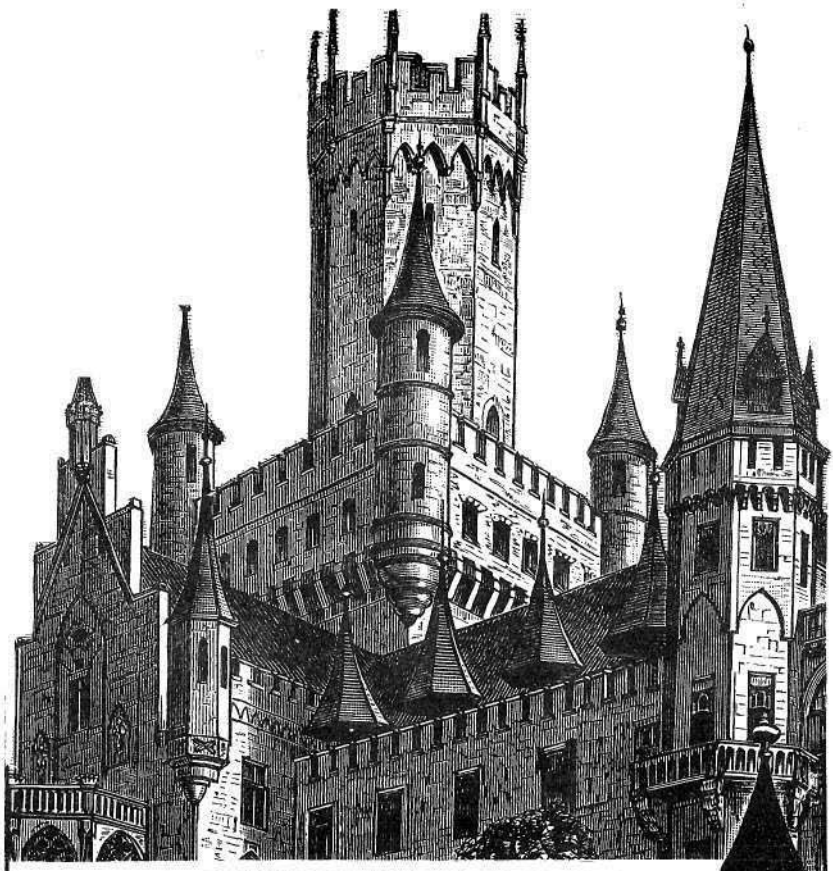
Games and programs come alive with laser sounds, bounces, clicks, sirens, bird calls, music notes, tunes and whatever else your imagination dreams up. Supplied with three demonstration programs on tape, attractive amplifier with cable for direct hookup to your cassette recorder (no modification required) and complete instructions for creating your own sounds and tunes (including a 5-octave organ).

Let SOUNDWARE bring your TRS-80 to life for $24.95, Level II, 16K

(Requires 2 AA batteries)

The Software Exchange

6 SOUTH ST., MILFORD, N.H. 03055 (603) 673-5144



TWO 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 Cristo and set him free forever!

16K Level II

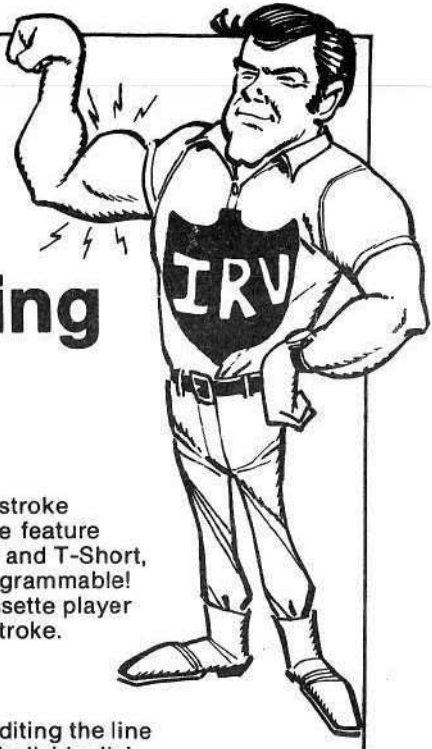
$14.95 each

TSE

The Software Exchange

6 South Street, Box 68, Milford, NH 03055 603-673-5144

Put IRV on your programming staff!



Comes with manual

Input shorthand — one keystroke can enter a whole line! The feature you liked in Level III BASIC and T-Short, now with all keys user programmable! You can even turn your cassette player on or off with a single keystroke.

Relocate a line by simply editing the line number — renumber lines individually!

Video Editor allows cursor oriented editing of your programs. Just move the flashing cursor to the line to be edited and type the corrections, insert, or delete!

IRV is faster than Level II BASIC! More powerful than a speed typist! Able to leap ten subroutines at a single bound!

Machine language tape $24.95 **On Disk $29.95**

The Software Exchange

6 SOUTH ST., MILFORD, NH 03055 673-6144

Need to determine a PRINT @ position if only the X and Y co-ordinates are known? It's simple if you use this formula:

P=INT(Y/3)*64+INT(X/2)

where P is the PRINT @ position and X,Y are the coordinates in a graphic command such as SET(X,Y).

Shane Causer
Brunswick, Georgia

(Editor's note: It is possible to reverse the procedure. Given a PRINT @ position (P), the following lines will give you the X and Y values for SET/RESET commands:

Y=3*INT(P/64)
X=2*(P-64*Y/3)

Each print position contains six small graphics blocks. X and Y will be the coordinates of the upper left block in the PRINT @ position.)

If you are running some type of graphics which make use of CHR$(24) (Cursor left) and/or CHR$(26) (Cursor down), you can save memory space by entering these control characters directly from the keyboard. First enter the line, but use two quotation marks ("") where the CHR$(24) and CHR$(26) would go. Then EDIT the line. Space over until the first quotation mark is visible. Then press I (insert) and use [SHIFT] left-arrow for each CHR$(24) and [SHIFT] down-arrow for each CHR$(26).

Jimmy Dossey
Ocala, Florida

(Editor's note: The "cursor-up" or CHR$(27) may also be entered during EDITing, but you have to be sneaky; since [SHIFT] up-arrow takes you OUT of I(nsert) mode, you must use the C(hange) command instead. Leave a blank between the two quotes (" "), then C(hange) the blank to a [SHIFT] up-arrow.

You should also be aware that these memory-saving techniques should be avoided if you plan to submit your finished program to SoftSide—It's murder on the LLISTings!)

When writing text strings to tape, it is annoying that commas, semicolons and quotation marks may not be contained within the string. One way of getting around this is to examine each character in each string and translate these three (, ; ") to a value less than 32 or greater than 127 (ASCII values), and to retranslate them when they are read from tape. A much simpler method of allowing commas and semicolons in a string is to enclose the string in quotation marks before it is written. These will automatically be removed by the computer during input. One way of doing this is the following:

```
10 Q$=CHR$(34):REM CHR$
   (34) IS A QUESTION MARK
20 PRINT#-1,Q$+ST$+Q$
```

where ST$ is the string to be written to tape. The trailing quote may be omitted if desired.

Since SoftSide is devoted to games and programming in BASIC, I would like to suggest a game which may be played by all readers, at the same time giving them an opportunity to learn some of the possibilities available in Level II BASIC. It has often been said of APL-programmers that they enjoy writing "one-liners" of great obscurity and performing as much as possible with as few characters as possible. Level II BASIC actually provides the capability of writing quite impressive and complex programs in just one line. Here are the suggested game rules for BASIC "one-liners":

1. The program must be written as a single BASIC line of maximum 256 characters in expanded form (i.e. "PRINT" instead of "?")
2. The program must be self-contained, i.e., not make any assumptions about string storage available, etc.
3. The program should provide a continuously changing graphics display, as impressive as possible.

Here are a few samples to start you off:

```
1 DEFINTA-Z:CLS:FORY=0TO47STEPRND(3):FORX=0TO127STEPRND(4):IFPOI
NT(X,Y)RESET(X,Y):RESET(127-X,47-Y):NEXT:NEXT:GOTO1ELSESET(X,Y):
SET(127-X,47-Y):NEXT:NEXT:GOTO1
```

```
1 DEFINTX:CLS:FORX=15360TO16310:POKEX,32:POKEX+1,164:POKEX+2,176
:POKEX+3,176:POKEX+4,176:POKEX+5,141:POKEX+6,140::POKEX+64,32:PO
KEX+65,138:POKEX+66,131:POKEX+67,131:POKEX+68,139:NEXT:RUN
```

```
1 CLEAR99:DEFINTX:D$=" "+CHR$(164)+STRING$(3,176)+CHR$(141)+CHR$
(140):E$=" "+CHR$(138)+STRING$(2,131)+CHR$(139):CLS:FORX=0TO950:
PRINT@X,D$;::PRINT@X+64,E$;:NEXT:RUN
```

```
1 CLS:DEFINTA-Z:X=RND(127):Y=RND(47):FORA=0TO10+RND(60):I=RND(7)
-4:J=RND(5)-3:FORB=0TORND(30):SET(X,Y):I=I+2*I*((I+X)>127)OR(I+X(
0)):X=X+I:J=J+J*2*((J+Y)>47)OR(J+Y<0)):Y=Y+J:NEXT:NEXT:FORI=0TO99
9:NEXT:RUN
```

```
1 CLEAR99:J=RND(11)*64:CLS:D$=CHR$(176):PRINT@J+128,STRING$(64,D
$);:C$=CHR$(187)+CHR$(183) FORI=JTOJ+58:PRINT@I,CHR$(129)CHR$(16
2)D$CHR$(145)CHR$(136)CHR$(252)CHR$(170)D$CHR$(189)CHR$(190)CHR$
(149);:PRINT@I+128,D$C$CHR$(191)C$;:NEXT:RUN
```

Arne Rohde
Denmark
(Editor's note: If you come up with some excellent "one-liners", send them to us at:
"One-Liners"
c/o SoftSide Magazine
P.O. Box 68
Milford, NH 03055

We'll share the best ones submitted in this column. See your name in PRINT! This is my slightly fishy contribution:

```
1 CLS:DEFSTRA:FORI=1TO25:READX:A=A+CHR$(X):NEXT:FORP=896TO948:PR
INT@P,A;:PRINT@P-56,CHR$(79+47*(RND(2)=1));:FORI=1TO30:NEXT:PRIN
T@P,CHR$(31):PRINT@960,:NEXT:RUN:DATA130,173,180,184,188,191,156
,180,26,8,8,8,8,8,8,8,8,160,158,135,139,143,191,143,135:'FISHY!!
```

A line was inadvertently omitted from Arne's programming hint in the April 1980 issue, page 70. To translate a variable D, containing a decimal number from 0 to 15, into a hexadecimal string variable, H$, you may use the expression:

```
H$=CHR$(48+D-7*(D>9))
```

This avoids a lot of time and code.)

The TRS-80 Users Group of Corpus Christi, TX meets the third Tuesday of every month at 8:00 at Del Mar Junior College in Room MC 109. Meetings feature an informal exchange of information and a short presentation every month on some aspect of BASIC or assembly language programming.

ADVENTURES

Expanding Universes

by James Garon

You awaken and look around at your unfamiliar surroundings. Closer examination reveals that you are in:

a bed . . .a rocketship . . .a forest . . .a London flat . . .a chapel . . .a desert . . .a ghost town . . .

Wherever you find yourself, one thing is certain: an exciting adventure has begun. Each adventure is different from all the rest; whether your goal is to recover treasures, rescue an explorer, or steal the secret plans from an enemy agent - you can be sure that danger, challenge and fascination lie ahead.

Adventures are often referred to as "compunovels" because of their uniquely interactive nature. Seated before your patient computer, you direct the course of the adventure by issuing one - or two-word commands such as, "GO NORTH", "GET KEYS", "HELP", "LOOK MIRROR", "GO TUNNEL", "LIGHT FUSE" . . .

Many times, the results are surprising; the computer's reply could range from, "I SEE NOTHING SPECIAL" thru "THERE IS A HIDDEN DOOR" to "IT BLEW UP IN MY HAND - I'M DEAD!!"

Fortunately, in these role-playing sagas, death is never permanent - at worst it means you must start over, and just possibly there is a secret word or hidden exit which will let you live again.

Even when playing the very

same adventure, no two people will have exactly the same experiences. One person will bravely break a mirror - possibly dying in the resulting rain of sharp glass splinters. Another, more timid adventurer may pass by the mirror dozens of times, seeing only his or her reflection and being told that it is "VERY PRETTY". Still a third, more experienced adventurer may discover the enchanted beekeeper's suit, put it on, break the mirror in safety, thus revealing a previously concealed passage.

Common to most well-written compunovels is the feeling of an expanding universe. Initially, you may find yourself able to explore only a few locations. The extreme case involves but a single room -with no obvious exits at all. You examine the objects around you, picking them up, setting them down and using them in any manner you can think of - the obvious ways as well as the creatively obscure. You may try to beg, burn, break or chant your way beyond your current boundaries (the last method being aided by a magic word). Eventually you will discover an escape from your restricted territory - a new room with new objects, new dangers and new opportunities.

Let us make up an example. (Discussing an actual situation from a currently popular adventure would risk spoiling the surprise for future explorers.) Perhaps you've discovered a dangerously ticking bomb. You've decided to try pouring water on it in hopes of rendering it harmless. Elsewhere you've found a stream of water. Returning excitedly to the stream, you issue the command, "GET WATER" only to be told, "I'VE NO CONTAINER". Taking inventory of your posessions, you see that you are carrying a gun - with three remaining bullets, a book of Druid poetry and a croquet mallet. Nowhere in your travels have you seen a bucket, army boot or other suitable container for the desperately needed water. While you may have felt, by this time, that you'd been everywhere and done everything there was to be done, you now know you were wrong. Somewhere there's an entrance to a place you've never been. The entrance may be a sliding panel, a trap door or the ever popular magic word.

Whatever method eventually works, your miniature universe is about to expand. Soon you'll discover the hidden marine museum, pick up the fish bowl, discover a non-fatal method of removing its man-eating occupants, refill it at the stream and pour it on the bomb - which just might melt away - revealing in its innards the final treasure.

Once the pressure is off, and you have time to think back, you'll realize that - just as in a well-written mystery novel, where all the clues were in plain sight yet psychologically invisible - so too, the entrance to the marine museum was there all the time. Finding it was just a matter of being both persistent and creative.

As there is a wide range of talent among mystery writers, from top-notch to merely mediocre, so too with adventure creators. Only a few, such as Scott Adams, have mastered that perfect blend of frustration and progress - that knack for anticipating the movements of his explorers (us) and providing the right amount of barriers, riddles and solutions.

Some people have asked, "What do you do with an adventure once you have solved it?" Unlike a mystery story, which is unchanging from one reading to the next, adventures are worth repeating. The knowledge acquired in successfully solving an adventure can be applied to subsequent attempts. It is always possible to try for a more elegant solution, or one which requires fewer moves.

Alternatively, you can invite a friend to play, resisting the temptation to be too liberal with your hints. It is surprising how different an adventure can be when another person is in control. No two people perceive a problem in exactly the same way. Their approaches, interpretation of clues and eventual solutions may be quite different from your own.

It is most humbling to watch another player discover and use a shortcut you have missed. (One adventure contained a magic carpet which whisks its occupant safely back and forth between distant locations. Your author, having solved the adventure without ever using the silly rug, was stunned to see a fellow explorer discover the secret of the carpet and go on to relatively easy victory.)

As a tool for teaching logic and careful planning to young people (and illogical adults) the adventure is without equal. A skillful adventure-writer guides the adventurer to perceive relationships between distant objects, and expand his or her awareness.

When you experience your first machine language adventure, you'll wonder how you ever put up with the slowness of BASIC. The more complete and complex an adventure is, the longer it takes BASIC to respond to your commands. Machine language eliminates the waiting and provides instant response to your commands. No sooner have you typed "GO NORTH" (or simply "N" using Scott Adam's thoughtful shorthand) than you find yourself immediately transported to a new location. No more waiting those interminable seconds while BASIC scans a vocabulary table, searching for your command.

If you've never played an adventure game in machine language, you'll certainly enjoy BASIC adventures. They are a welcome and creative change from the standard games of Space Potatoes and the like. Just a friendly warning though: machine language adventures are a quantum leap ahead of their BASIC counterparts. Once you've tried one, you'll be hooked; you may never have the patience for BASIC adventuring again.!

THE HOTLINE

Our programmer's hotline will not be in operation during July and August in order to give our staff a well deserved break.

If you need more information about one of our products, please send a self addressed stamped envelope and request the information sheet on the product in question.

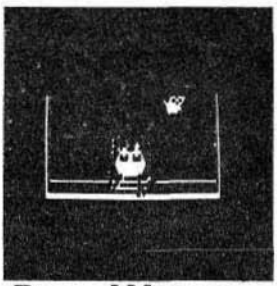
If you have a tape or disk that is defective or fails to load when received, return it for prompt replacement.

If you are having difficulty with a TSE or Ramware product, or find a bug, please describe the problem as completely as possible, indicating what you were doing when the failure occured, the nature of the difficulty, the exact error message you received, and the line number of the problem if possible. Send it to Product Maintenance, TSE, P.O. Box 68, Milford, NH 03055.

If you find an error in the magazine, please send a note to the editor as soon as possible with full details.

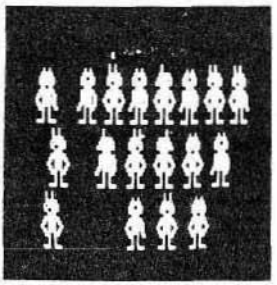
We will do our best to serve you to the limits of our abilities. Thanks to all of you for your help in these matters.

Magic from Leo Christopherson



Bee Wary..

This fast-paced real time action game is a contest between a Bee operated by the player and a Spider operated by the computer. Machine language subroutines but loads as Level II for easy operation. **$14.95**

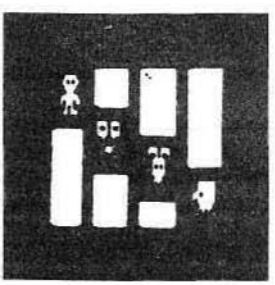


Android Nim..

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**



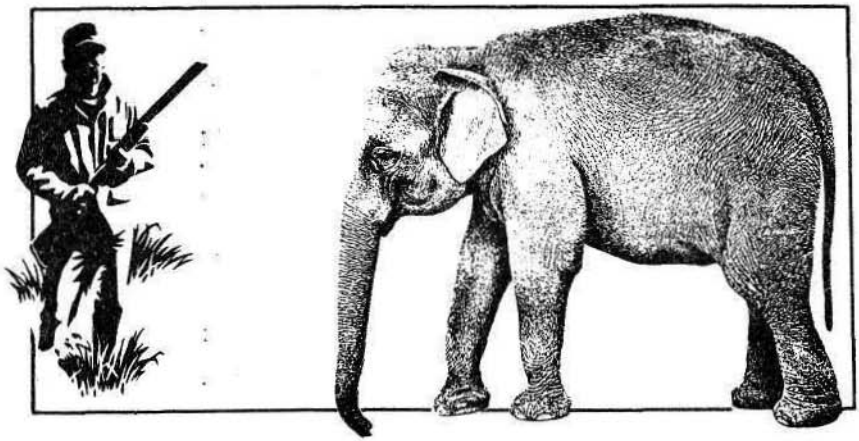
Life Two...

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**

The Software Exchange

6 South Street, Box 68, Milford, NH 03055

TOLL FREE 1-800-258-1790 (In NH call 673-5144)



MICRO-80 PINBALL MACHINE

Featuring...African Safari!

by Garth Jensen

SAVE YOUR QUARTERS!! Fast-paced pinball has come to the comfort of your own home on a computer that runs for hours on only pennies. Load the following program, attach an amplifier (optional), and you have an exciting game complete with realistic sight and sound effects.

The PINBALL MACHINE includes four different variations:

1. African Safari — Raise your rifle and shoot the charging elephant before you're trampled.
2. Random Targets — Keep on your toes as the rebounds in this game are unpredictable.
3. Normal Pinball — Enjoy the electronic version of the typical arcade game.
4. Wipeout — Eliminate four solid rows or targets and achieve a perfect score. Be careful as the playing area is compressed toward the paddles.

Left and right flippers or paddles are independently operated by the "Z" and "/" keys, respectively. Scores are continuously updated and an overall rating provided at the end of each game. Two levels of difficulty are provided in each game, creating challenge for beginners and experts alike. Fire this program up and see how you rate as a pinball wizard.

Note: A machine language sound routine is poked into the string space defined at line 50. This line is altered during execution, so save the program before running.

P I N B A L L

```
40 CLEAR400
50 QQ$="                                        "
55 GOSUB9000
60 'MICRO-80 PINBALL MACHINE   COPYRIGHT 1980 BY G  R. JENSEN, A
LL RIGHTS RESERVED
70 'PRIOR TO EXECUTION, LINE 50 LOOKS LIKE THIS: '50 QQ$="
                                        "'  DURING EXECUTION, A COMMON MACHINE LANGU
AGE SOUND ROUTINE IS POKED INTO QQ$.
80 'THANKS TO SOFTSIDE MAGAZINE FOR THE IDEA OF POKING THE ROUTI
NE INTO A RESERVED STRING SPACE
90 'FOR SOUND (OPTIONAL), CONNECT THE AUX LEAD TO AN AMPLIFIER.
100 RANDOM:DEFINTA-Z:CLS:PRINTTAB(4);CHR$(23);"MICRO-80 PINBALL
MACHINE":PRINT:PRINT
110 PRINT"  1 - AFRICAN SAFARI":PRINT"  2 - RANDOM TARGETS PINBA
LL":PRINT"  3 - NORMAL PINBALL":PRINT"  4 - WIPEOUT":PRINT"  5 -
 STOP":PRINT
120 INPUT"  ENTER GAME";Q:IFQ<1ORQ>5THEN120ELSEP$="":X=0:IX=0:IY
=0:IFQ=5THENCLS:END
130 INPUT"  WANT DIFFICULT VERSION? Y/N";T$:IFLEFT$(T$,1)<>"Y"TH
EN150
141 Y=0:L=0:R=0:S=0:LZ=0:RZ=0:W=0:A=0:D=0:PR=0:PL=0::M=0:E=0
150 G=Q:IFLEFT$(T$,1)="Y"THENU=4:W=3:ELSEU=2:W=5
155 IFG=1THENU=2
160 P$=STRING$(14-U,61):A=15360
170 ONG GOTO5000,7000,8000,6000
180 X=59:Y=768:Z=64:IX=-RND(3):IY=-64:S=32:M=16258:PD=62:LZ=916:
RZ=926+U
190 L=0:R=0:R$=STRING$(14-U,32):PL=-1:PR=-1:IFG=4 PD=91
195 IFG=4 R$=STRING$(22-U,5):P$=STRING$(22-U,91):LZ=906:RZ=928+U
200 T$=STRING$(4,191)+STRING$(56,32)+STRING$(4,191)
210 CLS:FORI=0TO63:POKEA+I,191:POKEA+I+896,191:NEXT
220 FORI=64TO832STEP64:PRINT@I,T$;:NEXT:T$=""
230 IF G>1 THEN 245 ELSE PRINT@243,M1$;:PRINT@305,M2$;:PRINT@370
,M3$;:PRINT@40,CHR$(143);
240 GOSUB5300:GOSUB5800:GOTO260
245 IFG=2GOTO7160ELSEIFG=4GOTO6140
```

```
 250 FORI=1TO8:ONIGOSUB2020,2030,2040,2050,2060,2070,2080,2090:NE
XTI
 260 PRINT@916,STRING$(24,5);:PRINT@960,STRING$(56,5);:IFG>1PRINT
@960,"SCORE";STR$(SC);
 265 IFG<>4PRINT@900,"     ";:PRINT@944,"     ";
 267 IFG=4 PRINT@906,STRING$(44,5);
 270 PRINT@1015,"BALL";CT+1;:POKEA+X+Y,D:GOTO500
 340 DATA 205,127,10,14,140,69,62,1,211,255,16,254,69,62,2,211,25
5,16,254,13,32,239,201
 500 Q=A+X+IX+Y+IY:IFPEEK(Q)<>5THEN1000
 505 IFPEEK(Q)<>5THEN1000
 512 L=L+PL:IFL>WGOTO700
 514 R=R+PR:IFR>WGOTO750
 520 POKEQ-IX-IY,5:POKEQ,D:Y=Y+IY:X=X+IX:T$=INKEY$:IFT$=""THEN500
 600 IFQ>WTHEN500ELSEIFT$="Z"PRINT@LZ,P$;:L=0:PL=1:GOTO500
 610 PRINT@RZ,P$;:R=0:PR=1:GOTO500
 700 L=0:PL=-1:PRINT@LZ,B$;:GOTO514
 750 R=0:PR=-1:PRINT@RZ,B$;:GOTO520
 1000 IFQ>16255ANDQ<16320THENIFPEEK(Q)=PDTHEN1090ELSEIFX>57ORX<6T
HEN1095ELSEIY=-IY:IX=(RND(U)+E)*SGN(IX):GOTO500
 1010 IF Q>16319THENCT=CT+1:QQ=USR(255):IFCT>BTHEN4000ELSE2130
 1020 V=PEEK(Q):IFV>57THEN1060ELSEV=V-48:SC=SC+10*V:PRINT@960,"SC
ORE";STR$(SC);
 1025 ONG GOTO1060,7300,1030,6200
 1030 ON(V-1)GOSUB2025,2035,2045,2055,2065,2075,2085,2095
 1035 QQ=USR(35+4*V)
 1040 ON(V-1)GOSUB2020,2030,2040,2050,2060,2070,2080,2090
 1060 IF PEEK(Q-IX)<>5 THEN IY=-IY:C=IX:IX=(RND(U)+E)*SGN(IX):IFG
=1THEN5500ELSE500
 1080 IF PEEK(Q-IY)<>5 THEN C=IX:IX=-IX:IFG=1THEN5500ELSE500
 1085 IY=-IY:C=IX:IX=-(RND(U)+E)*SGN(IX):IFG=1THEN5500ELSE500
 1090 IFQ=1 IY=-IY:IX=RND(2)+1:GOTO500
 1100 IFNT>20ORCT<30ORRND(0)>.15THEN1120ELSEFORI=11TO15STEP-1:PRINT@
64*I,Z$(I);:NEXTI:NT=NT+1
 1120 IY=-IY:IX=RND(U)*SGN(IX):GOTO500
 2020 PRINT@686,"22222";:RETURN
 2025 PRINT@686,STRING$(5,191);:RETURN
 2030 PRINT@622,"3333";:RETURN
 2035 PRINT@622,STRING$(4,191);:RETURN
```

```
2040 PRINT@591,"4444";:RETURN
2045 PRINT@591,STRING$(4,191);:RETURN
2050 PRINT@407,"5555";:RETURN
2055 PRINT@407,STRING$(4,191);:RETURN
2060 PRINT@422,"6666";:RETURN
2065 PRINT@422,STRING$(4,191);:RETURN
2070 PRINT@238,"7777";:RETURN
2075 PRINT@238,STRING$(4,191);:RETURN
2080 PRINT@206,"8888";:RETURN
2085 PRINT@206,STRING$(4,191);:RETURN
2090 PRINT@223,"999";:RETURN
2095 PRINT@223,STRING$(3,191);:RETURN
2130 IFG=2GOSUB7400
2140 X=59:Y=12*64:IX=-RND(3):IY=-64
2143 IFG=1GOSUB5300:GOSUB5000:IFW=3THENIFRND(4)>2GOSUB5300
2144 PRINT@900,"HIT SPACE BAR TO CONTINUE";
2146 T$=INKEY$:IF T$<>" "THEN 2146
2150 GOTO 260
4000 IFG=1THEN5350ELSEFORI=1TO900:NEXT:CLS:PRINTCHR$(23)
4010 PRINT@82,"SCORE ";STR$(SC);
4015 E1$="RATING   CHAMPIONSHIP QUALITY":E3$="RATING    STRICTL
Y MINOR LEAGUE":E2$="RATING    COULD BE BETTER,
  COULD BE WORSE!"
4020 CT=SC/CT:IFG=2ORG=3THENIFCT>300THENPRINT@192,E1$;ELSEIFCT>2
00THENPRINT@192,E2$;ELSEPRINT@194,E3$;
4030 IFG=4THENIFCT>900THENPRINT@192,E1$,ELSEIFCT>550THENPRINT@19
2,E2$;ELSEPRINT@194,E3$;
4035 GOTO4050
4050 FORI=1TO2700:NEXT:RUN100
5000 E1$=STRING$(2,32)+CHR$(184)+STRING$(9,191)+CHR$(187)
5010 E2$=CHR$(32)+CHR$(168)+CHR$(171)+STRING$(8,191)+CHR$(159)+C
HR$(171)+CHR$(134)
5020 E3$=STRING$(2,32)+CHR$(142)+CHR$(129)+CHR$(143)+STRING$(3,3
2)+CHR$(136)+CHR$(135)+CHR$(138)+CHR$(133)+CHR$(130)
5030 M1$=CHR$(143)+CHR$(191)+CHR$(133)
5040 M2$=CHR$(141)+CHR$(140)+STRING$(3,191)
5050 M3$=CHR$(160)+CHR$(186)+CHR$(163)+CHR$(149)
5060 DIMG$(13):G$(1)=CHR$(143):G$(2)=CHR$(144):G$(3)=CHR$(184)
5070 FORI=4TO9:G$(I)=CHR$(176):NEXT:G$(10)=CHR$(180)
5080 S1=532:S2=724:S1$=CHR$(172)+STRING$(5,176)+CHR$(156)+CHR$(1
```

```
42)+STRING$(2,131)
5090 S2$=CHR$(131)+CHR$(139)+STRING$(4,140)
5100 CLS:PRINT@22,"AFRICAN SAFARI":PRINT
5105 PRINTTAB(5)"YOU ARE A HUNTER ON AN AFRICAN SAFARI, FACING A
 WILD"
5110 PRINTTAB(5)"ELEPHANT  THE ELEPHANT WILL CHARGE EACH TIME I
T IS"
5120 PRINTTAB(5)"HIT BY THE BALL AND WHEN THE BALL LEAVES PLAY
 EACH TIME"
5130 PRINTTAB(5)"YOUR HUNTER IS HIT BY THE BALL, HE EXTENDS HIS
GUN AND"
5140 PRINTTAB(5)"WILL EVENTUALLY SHOOT THE ELEPHANT  TO REWARD
YOUR SKILL."
5150 PRINTTAB(5)"THE PADDLES RETURN THE BALL IN THE HUNTER'S DIR
ECTION."
5152 PRINTTAB(5)"BEWARE OF TWO MOVING SNAKES IN THE VICINITY "
5153 PRINTTAB(5)"YOU HAVE UP TO";:IFW=3PRINT" 6 ";ELSEPRINT" 8 "

5154 PRINTTAB(5)"PLAYS TO BAG YOUR ELEPHANT.":PRINT
5155 PRINTTAB(16)"USE 'Z' FOR THE LEFT PADDLE":PRINTTAB(16)"USE
   FOR THE RIGHT PADDLE":PRINT
5160 PRINTTAB(5);:INPUT"HIT 'ENTER' TO CONTINUE";XE:CLS
5170 XE=20:YE=256:X2=7:GX=51:GN=0:GA=15555:GB=15737
5190 GA=5:D=42:P$=STRING$(14-U,62):E=1:IFW=5GA=7:GOTO180
5195 GOTO180
5300 IFXE>39THEN5350
5305 XE=XE+1:X2=X2+1:QQ=USR(20):QQ=USR(20):QQ=USR(20)
5310 PRINT@YE-Z+X2,E1$;:PRINT@YE+X2,E2$;:PRINT@YE+Z+X2,E3$;:RETU
RN
5350 FORJ=1TO35:GOSUB5305:IFXE>57THEN5355ELSEFORI=1TO1:NEXTI,J
5355 FORI=1TO300:NEXTI:CLS:PRINTCHR$(23):PRINT"YOU HAVE JUST BEE
N TRAMPLED  BY THE ELEPHANT!!"
5360 PRINT:PRINT"BETTER LUCK ON YOUR NEXT SAFARI":GOTO4050
5500 IFQ<QAORQ>QBTHEN500ELSEIFX+C>X2ANDX+C<=XEGOSUB5700:GOSUB530
0:GOTO500
5510 IFX+C<41ORX+C>53THEN500ELSEGN=GN+1:IFGN>10THEN5600
5520 GOSUB5700:IFGN=1THENPRINT@306,G$(1);ELSEPRINT@244-GN,G$(GN)

5530 GOTO500
5600 QQ=USR(30):QQ=USR(200):FORI=233TO197STEP-1:PRINT@I-1,CHR$(1
```

```
76):PRINT@I," ":FORW=1TO1:NEXTW
 5610 NEXTI:PRINT@I," ":FORW=1TO400:NEXTW
 5620 CLS:PRINTCHR$(23):PRINT"YOU HAVE BAGGED A NICE TROPHY!!":GO
TO4050
 5700 Q=A+X+IX+V+IV:IFPEEK(Q)<>5THEN5710ELSEPOKEQ-IX-IV,S:POKEQ,D
:V=V+IV:X=X+IX:GOSUB5000:RETURN
 5710 IV=Z:IX=-RND(3):Q=A+X+IX+V+IV:POKEQ-IX-IV,S:POKEQ,0:V=V+IV:
X=X+IX:GOSUB5000:RETURN
 5800 IFRND(0)>.85GOTO5830
 5810 PRINT@S1,STRING$(10,32);:IFRND(0)>.95THEN5830ELSES1=521+RND
(33):PRINT@S1,S1$;
 5830 IFRND(0)>.85THENRETURNELSEPRINT@S2,STRING$(6,32);:IFRND(0)>
.9THENRETURNELSES2=713+RND(37):PRINT@S2,S2$;:RETURN
 6000 CLS:PRINTTAB(25)"WIPEOUT":PRINT
 6010 PRINT"IN THE GAME OF WIPEOUT, FOUR ROWS OF NUMBERS ARE IN T
HE TOP"
 6015 PRINT"OF THE PLAYING AREA.  WHENEVER THE BOUNCING BALL HITS
 A NUMBER,"
 6020 PRINT"THE SCORE IS INCREASED BY TEN TIMES THAT NUMBER AND T
HE NUMBER"
 6025 PRINT"IS REMOVED FROM THE SCREEN.  WHEN ONLY FIVE NUMBERS R
EMAIN"
 6030 PRINT"IN A ROW, THE NEXT HIT ON THAT ROW REMOVES THE REST O
F"
 6035 PRINT"THOSE NUMBERS.  PINBALL PADDLES AT THE BOTTOM OF THE
SCREEN"
 6045 PRINT"HELP KEEP THE BALL IN PLAY  RANDOMLY AS THE GAME PRO
GRESSES,"
 6050 PRINT"THE NUMBERS SHIFT DOWN CLOSER TO THE PADDLES, THUS DE
MANDING"
 6055 PRINT"GREATER SKILL FROM THE PLAYER  IT IS POSSIBLE TO PLA
Y A"
 6060 PRINT"PERFECT GAME AND 'WIPEOUT' ALL THE NUMBERS FROM THE S
CREEN.":PRINT
 6090 DIMZQ$(11):FORI=1TO11:ZQ$(I)="":POKEVARPTR(ZQ$(I)),64:READ
Z:POKEVARPTR(ZQ$(I))+1,Z:READZ:POKEVARPTR(ZQ$(I))+2,Z:NEXTI
 6094 DATA 0,60,64,60,128,60,192,60,0,61,64,61,128,61,192,61,0,62
,64,62,128,62
 6096 MO=V+1:ME=V+4
6100 NT=0:DIM N(9)
```

```
 6110 FORI=2TO9:READN(I):NEXTI
 6120 DATA 517,54,389,54,261,54,133,54
 6125 PRINT"USE 'Z' FOR LEFT PADDLE, AND '/' FOR RIGHT PADDLE "
 6130 INPUT"ENTER NUMBER OF BALLS (10 MAX)";BA:IFBA<10RBA>10THEN6
130ELSEBA=BA-1
 6135 D=140:E=0:GOTO180
 6140 FORI=3TO9STEP2:PRINT@N(I-1),STRING$(54,48+I);:NEXTI:PRINT@0
,STRING$(64,191);:GOTO260
 6200 POKEQ,191:QQ=USR(15+2*V):N(V)=N(V)-1:IFN(V)<5PRINT@N(V-1)+N
T*2,STRING$(54,5);
 6220 IFN(3)+N(5)+N(7)+N(9)<17 THEN FORI=1TO500:NEXTI:GOTO6400
6300 POKEQ,5:GOTO1060
 6400 CLS:PRINTCHR$(23):FORI=1TO30:PRINT@470,"WIPEOUT";:FORJ=2*IT
040:NEXTJ
 6410 PRINT@470,"       " FORJ=2*ITO40:NEXTJ:NEXTI
 6420 PRINT@144,"PERFECT GAME";:FORI=1TO800:NEXTI:GOTO4035
 7000 CLS:PRINTTAB(20);"RANDOM TARGET PINBALL":PRINT
 7010 PRINTTAB(8)"IN 'RANDOM TARGET' PINBALL, THERE ARE NINE NUME
RICAL"
 7020 PRINTTAB(8)"TARGETS IN THE PLAYING AREA  WHEN THE BALL HIT
S"
 7030 PRINTTAB(8)"ONE OF THE TARGETS, THE TOTAL SCORE IS INCRERSE
D"
 7040 PRINTTAB(8)"BY TEN TIMES THE VALUE OF THE TARGET.  THEN THE
"
 7050 PRINTTAB(8)"TARGET ITSELF IS MOVED RANDOMLY TO ANOTHER LOCA
TION"
 7060 PRINTTAB(8)"IN THE PLAYING AREA.  WHENEVER THE BALL LEAVES
PLAY,"
 7070 PRINTTAB(8)"SOME OF THE THE TARGETS ARE MOVED.":PRINT
7100 DIM N(9),PS(30),N$(9):P2=30
 7110 FORI=1TO30:READD:NEXTI:FORI=1TOP2:READ PS(I):NEXT
 7120 FORI=1TO9:N$(I)=STRING$(5,48+I):NEXT
 7130 DATA 202,214,226,238,328,337,344,352,359,369,458,465,472,48
4,496
 7140 DATA 585,597,609,621,722,729,739,196,245,628,479,758,714,49
1,233
7150 GOTO8850
7160 FORI=1TO9
```

```
7165 J=RND(22):IFPEEK(A+PS(J))<>STHEN7165ELSEN(I)=PS(J)
7170 PRINT@N(I),N$(I);:NEXTI:GOTO260
7300 PRINT@N(V),STRING$(5,191);:QQ=USR(25+2*V)
7310 J=RND(22):IFPEEK(A+PS(J))<>STHEN7310ELSEPRINT@N(V),STRING$(
5,5);:N(V)=PS(J):PRINT@N(V),N$(V);:GOTO1060
7400 ZZ=RND(9):FORI=1TOZZ:PRINT@N(I),STRING$(5,5);:NEXTI:FORI=1T
OZZ
7410 J=RND(P2):IFPEEK(A+PS(J))<>STHEN7410ELSEN(I)=PS(J):PRINT@N(
I),N$(I);:NEXTI:RETURN
8000 CLS:PRINTTAB(26);"PINBALL":PRINT
8010 PRINTTAB(8)"MICRO-80 PINBALL IS A FAST-PACED SIMULATION OF"
8020 PRINTTAB(8)"THE REAL-WORLD GAME IN WHICH A BOUNCING BALL"
8030 PRINTTAB(8)"COLLIDES WITH TARGETS IN AN ENCLOSED PLAYING"
8035 PRINTTAB(8)"AREA.  THE PADDLES AT THE BOTTOM OF THE SCREEN"
8037 PRINTTAB(8)"HELP KEEP THE BALL IN PLAY.  WHEN A TARGET (MAD
E"
8038 PRINTTAB(8)"UP OF NUMBERS) IS HIT, TEN TIMES THE VALUE OF"
8039 PRINTTAB(8)"THAT TARGET IS ADDED TO THE SCORE.":PRINT
8050 PRINTTAB(8)"USE 'Z' FOR LEFT PADDLE, AND '/' FOR RIGHT PADD
LE"
8060 PRINTTAB(8):INPUT"ENTER NUMBER OF BALLS (10 MAX)";BA:IFBA<1
ORBA>10THEN8060ELSEBA=BA-1
8070 D=140:E=0:GOTO180
9000 I=VARPTR(QQ$):X=PEEK(I+1)+256*PEEK(I+2)
9010 FORY=XTOX+22:READZ:POKEY,Z:NEXTY
9030 IFPEEK(16396)=201THENPOKE16526,PEEK(I+1):POKE16527,PEEK(I+2
)ELSECMD"T":DEFUSR0=X:POKE14308,0
9040 RETURN
```

Help Wanted: Columnist

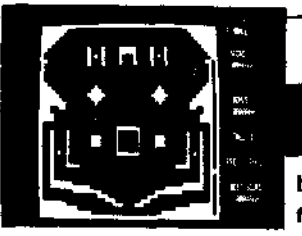
The new SoftSide (coming next month!) needs a person to write a column on music and sound effects. Must have a TRS-80 and at least one of these other computers: Apple, Atari, or PET. A short monthly column would ideally discuss one sound, such as a gun shot, then provide routines to incorporate that sound in user programs on different computers. If intersted, write to George Blank, editor in chief, SoftSide.

TAKE APART: PINBALL

by Garth Jensen

If you need to move strings around the video screen when the content of the strings is continually changing, try this approach: Define dummy string variables, then use VARPTR and POKE to redefine the memory locations referenced by the dummy string names.

The PINBALL program elsewhere in this issue illustrates the technique. Lines 6090 and 6094 define 11 dummy strings ZQ(I) then poke a video string length of 64 bytes into VARPTR (ZQ(I)). Next, the LSB and MSB of video line addresses are poked into VARPTR (ZQ(I))+1 and VARPTR(ZQ(I))+2, respectively. If line 1100 is executed, the string defined as the 11th video line is printed on the 12th line, the 10th line is printed on the 11th line, etc. This allows the Wipeout portion of PINBALL to lower the top 11 lines of video intact, regardless of their content.

PIN  BALL

Bust your BUMPERS!

by John Allen
from Acorn

Flashy lights, lots of sound, machine language speed combine to give the most realistic real time pinball game available for the TRS-80.

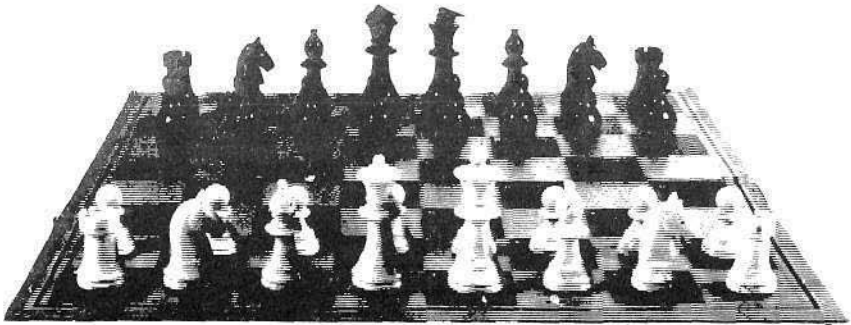
You control how fast the ball enters the playing field. You control the flippers. Try for a DOUBLE BONUS or even TRIPLE BONUS. Be alert for the sudden appearance of the "BERMUDA SQUARE". Becoming trapped inside can really help you rack up the points!

Put your quarters in the bank and play pinball at home.

16K Cassette **$14.95**
32K Diskette **$20.95**

The Software Exchange
6 SOUTH ST., MILFORD, N.H. 03055 (603) 673-5144

Chess Lovers!



SARGON

This is the one that started the revolution in computer chess. Six levels of play from beginning through advanced amateur. Ready whenever you are. Tape **$19.95.**

SARGON II

The best has gotten better! Sargon, the program that came in first in the Creative Computing Microcomputer Chess Tournament has become Sargon II. A greatly improved game, faster response time, new level 0 for beginners, easier to pre-set board, hint mode—what does the computer suggest. Sargon II is the program that took on the maxi-computers in the West Coast tournament, and finished in the money! More thinking power than you ever expected.
Tape **$29.95** on disk **$34.95**

Both in stock for immediate delivery!

The Software Exchange
6 South Street, Box 68, Milford, NH 03055 603-673-5144

NOTE: ST-80 is a trademark of Lance Micklus, Inc.

by Lance Micklus

The ST-80 family of smart terminal packages

Now you can have the right terminal package for your communication needs! From ST-80 UC — the simple, pre-set, inexpensive terminal program designed for users of THE SOURCE, MICRONET, and FORUM 80 — to the power and sophistication of ST-80 III, The Software Exchange has the package for you.

All four programs include the ability to use an unmodified TRS-80 keyboard to produce RUB, ESC, and other control characters for time sharing, software control of the RS-232-C board, repeat key, bell, software support for the three most common upper/lower case hardware conversions, and line printer output.

ST-80 UC 4K Level II cassette, $24.95

This universal communicator program is an easy-to-use timesharing program for the beginner. Special features include preset parity, word length, and baud rate (regardless of switch settings on the RS-232-C board) for THE SOURCE, MICRONET, and FORUM 80, automatic testing of the RS-232-C board, and even spooling of prepared messages on tape directly into FORUM 80 using a basic program supplied as a line listing.

ST-80 4K Level II cassette $49.95

The original smart terminal program for the TRS-80, ST-80 lets you reprogram your RS-232-C board from the keyboard, and run at different baud rates. Does not have auto testing of RS-232-C or tape spooling.

ST-80 D 32K disk program, $79.95

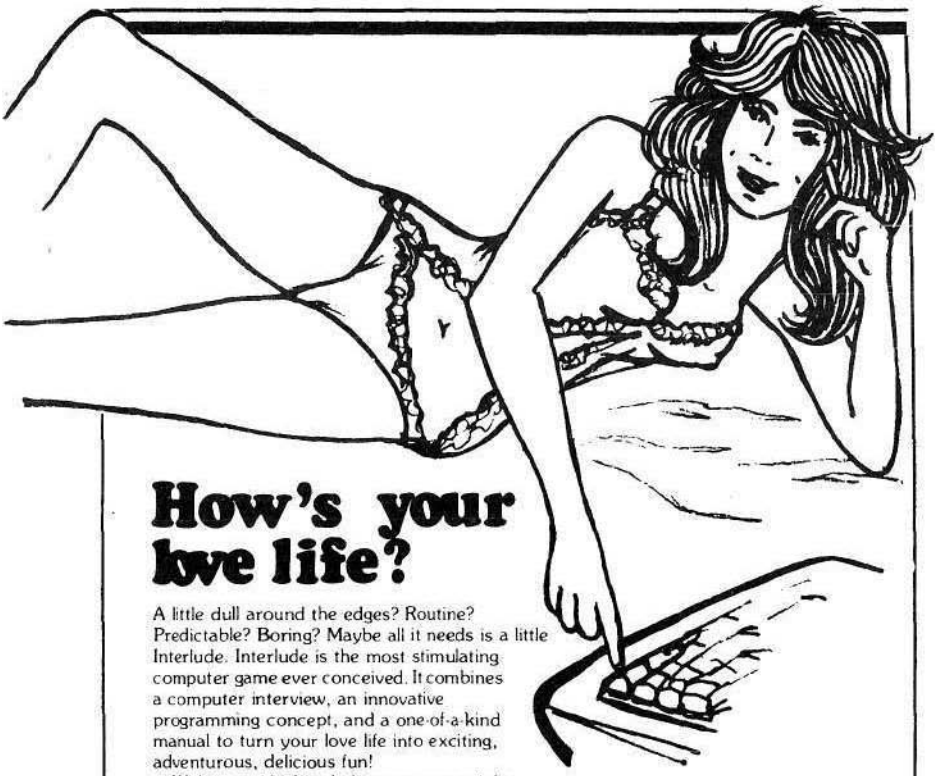
Special features include connection time clock, option of user-created translation tables for keyboard, gathering and pre-formatting data to be sent directly from disk to host computer, spooling of received files to disk or printer, editing of received files, and auto logon. If you use it with VTOS 3.1, you also get device driven I/O, job logging, and chaining.

ST-80 III 32K disk program, $150.00

ST-80 D with extra utility programs

The Software Exchange

6 South Street, Box 68, Milford, NH 03055 603-673-5144



How's your love life?

A little dull around the edges? Routine? Predictable? Boring? Maybe all it needs is a little Interlude. Interlude is the most stimulating computer game ever conceived. It combines a computer interview, an innovative programming concept, and a one-of-a-kind manual to turn your love life into exciting, adventurous, delicious fun!

With over 100 Interludes, you can satisfy all levels of interest and desire. Each Interlude is fully described in the manual, and the more elaborate ones are detailed with regard to settings, props, and mood-enhancing techniques. But we've saved a few super Interludes for that very special time when your interview indicates you're ready! At that time, you will be introduced to one of several Interludes held secret within the computer. (When you learn secret Interlude #99, your love life may never be the same again!) Interlude can give you experiences you'll never forget. Are you ready for it?

For the TRS-80(Level II, 16K)**

$17.95 for diskette

Interlude™

The Ultimate Experience.

The Software Exchange

6 SOUTH ST., MILFORD, N.H. 03055 (603) 673-5144

ADVENTURE

Get the granddaddy of the Adventure Games!

From MicroSoft, the people who wrote BASIC for all the personal computers, comes a version of the original Adventure. NOW, you no longer need a PDP-10 for all the power of the original game!

This game fills an entire diskette. Endless variety and challenge as you seek to rise to the level of Grand Master (until you gain skill, there are whole areas of the cave that you cannot enter.)

Requires 32K One Disk ONLY $29.95!

TSE **The Software Exchange**

6 South Street, Box 68, Milford, NH 03055 603-673-5144

ADVENTURES

by Scott Adams

Adventures on Tape: *Level II, 16K*

- **Adventure Sampler**
  Short version of Adventureland, a great way to try out adventuring (but you'll get addicted!) $5.95
- **Adventureland**
  An enchanted world with 13 lost treasures guarded by magical beings. $14.95
- **Pirate's Cove**
  Clues in blood-soaked books, a pirate and his parrot, alligators, treasure $14.95
- **Mission Impossible**
  A chance to prevent the nuclear reactor from being destroyed by a saboteur's time bomb $14.95
- **The Count**
  Watch out! you're in Dracula's castle and you must destroy him before he bites you! $14.95
- **Voodoo Castle**
  Remove a curse from Count Christo $14.95
- **Strange Odyssey**
  Adventure in outer space in the ruins of an ancient alien civilization $14.95
- **Mystery Fun House**
  It will take all your ingenuity just to get past the ticket counter, and that's only the beginning! $14.95
- **Pyramid of Doom**
  In the shifting sands of the Sahara lies an ancient Pyramid, filled with Egyptian treaasures $14.95

✳ ✳ **Ghost Town**
Steal the treasures from their ghostly guardians before nightfall $14.95

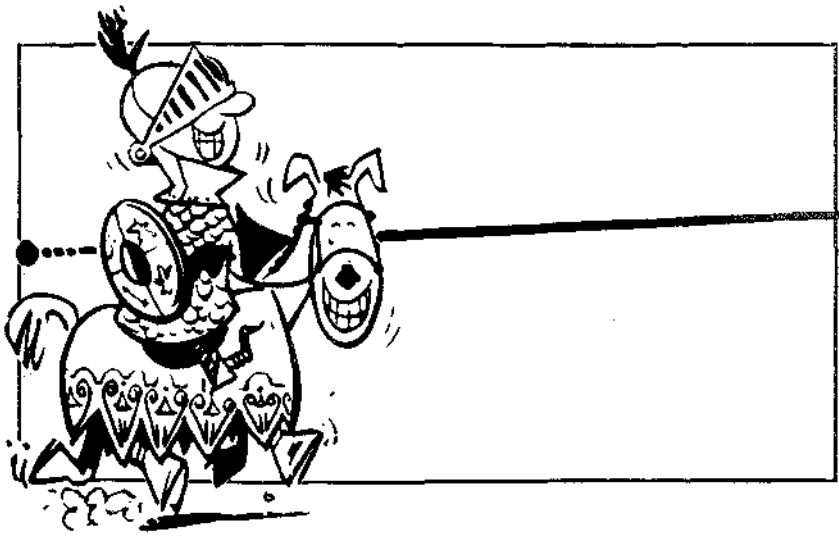
Adventures on Disk, in Sets:

- Set 1: Mission Impossible, Pirate's Cove, Adventureland $39.95
  Set 2: Voodoo Castle, The Count, Strange Odyssey $39.95

(programs are in Machine Language)

The Software Exchange

6 South Street, Box 68, Milford, NH 03055 603-673-5144



ADVENTURELAND

by Scott Adams

The following two programs, ADVENTURE BUILDER and ADVENTURE INTERPRETER, will allow you to create and play Scott Adams' ADVENTURELAND in BASIC. BUILDER creates a data tape (you'll need a C-60 cassette since the program runs for about 20 minutes) which is read by INTERPRETER.

(Editor's note: If you'd rather not wait for 20 minutes just to play the game in BASIC, you can always order the fast-loading, instant-response machine language version from TSE!)

As for the game itself, your goal is to explore the strange world in which you will find yourself, and attempt to find *TREASURES*. Of course, simply finding them is not sufficient; you must also discover where they must be stored in order to earn points.

Part of the fun of all ADVENTURE games is discovering just what the computer will allow you to do. You talk to the computer by means of two-word sentences such as GO NORTH, GET AX, TAKE INVENTORY and SAVE GAME. HELP and SCORE are words that may be used by themselves. Since the computer knows over 100 words, if one word doesn't accomplish what you want, try another.

You'll be meeting some fascinating and sometimes dangerous creatures as you wander through ADVENTURELAND. Be brave and inventive! In your attempts to recover the *TREASURES*, you will definitely find it helpful to draw a map.

That's all we're going to tell you! Happy Adventuring...

```
ADVENTURE BUILDER

10 '    **** BE SURE TO USE A C-60 TAPE FOR YOUR DATA TAPE!!!!

20 ' ADVENTURE DATA TAPE BUILDER. ADVENTUR/BLD
30 ' VERSION 1.3 (C) SCOTT ADAMS '80.
40 ' ADVENTURE INTERNATIONAL BOX 3435 LONGWOOD FL 32750
50 ' PHONE (305)-862-6917
60 ' BUILDS DATA TAPE FOR ORIGINAL BASIC VERSION OF ADVENTURELAN
D
70 'PLEASE NOTE ON LINES THAT SUDDENLY GO TO THE
NEXT LINE LIKE
THIS USE <DOWN ARROW> KEY WHICH IS RIGHT ABOVE
THE LEFT HAND SHIFT KEY ON YOUR TRS-80!

75 IFPEEK(16396)<>201THENCMD"T"
80 DATA 60, 151, 59, 33, 5, 11, 13, 3, 125, 71, 3,75,161,306,160
,200,0,17612,0,10,401,420,400,146,0,1852,8850,8,421,0,0,0,0,2011
,0,8,521,520,260,0,0,2689,7900,100,100,760,820,420,100,8312,1026
4,100,404,0,0,0,0,5613,0,5,141,140,20,246,0
90 DATA6062,0,5,406,426,400,442,146,7845,0,8,402,152,0,0,0,2311,
0,100,104,0,0,0,0,8550,0,50,161,246,160,1100,0,7259,7000,100,140
,140,940,500,0,10262,9900,30,841,426,406,400,0,7845,0,50,542,141
,0,0,0,10504,9150,100,240,642,720,640,700
100 DATA0005,7950,100,240,542,1040,540,0,0005,0,100,20,49,20,40,
0,6360,8700,25,200,260,200,0,0,7860,9150,100,240,240,0,0,0,9660,
0,100,269,260,0,0,0,16350,17357,100,20,40,20,40,0,4110,9000,4366
,22,0,0,0,0,6900,0,4374,0,0,0,0,0,9750,0,4404
110 DATA682,0,0,0,0,6900,0,4407,82,0,0,0,0,6900,0,1521,142,421,4
20,140,0,8902,450,1542,462,141,460,0,0,7000,0,1521,142,401,400,1
40,0,8902,450,2742,461,460,502,700,500,0064,0005,2742,461,460,0,
0,0,7950,0,1523,402,146,0,0,0,2311,0,1523,402
120 DATA141,266,0,0,2400,0,1523,402,141,261,260,520,8902,0,1533,
0,0,0,0,0,9900,0,4350,0,0,0,0,0,9600,0,5100,0,0,0,0,0,9900,0,345
0,501,344,460,0,0,8110,8614,2125,623,566,0,0,0,2850,0,2125,621,5
61,620,0,0,3021,9209,6794,0,0,0,0,0,17100,0
130 DATA2125,622,561,620,240,0,10535,8720,104,404,702,300,0,0,01
64,0,1525,24,006,0,0,0,2400,0,1525,24,001,000,620,0,8902,0,2725,
```

```
621,620,800,0,0,8982,3450,2125,362,561,0,0,0,3300,0,6003,0,0,0,0
,0,17100,0,185,384,0,0,0,0,3750,0,1510,762,760
140 DATA585,0,0,7000,0,2710,761,760,582,20,0,7986,8700,6343,921,
920,0,0,0,589,0,1513,122,261,260,240,0,8982,0,900,384,420,726,0,
0,8164,0,900,424,380,0,0,0,8164,0,185,424,582,0,0,0,3900,0,185,4
24,585,440,0,0,8164,0,7815,0,0,0,0,0,10650,0
150 DATA204,682,0,0,0,0,7650,0,2723,521,582,520,480,200,4259,800
0,1513,122,266,0,0,0,2400,0,5751,62,0,0,0,0,300,0,207,40,102,0,0
,0,8164,0,2713,241,240,260,0,0,8982,4350,1520,442,440,200,0,0,83
19,8294,1257,100,102,292,80,221,8303,1050,5070
160 DATA194,322,286,0,0,900,0,5570,104,322,286,0,0,900,0,3611,22
1,60,220,0,0,4550,7950,5070,322,281,320,340,0,8303,9600,2737,721
,685,720,0,0,7950,0,900,384,721,0,0,0,5011,0,2737,721,1120,900,6
80,720,8003,8309,1537,722,720,0,0,0,4852,0
170 DATA3300,0,0,0,0,0,0,5100,0,3900,0,0,0,0,0,9813,0,1510,762,582
,0,0,0,3900,0,2710,761,585,820,760,0,5303,8850,1050,60,765,60,0,
0,16710,0,4800,60,60,542,0,0,5910,0,4950,0,0,0,0,0,0,9750,0,7950,4
01,0,0,0,0,16613,15750,7050,421,0,0,0,0,16613
180 DATA15750,104,364,0,0,0,0,15300,0,1554,682,0,0,0,0,7650,0,52
50,582,860,360,500,0,6212,8250,2723,521,542,480,800,540,8003,829
3,7350,60,60,0,0,0,9001,16607,5070,342,0,0,0,0,9600,0,166,702,38
0,0,0,0,8164,0,1050,60,760,100,80,582,8300
190 DATA4710,6761,0,0,0,0,0,16614,0,5400,0,0,0,0,0,197,0,207,82,
60,0,0,0,8164,0,1257,102,221,100,80,281,8303,1200,6038,582,0,0,0
,0,3947,0,6039,542,0,0,0,0,5897,0,6313,241,240,260,0,0,589,7000,
6313,122,0,0,0,0,450,0,6342,461,460,0,0,0,589
200 DATA0,7500,322,60,320,340,60,8303,810,4050,524,10,0,0,0,4950
,0,4050,524,11,200,0,0,8164,0,1200,226,0,0,0,0,5700,0,6600,943,2
21,220,500,140,2762,8700,6600,221,527,220,500,0,2762,9900,4217,1
83,0,0,0,0,7650,0,1521,142,140,0,0,0,7900,0
210 DATA4217,203,169,960,160,0,7403,8700,4217,203,228,0,0,0,150,
0,4217,203,200,220,660,960,7558,8159,4217,203,100,200,660,900,75
58,8159,4217,203,168,900,100,0,7403,8700,7650,401,400,420,0,0,46
2,8982,7650,421,0,0,0,0,463,9150,4050,527,0,0
220 DATA0,0,15300,0,3450,586,0,0,0,0,150,0,6600,0,0,0,0,0,150,0,
5281,0,0,0,0,0,16607,5100,6907,0,0,0,0,0,15450,0,2723,521,480,52
0,260,0,8009,7900,6700,0,0,0,0,0,15450,0,6771,0,0,0,0,0,15450,0,
7200,0,0,0,0,0,15600,0,207,224,560,0,0,0,8164
230 DATA0,7050,524,0,0,0,0,16605,16350,7050,224,0,0,0,0,16605,0,
7050,384,0,0,0,0,16605,0,7050,464,0,0,0,0,16606,0,7050,264,0,0,0
```

```
,0,16609,0,7050,344,0,0,0,0,16609,0,7050,384,0,0,0,0,16609,0,705
0,424,0,0,0,0,16605,0,7050,164,0,0,0,0,16606,0
240 DATA5570,281,322,340,320,0,8005,0,206,342,120,0,0,0,8156,960
0,2117,201,200,180,0,0,8902,1500,2119,181,180,20C,0,0,8902,1350,
1551,62,0,0,0,0,1711,0,166,1042,480,0,0,0,8164,0,1549,0,0,0,0,0,
16611,0,2100,561,365,0,0,0,3600,0,5250,0,0,0,0
250 DATA0,150,0,3450,581,347,340,0,0,8118,8464,7050,24,0,0,0,0,1
6605,0,3611,226,0,0,0,0,5700,0,7050,404,0,0,0,0,16616,15450,6774
,0,0,0,0,0,9750,0,166,84,100,0,0,0,8164,0,1542,462,482,146,0,0,2
311,0,7050,0,0,0,0,0,150,0,1200,0,0,0,0,0,197
260 DATA0,3600,0,0,0,0,0,16800,0,AUT,ANY,GO,NORTH,*ENT,SOUTH,*RU
N,EAST,*WAL,WEST,*CLI,UP,JUM,DOWN,BEA,NET,CHO,FIS,*CUT,AWA,TAK,M
IR,*GET,AXE,*PIC,*AX,*CAT,WAT,LIG,BOT,*TUR,GAM,*LAM,HOL,*BUR,LAM
,DRO,*ON,*REL,OFF,*SPI,DOO,*LEA,MUD,STO,*MED
270 DATAAWA,BEE,THR,SCO,TOS,GAS,QUI,FLI,SWI,EGG,RUB,OIL,LOO,*SLI
,*SHO,KEY,*SEE,HEL,DRA,BUN,SCO,INV,INV,LED,YEL,THR,WAK,CRO,UNL,B
RI,REA,BEA,OPE,DRA,ATT,RUG,*HIT,RUB,DRI,HON,*GAT,FRU,BUN,OX,FIN,
RIN,*LOC,CHI,HEL,*BIT,SAY,BRA,WIN,SIG,DOO,BLA
280 DATASCR,WEB,SAV,*WRI,,SWA,,LAV,,ARO,,HAL,,TRE,,*STU,,FIR,0,7
,10,1,0,24,,23,1,1,25,0,0,DISMAL SWAMP,0,0,0,0,0,1,TOP OF A TALL
 CYPRESS TREE,1,1,1,1,4,LARGE HOLLOW DAMP STUMP IN THE SWAMP
,0,0,0,0,3,5,ROOT CHAMBER UNDER THE STUMP,0,0
290 DATA0,0,4,0,SEMI-DARK HOLE NEXT TO ROOT CHAMBER,0,0,0,0,5,7,
LONG DOWN SLOPING HALL,8,9,0,27,6,12,LARGE CAVERN,0,7,0,0,0,0,LA
RGE 8 SIDED ROOM,7,0,0,0,20,0,ROYAL ANTEROOM,11,10,26,1,0,26,*I'
M ON THE SHORE OF A LAKE,11,11,23,11,0,0
300 DATAFOREST,13,15,15,0,0,13,MAZE OF PITS,0,0,0,14,12,0,MAZE O
F PITS,17,12,13,16,16,17,MAZE OF PITS,12,0,13,12,13,0,MAZE OF PI
TS,0,17,0,0,14,17,MAZE OF PITS,17,12,12,15,14,18,MAZE OF PITS,0,
0,0,0,17,0
310 DATABOTTOM OF A CHASM  ABOVE ME IS
A PAIR OF LEDGES.  ONE HAS A BRICKED UP WINDOW ACROSS ITS FACE
THE OTHER FACES A THRONE ROOM.,0,0,0,20,0,0,*I'M ON A NARROW LED
GE BY A CHASM.  ACROSS THE CHASM IS
THE THRONE ROOM,0,0,0,0,0,9
320 DATAROYAL CHAMBER,0,0,0,0,0,0,NARROW LEDGE BY A THRONE ROOM.
ACROSS THE CHASM IS ANOTHER LEDGE.,0,0,0,0,0,21,THRONE ROOM,10,1
,10,11,0,0,SUNNY MEADOW,0,0,0,0,0,0
330 DATA*I THINK I'M IN REAL TROUBLE NOW  THERE'S A FELLOW HERE
WITH
```

```
A PITCHFORK AND POINTED TAIL     .OH HELL!
.11,0,1,11,0,0,HIDDEN GROVE,0,0,0,0,0,0,QUICK-SAND BOG,0,0,7,0,0
,0,MEMORY RAM OF A TRS-80
I TOOK A WRONG TURN!,0,0,0,0,0,11
340 DATATOP OF AN OAK
TO THE EAST I SEE A MEADOW  BEYOND THAT A LAKE ,0,0,0,0,0,0,,0,0
,0,0,0,0,,0,0,0,0,0,0,0,,0,0,0,0,0,0,0,,0,24,11,24,28,24,LARGE MISTY
 ROOM WITH STRANGE
UNREADABLE LETTERS OVER ALL THE EXITS ,,NOTHING HAPPENS
350 DATACHOP IT DOWN!,BOY THAT REALLY HIT THE SPOT!,DRAGON SMELL
S SOMETHING  AWAKENS  ATTACKS ME!,LOCK SHATTERS,I CAN'T ITS LOCK
ED,TIMBER  SOMETHING FELL FROM THE TREE TOP AND VANISHED!,TIMBER
!,LAMP IS OFF,FLAMELESS LAMP IS LIT
360 DATAI'M BIT BY A SPIDER,MY CHIGGER BITES ARE NOW INFECTED,MY
 BITES HAVE ROTTED MY WHOLE BODY,BEAR EATS THE HONEY AND FALLS A
SLEEP,BEES STING ME,I'VE NO CONTAINER,THE BEES ALL SUFFOCATED AN
D DISAPEARED
370 DATASOMETHING I'M HOLDING VIBRATES AND  ,NOTHING TO LIGHT I
T WITH,GAS BLADDER BLEW UP,IN MY HANDS!,GAS NEEDS TO BE CONTAINE
D BEFORE IT WILL BURN,GAS DISIPATES  (I THINK YOU BLEW IT),THAT
WON'T IGNITE,HOW? JUMP?,BEAR WON'T LET ME
380 DATADON'T WASTE *HONEY* GET AND INSTEAD,BEES MADDEN BEAR  BE
AR THEN ATTACKS ME!,IT SOAKS INTO THE GROUND,IN 1 WORD TELL ME A
T WHAT ,OH NO  BEAR DODGES  CRASH ,HEAVY!,SOMETHINGS TOO HEAVY
 I FALL ,TO STOP GAME SAY QUIT
390 DATAMIRROR HITS FLOOR AND SHATTERS INTO MILLION PIECES,MIRRO
R LANDS SOFTLY ON RUG  LIGHTS UP AND SAYS,YOU LOST *ALL* TREASUR
ES ,NOT CARRYING AXE  TAKE INVENTORY!,IT DOESN'T BOTHER HIM AT A
LL,THE MUD DRIED UP AND FELL OFF
400 DATATHE BEAR IS SO STARTLED HE FALLS OFF THE LODGE ,*DRAGON
STING* AND FADES  I DON'T GET IT  I HOPE YOU DO ,THE BEES ATTACK
 THE DRAGON WHICH GETS SO ANNOYED IT GETS UP
AND FLYS AWAY  ,MAGIC OIL ATRACKS MAGIC LAMP  LAMP IS NOW FULL
410 DATAI'M BIT BY CHIGGERS,THERE'S SOMETHING THERE ALL RIGHT! M
AYBE I SHOULD GO THERE?,MAYBE IF I THREW SOMETHING?  ,TOO DRY
FISH DIE ,A GLOWING GENIE APPEARS  DROPS SOMETHING  THEN VANISHG
S
420 DATAA GLOWING GENIE APEARS  SAYS -BOY YOU'RE SELFISH- TAKES
 SOMETHING AND THEN MAKES -ME- VANISH!,NO  ITS TOO HOT,NOT HERE
TRY THE SWAMP,USE ONE WORD
```

```
430 DATATRY--> LOOK JUMP SWIM CLIMB THROW FIND TAKE INVENTORY SC
ORE
DROP AND ANY OTHER VERB YOU THINK OF  SOME MAY NOT NEED A NOUN .
ONLY 3 THINGS WILL WAKE THE DRAGON AND 1 ITEM IS DANGEROUS
BY ITSELF!!
440 DATAIF YOU EVER WANT A HINT ON SOMETHING TRY -'HELP' .READ S
IGN IN THE MEADOW!.YOU MAY NEED MAGIC WORDS HERE.A VOICE BOOOOMS
 OUT.PLEASE LEAVE IT ALONE.CAN ONLY THROW AX.MEDICINE IS GOOD FO
R BITES .I DON'T KNOW WHERE IT IS
450 DATATO WIN GET 100 WHEN YOU SAY 'SCORE'  A TREASURE IS
ANYTHING WITH AN * IN THE NAME.BLOW IT UP .FISH ESCAPE BACK TO L
AKE.....,0,DARK HOLE,4,*POT OF RUBIES*/RUB/,4,SPIDER WEB WITH WR
ITING ON IT,2
460 DATA-HOLLOW- STUMP AND REMAINS OF A FELLED TREE,0,CYPRESS TR
EE,1,WATER,10,EVIL SMELLING MUD/MUD/,1,*GOLDEN FISH*/FIS/,10,LIT
 BRASS LAMP/LAM/,0,OLD FASHIONED BRASS LAMP/LAM/,3,RUSTY AXE (MA
GIC WORD -BUNYON- ON IT)/AXE/,10
470 DATABOTTLE WITH WATER/BOT/,3,EMPTY BOTTLE/BOT/,0,RING OF SKE
LETON KEYS/KEY/,2,SIGN -LEAVE TREASURES HERE  SAY SCORE -,3,LOCK
ED DOOR,5,OPEN DOOR WITH A HALLWAY BEYOND,8,SWAMP GAS,1,*GOLDEN
NET*/NET/,18,CHIGGER BITES,0
480 DATAINFECTED CHIGGER BITES,0,FLOATING PATCHES OF OILY SLIME,
1,*ROYAL HONEY*/HON/,8,LARGE AFRICAN BEES,8,VERY THIN BLACK BEAR
,21,BEES IN A BOTTLE/BOT/,0,LARGE SLEEPING DRAGON,23,FLINT & STE
EL/FLI/,13,*THICK PERSIAN RUG*/RUG/,17
490 DATASIGN -MAGIC WORD IS AWAY  LOOK LA
(REST OF SIGN IS MISSING),18,DISTENDED GAS BLADDER/BLA/,0,BRICKE
D UP WINDOW,20,SIGN HERE SAYS -IN MANY CASES MUD IS GOOD  IN OTH
ERS  -,23,STREAM OF LAVA,18
500 DATABRICKED UP WINDOW WITH A HOLE IN IT
BEYOND IS A LEDGE ,0,LOOSE FIRE BRICKS,0,*GOLD CROWN*/CRO/,22,*M
AGIC MIRROR*,21,SLEEPING BEAR,0,EMPTY WINE BLADDER/BLA/,9,BROKEN
 GLASS,0,CHIGGERS/CHI/,1,DEAD BEAR,0
510 DATA*DRAGON EGGS* (VERY RARE)/EGG/,0,LAVA STREAM WITH BRICK
DAM,0,*JEWELED FRUIT*/FRU/,25,*SMALL STATUE OF A BLUE OX*/OX/,26
,*DIAMOND RING*/RIN/,0,*DIAMOND BRACLET*/BRA/,0,STRANGE SCRATCHI
NGS ON ROCK SAYS -ALADIN WAS HERE-,14
520 DATASIGN SAYS -LIMBO  FIND RIGHT EXIT AND LIVE AGAIN!-,33,SM
OKING HOLE  PIECES OF DRAGON AND GORE ,0,SIGN SAYS -NO SWIMMING
```

```
 ALLOWED HERE-,10,ARROW POINTING DOWN,17,DEAD FISH/FTS/,0,*FIREST
 ONE*(COLD NOW)/FIR/,0,SIGN SAYS -PAUL'S PLACE-
 530 DATA25,TREES,11,,0,,0,
 540 CLEAR800:DEFINTA-Z:POKE 16553,255:RESTORE
 550 CLS:INPUT"PREPARE DATA TAPE (HIT ENTER)":TP$
 560 CLS:PRINT@64+4,"ADVENTURE DATA TAPE BUILDER - WORKING"
 570 READ IL,CL,NL,RL,MX,R,TT,LN,LT,ML,TR:PRINT#-1,IL,CL,NL,RL,MX
 ,R,TT,LN,LT,ML,TR
 580 DIMCA(1,7),NV$(NL+10,1),IA$(IL),IA(IL),RS$(RL),RM(RL,5),MS$(
 ML),AA(5),A$(9),A(1,7)
 590 FORZ=0TOCL STEP2:FORXX=0TO1:FORY=0TO7:READCA(XX,Y):NEXTY,XX:
 X=0
 600 Y=X+1:PRINT#-1,CA(X,0),CA(X,1),CA(X,2),CA(X,3),CA(X,4),CA(X,
 5),CA(X,6),CA(X,7),CA(Y,0),CA(Y,1),CA(Y,2),CA(Y,3),CA(Y,4),CA(Y,
 5),CA(Y,6),CA(Y,7):NEXTZ
 610 FORX=0TONL:FORY=0TO1:READ NV$(X,Y):NEXTY,X
 620 FORX=0TORL:READ RM(X,0),RM(X,1),RM(X,2),RM(X,3),RM(X,4),RM(X
 ,5),RS$(X):NEXT
 630 FORX=0TOML:READ MS$(X):NEXT
 640 FORX=0TOIL:READ IA$(X),IA(X):NEXT
 650 FORX=0TONLSTEP10:FORY=0TO1:PRINT#-1,NV$(X,Y),NV$(X+1,Y),NV$(
 X+2,Y),NV$(X+3,Y),NV$(X+4,Y),NV$(X+5,Y),NV$(X+6,Y),NV$(X+7,Y),NV
 $(X+8,Y),NV$(X+9,Y):NEXTY,X
 660 FORX=0TORL:PRINT#-1,RM(X,0),RM(X,1),RM(X,2),RM(X,3),RM(X,4),
 RM(X,5),RS$(X):NEXT
 670 FORX=0TOML:PRINT#-1,MS$(X):NEXT
 680 FORX=0TOIL:PRINT#-1,IA$(X),IA(X):NEXT
 690 INPUT"REWIND TAPE TO BE VERFIED":TP$
 700 POKE16553,255:RESTORE:FORX=1TO11:READA0:NEXT
 710 INPUT#-1,A0,A1,A2,A3,A4,A5,A6,A7,A8,A9,B0
 720 IFB0<>TRORA0<>ILORA1<>CLORA2<>NLORA3<>RLORA4<>MXORA5<>ROR(A6
 <>TT)ORA7<>LNOR(A8<>LT)ORA9<>MLTHEN790
 730 FORX=0TOCL STEP2:INPUT#-1,A(0,0),A(0,1),A(0,2),A(0,3),A(0,4)
 ,A(0,5),A(0,6),A(0,7),A(1,0),A(1,1),A(1,2),A(1,3),A(1,4),A(1,5),
 A(1,6),A(1,7)
 740 FORY=0TO1:FORZ=0TO7:POKE16553,255:READA0:IFA(Y,Z)<>A0THEN790
 ELSENEXTZ,Y,X
 750 FORX=0TONLSTEP10:FORY=0TO1:INPUT#-1,A$(0),A$(1),A$(2),A$(3),
 A$(4),A$(5),A$(6),A$(7),A$(8),A$(9):FORZ=0TO9:IFNV$(X+Z,Y)<>A$(Z
 )THEN790ELSENEXTZ,Y,X
```

```
760 FORX=0TO81 INPUT#-1,AR(0),AR(1),AR(2),AR(3),AR(4),AR(5),A$ F
ORY=0TO5 IFAR(Y)<>RM(X,Y)ORA$<>RS$(X)THEN790ELSENEXTY,X
770 FORX=0TO81 INPUT#-1,A$ IFA$<>MS$(X)THEN790ELSENEXT
780 FORX=0TO11 INPUT#-1,A$,AR(0) IFAR(0)<>TA(X)ORA$<>TA$(X)THEN7
90ELSENEXTX CLS PRINT"DATA TAPE VERIFIED" END
790 PRINT"BAD TAPE!" END
```


PENTOMINOES

by James Garon

Endless fascination for the dedicated puzzler! Each pentomino is made up of five squares, and there are twelve shapes. You can rotate them, flip them over, remove pieces at will and try them elsewhere, but to win you must fit them together to form a larger, 60-square shape. Top notch graphics and SOUND EFFECTS.

New low price! **$7.95**

Level II, 16K

The Software Exchange

6 South Street
Milford, NH 03055

AMATEUR ASTRONOMY HANDBOOK

by George Hall

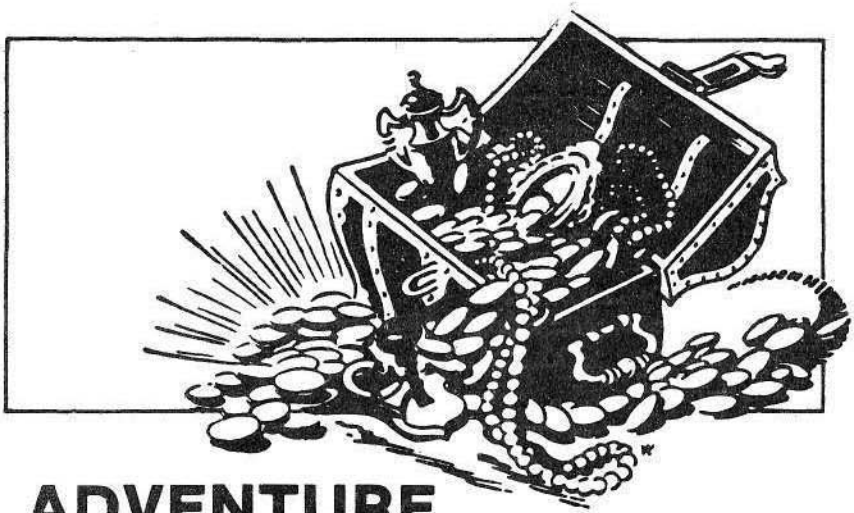
$14.95

Amateur Astronomy Handbook is a Level II, 16K program designed to help anyone from the casual observer of the glorious Night Skies to the more advanced amateur who needs reasonably accurate positional information on the Sun, Moon and Planets.

Partial List of Features:

- **Convert Local to Sidereal time**
- **Convert Right Ascension/Declination to Azimuth/Altitude or Heliocentric Longitude/Latitude**
- **Determine Local times of Sunrise, Sunset, Moonrise, Moonset and Phases.**
- **Plot position of Sun, Moon and visible planets.**

The Software Exchange



ADVENTURE INTERPRETER

by Scott Adams

This program will read the cassette created by ADVENTURE BUILDER. Then it will be time to begin your adventure. Be prepared to spend many hours in your search for *TREASURES*. You'll need all your cleverness and bravery to deal with the creatures and situations which await you...

```
ADVENTURE  INTERPRETER
1 'COPYRIGHT SCOTT ADAMS. 1978. 1-305-862-6917.
5 CLEAR5400:DEFINTA-Z:IFPEEK(16396)<>201THEN CMD"T"
78 X=Y=Z:K=R=V:N=LL=F:TP$=K$:GOTO190
80 CLS:PRINT"     ***   WELCOME TO ADVENTURE LAND. (#4.2) ***":P
RINT:PRINT" UNLESS TOLD DIFFERENTLY YOU MUST FIND *TREASURES*
AND-RETURN-THEM-TO-THEIR-PROPER-PLACE!"
85 PRINT:PRINT"I'M YOUR PUPPET. GIVE ME ENGLISH COMMANDS THAT"
90 PRINT"CONSIST OF A NOUN AND VERB. SOME EXAMPLES...":PRINT:PRI
NT"TO FIND OUT WHAT YOU'RE CARRYING YOU MIGHT SAY: TAKE INVENTOR
Y
TO GO INTO A HOLE YOU MIGHT SAY: GO HOLE
TO SAVE CURRENT GAME: SAVE GAME"
100 PRINT:PRINT"YOU WILL AT TIMES NEED SPECIAL ITEMS TO DO THING
S, BUT I'M
 SURE YOU'LL BE A GOOD ADVENTURER AND FIGURE THESE THINGS OUT."
```

NOTE: The "^" in line listings should be ↑

```
120 PRINT:INPUT"     HAPPY ADVENTURING... HIT ENTER TO START";K$
:CLS:RETURN
190 GOSUB5000
192 R=AR:LX=LT:DF=0:SF=0:INPUT"RETRIEVE OLD 'SAVED' GAME";K$:IFL
EFT$(K$,1)<>"Y"THEN200
193 INPUT"READY SAVED TAPE";K$:PRINTINT(IL*5/60)+1;"MINUTES"
195 INPUT#-1,SF,LX,DF,R:FORX=0TOIL:INPUT#-1,IA(X):NEXT
200 GOSUB80:CLS:GOSUB1500:GOTO225
210 INPUT"TELL ME WHAT TO DO";TP$:PRINT:GOSUB1000:IFPRINT"YOU U
SE WORD(S) I DON'T KNOW":GOTO210
215 IFIL>8IFIA(9)=-1THENLX=LX-1:IFLX<0THENPRINT"LIGHT HAS RUN OU
T":IA(9)=0ELSEIFLX<25PRINT"LIGHT RUNS OUT IN";LX;"TURNS!"
220 GOSUB2000
225 NV(0)=0:GOSUB2000:GOTO210
1000 K=0:NT$(0)="":NT$(1)=""
1010 FORX=1TOLEN(TP$):K$=MID$(TP$,X,1):IFK$=" "THENK=1ELSENT$(K)
=NT$(K)+K$
1030 NEXTX:FORX=0TO1:NV(X)=0:IFNT$(X)=""THEN1070ELSENT$(X)=LEFT$
(NT$(X),LN):FORY=0TONL:K$=NV$(Y,X):IFLEFT$(K$,1)="*"THENK$=MID$(
K$,2)
1035 IFX=1IFV<7THENK$=LEFT$(K$,LN)
1040 IFNT$(X)=K$THENNV(X)=YELSENEXTY:GOTO1070
1060 IFLEFT$(NV$(NV(X),X),1)="*"THENNV(X)=NV(X)-1:GOTO1060
1070 NEXTX:F=NV(0)<10RLEN(NT$(1))>0ANDNV(1)<1:RETURN
1500 IFDFIFIA(9)<>-1ANDIA(9)<>RPRINT"I CAN'T SEE, ITS TOO DARK."
:RETURN
1505 K=-1:IFLEFT$(RS$(R),1)="*"PRINTMID$(RS$(R),2);:GOTO1520
1510 PRINT"I'M IN A ";RS$(R);
1520 FORZ=0TOIL:IFKIFIA(Z)=RPRINT". VISIBLE ITEMS HERE ARE:
":K=0
1524 GOTO1530
1525 TP$=IA$(Z):IFRIGHT$(TP$,1)="/"FORW=LEN(TP$)-1TO1STEP-1:IFMI
D$(TP$,W,1)="/"THENTP$=LEFT$(TP$,W-1)ELSENEXTW
1526 RETURN
1530 IFIA(Z)<>RTHEN1540ELSEGOSUB1525:IFPOS(0)+LEN(TP$)+3>63THENP
RINT
1535 PRINTTP$;"   "
1540 NEXT:PRINT
1550 K=-1:FORZ=0TO5:IFKIFRM(R,Z)<>0PRINT"
OBVIOUS EXITS: ";:K=0
```

```
 1560 IFRM(R,Z)<>0PRINTNV$(Z+1,1);" ";;
 1570 NEXT:IFNOTKPRINT
1580 PRINT:RETURN
 2000 F2=-1:F=-1:F3=0:IFNV(0)=1ANDNV(1)<7THEN2210ELSEFORX=0TOCL:V
=CA(X,0)/150:IFNV(0)=0IFV<>0THEN2930
 2005 IFNV(0)<>VTHENNEXTX:GOTO2901ELSEN=CA(X,0)-V*150
 2010 IFNV(0)=0THENF=0:IFRND(100)<=NTHEN2030ELSENEXTX:GOTO2901
 2020 IFN<>NV(1)ANDN<>0THENNEXTX:GOTO2901
2030 F2=-1:F=0:F3=-1:FORY=1TO5:LL=CA(X,Y)/20:K=CA(X,Y)-LL*20:F1=
-1:ONK+1GOTO2140,2050,2060,2070,2080,2090,2100,2110,2120,2130,20
35,2045,2055
 2035 F1=-1:FORZ=0TOIL:IFIA(Z)=-1THEN2140ELSENEXT:F1=0:GOTO2140
 2045 F1=0:FORZ=0TOIL:IFIA(Z)=-1THEN2140ELSENEXT:F1=-1:GOTO2140
 2050 F1=IA(LL)=-1:GOTO2140
 2055 F1=IA(LL)<>-1ANDIA(LL)<>R:GOTO2140
 2060 F1=IA(LL)=R:GOTO2140
 2070 F1=IA(LL)=RORIA(LL)=-1:GOTO2140
2080 F1=R=LL:GOTO2140
 2090 F1=IA(LL)<>R:GOTO2140
 2100 F1=IA(LL)<>-1:GOTO2140
 2110 F1=R<>LL:GOTO2140
 2120 F1=SFANDCINT(2^LL+.5):F1=F1<>0:GOTO2140
 2130 F1=SFANDCINT(2^LL+.5):F1=F1=0:GOTO2140
 2140 F2=F2ANDF1:IFF2THENNEXTYELSENEXTX:GOTO2901
 2150 IP=0:FORY=1TO4:K=(Y-1)/2+6:ONYGOTO2160,2170,2160,2170
 2160 AC=CA(X,K)/150:GOTO2200
 2170 AC=CA(X,K)-CINT(CA(X,K)/150)*150
 2200 IFAC>101THEN2205ELSEIFAC=0THEN2600ELSEIFAC<52THENPRINTMS$(A
C):GOTO2600:ELSEONAC-51GOTO2230,2260,2270,2280,2290,2300,2310,22
80,2320,2340,2350,2360,2370,2380,2400,2420,2430,2440,2450,2261
 2205 IFAC<102THENPRINT"BAD ACTION"ELSEPRINTMS$(AC-50)
2207 GOTO2600
 2210 L=DF:IFLTHENL=DFANDIA(9)<>R ANDIA(9)<>-1:IFL PRINT"DANGER(U
S TO MOVE IN THE DARK!"
 2215 IFNV(1)<1PRINT"PLEASE GIVE ME A DIRECTION ALSO ":GOTO2930
 2220 K=RM(R,NV(1)-1):IFK<1IFLTHENPRINT"I FELL DOWN AND BROKE MY
 NECK.":K=RL:DF=0:ELSEPRINT"I CAN'T GO IN THAT DIRECTION":GOTO293
0
2222 IFNOTLCLS
2225 R=K:GOSUB1500:GOTO2930
```

```
 2230 L=0:FORZ=1TOIL:IFIA(Z)=-1LETL=L+1
2235 NEXTZ
 2240 IFL>=MXPRINT"I'VE TOO MUCH TO CARRY":GOTO2600
 2250 GOSUB4000:IA(P)=-1:GOTO2600
 2260 GOSUB4000:IA(P)=R:GOTO2600
 2261 PRINT"SAVING GAME":INPUT"READY OUTPUT TAPE";K$:PRINTINT(IL*
5/60)+1;"MINUTES"
 2265 PRINT#-1,SF,LX,DF,R:FORX1=0TOIL:PRINT#-1,IA(X1):NEXTX1
2266 GOTO2600
 2270 GOSUB4000:R=P:GOTO2600
 2280 GOSUB4000:IA(P)=0:GOTO2600
 2290 DF=-1:GOTO2600
 2300 DF=0:GOTO2600
2310 GOSUB4000
 2315 SF=SF ORCINT(.5+2^P):GOTO2600
2320 GOSUB4000
 2325 SF=SFANDNOTCINT(.5+2^P):GOTO2600
 2340 PRINT"I'M DEAD...":R=RL:DF=0:GOTO2370
 2350 GOSUB4000:L=P:GOSUB4000:IA(L)=P:GOTO2600
 2360 PRINT"THE GAME IS NOW OVER":INPUT"ANOTHER GAME";TP$:IFLEFT$
(TP$,1)="N"THENENDELSEFORX=0TOIL:IA(X)=I2(X):NEXTX:GOTO192
 2370 GOSUB1500:GOTO2600
 2380 L=0:FORZ=1TOIL:IFIA(Z)=TRIFLEFT$(IA$(Z),1)="*"LETL=L+1
 2390 NEXTZ:PRINT"I'VE STORED";L;"TREASURES.
 ON A SCALE OF 0 TO 100 THAT RATES A";CINT(L/TT*100):IFL=TTPRINT"
WELL DONE.":GOTO2360
2395 GOTO2600
 2400 PRINT"I'M CARRYING THE FOLLOWING:":K=-1:FORZ=0TOIL:IFIA(Z)<
>-1THEN2410ELSEGOSUB1525:IFLEN(TP$)+POS(0)>63PRINT
 2405 PRINTTP$;" ",;:K=0
 2410 NEXTZ:IFKPRINT"NOTHING"ELSEPRINT
2415 GOTO2600
 2420 P=0:GOTO2310
 2430 P=0:GOTO2320
 2440 LX=LT:IA(9)=-1:GOTO2600
 2450 CLS:GOTO2600
 2600 NEXTY
 2610 IFNV(0)<>0THEN2901
 2900 NEXTX
 2901
```

```
 2905 IFNV(0)=0THEN2930
 2907 GOSUB4200
 2908 IFFPRINT"I DON'T UNDERSTAND YOUR COMMAND":GOTO2930
 2910 IFNOTF2PRINT"I CAN'T DO THAT YET":GOTO2930
 2930 RETURN
 4000 IP=IP+1:P=CA(X,IP)/20:M=CA(X,IP)-P*20:IFM<>0THEN4000ELSERET
URN
 4200 IFNV(0)<>10ANDNV(0)<>18ORF3THEN4290
 4205 IFNV(1)=0PRINT"WHAT?":GOTO4280
 4206 IFNV(0)<>10THEN4210
 4207 L=0:FORZ=0TOIL:IFIA(Z)=-1THENL=L+1
 4208 NEXT:IFL>=MXPRINT"I'VE TOO MUCH TO CARRY":GOTO4280
 4210 K=0:FORX=0TOIL:IFRIGHT$(IA$(X),1)<>"/"THEN4285ELSELL=LEN(IA
 $(X))-1:TP$=MID$(IA$(X),1,LL):FORY=LLTO2STEP-1:IFMID$(TP$,Y,1)<>
"/"THENNEXTV:GOTO4285
 4220 TP$=LEFT$(MID$(TP$,Y+1),LN)
 4230 IFTP$<>NV$(NV(1),1)THEN4285
 4240 IFNV(0)=10THEN4270
 4250 IFIA(X)<>-1THENK=1:GOTO4285ELSEIA(X)=R:K=3:GOTO4275
 4270 IFIA(X)<>RTHENK=2:GOTO4285ELSEIA(X)=-1:K=3
4275 PRINT"OK, ";
4280 F=0:GOTO4290
4285 NEXTX
 4286 IFK=1THENPRINT"I'M NOT CARRYING IT"ELSEIFK=2PRINT"I DON'T S
EE IT HERE"
 4287 IFK=0IFNOTF3PRINT"ITS BEYOND MY POWER TO DO THAT":F=0
 4288 IFK<>0THENF=0
4290 RETURN
 5000 INPUT"REWIND/LOAD ADVENTURE DATA TAPE. HIT ENTER";TP$
 5010 INPUT#-1,IL,CL,NL,RL,MX,AR,TT,LN,LT,ML,TR
 5015 A=(IL+CL/2+NL/10+RL+ML)/12:PRINT:PRINT"TAPE WILL TAKE";A+1;
"MINUTES TO LOAD."
 5020 DIMNV(1),CA(CL,7),NV$(NL,1),IA$(IL),IA(IL),RS$(RL),RM(RL,5)
,MS$(ML),NT$(1),I2(IL)
 5030 FORX=0TOCL STEP2:Y=X+1:INPUT#-1,CA(X,0),CA(X,1),CA(X,2),CA(
X,3),CA(X,4),CA(X,5),CA(X,6),CA(X,7),CA(Y,0),CA(Y,1),CA(Y,2),CA(
Y,3),CA(Y,4),CA(Y,5),CA(Y,6),CA(Y,7):NEXT
 5040 FORX=0TONLSTEP10:FORY=0TO1:INPUT#-1,NV$(X,Y),NV$(X+1,Y),NV$
(X+2,Y),NV$(X+3,Y),NV$(X+4,Y),NV$(X+5,Y),NV$(X+6,Y),NV$(X+7,Y),N
V$(X+8,Y),NV$(X+9,Y):NEXTY,X
```

```
5060 FORX=0TORL:INPUT#-1,RM(X,0),RM(X,1),RM(X,2),RM(X,3),RM(X,4)
,RM(X,5),RS$(X):NEXT
5070 FORX=0TOML:INPUT#-1,MS$(X):NEXT
5080 FORX=0TOIL:INPUT#-1,IA$(X),IA(X):I2(X)=IA(X):NEXT:RETURN
```

APL-80 VERSION 3.0

by Phelps Gates

Now APL, the efficient computer language, is available in a self teaching version with all these features:

- **Random and Sequential files**
- **15 digit accuracy**
- **Custom module allows serial printer, lower case and reserved RAM**
- **Over 60 functions, 11 control characters**
)SAVE)LOAD)DOS)AUTO)EXEC)TRON)TROFF
)PS)PD (print single or double precision))KILL)RAM
  (PEEK, POKE, and CALL)
- **5 workspace of lessons**
- **Clock functions**

APL 80 is easy to learn, easy to use, and very powerful. Note: uses shifted alphanumeric characters instead of normal APL characters. Requires 32K, single disk TRS-80 microcomputer $39.95.

Reduced feature 16K Level II cassette version $14.95.

A manual is provided. However, if you wish a good tutorial on APL, the book APL: An Interactive Approach by Gilman and Rose is available separately for $15.50 plus $2 shipping.

Earlier disk versions may be upgraded for $10.

The Software Exchange

6 SOUTH ST., MILFORD, N.H. 03055 (603) 673-5144

INPUT
A COLUMN OF YOUR LETTERS

The following is an unsigned letter from a software pirate:

I'm really getting a charge out of all of you jumping on the bandwagon about software pirates.

The idea that someone would give away a copy of a program! Well, I'll tell you guys something -if someone at a meeting gives me a program, I don't care if it sells for $7.95 or $150.00 - **I'm taking it!**

I'm fed up with all your magazines (or rags) printing the same stuff only a month later with a few changes. Do you think I like getting 5 different ones in the mail each month showing me 5 different ways of doing the same program?

And how about purchasing a program from Softside only to see it **free** in 3 magazines later! Well you get what you pay for. (0=0)

I'll stop taking software when:

1 copy machines are taken out of libraries;

2 you or any member of your staff gets rid of betamax for pirating movies;

3 any one of you stops tape recording music off the radio; and

4 when any member of any of your families goes to a quick copy center to get 40 copies of sheet music for "church" choir instead of purchasing 40 original copies at the music store.

Get off your soap boxes and do a magazine. I can get sermons on Sunday!

Editor's reply:

Whoever you are, you are certainly right about one thing: "You get what you pay for." Several well-known programmers have already ceased their programming efforts due to the high ratio of programs stolen to programs sold. When the software market dries up through the actions of yourself and others with the same attitude, there will be no more programs for you to pilfer. Then your $0.00 investment will have paid off for us all.

In the June issue Edward Ting wrote an article "Super Simple Sound Interface for the TRS-80". It's nice, but there's a simpler way.

Dig in your junk box and find that little ear phone that came with your transistor radio. (You could get the one off your grandad's hearing aid, but that wouldn't be very nice.)

Put a blank tape in the recorder, put it in Record mode and plug the little ear phone into the EAR jack on the recorder. You'll get sound! If you have a little speaker in a little radio that doesn't work, you can cut the ear phone off the wire, solder the wires to the speaker terminals and plug that in. Mine sounds great!

Sherry M. Taylor
Haines City, Florida

The Lazy Man's Shortcut to Machine Language!

by Dave Bohlke

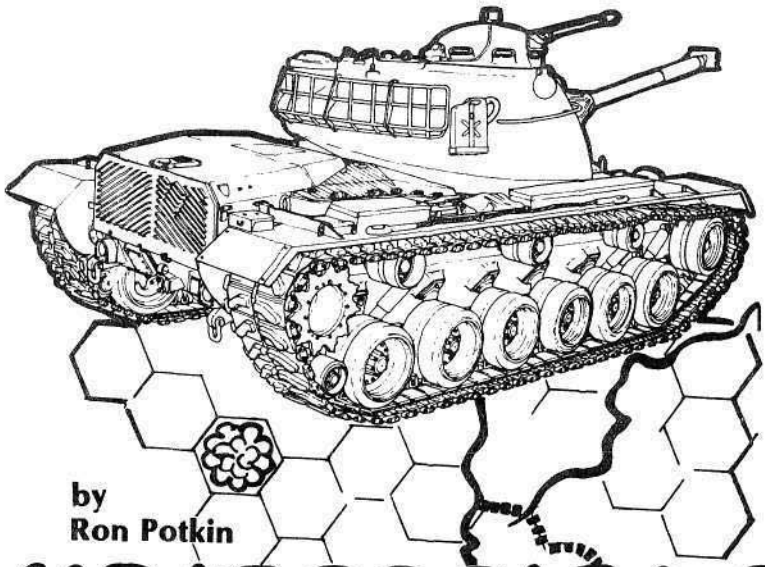
A BASIC **Compiler** in BASIC! Run your source program in BASIC, compile it into FAST Z-80 Code and execute the compiled version — all without reloading. 26 integer variables, GOTO, GOSUB, END, REM, RND, LET, +, *, /, IF, THEN, <, =, >, INKEY$, CLS, PRINT@, CHR$, PEEK, POKE. Compiled programs may be saved via TAPEDISK.

Supplied with game program, "3D TIC TAC TOE", which uses all of the TINY COMP Statement set and is ready to compile.

Manual includes several sample programs as well as thorough documentation of the Compiler for those who like to know "how things work" and for those who might even wish to EXPAND on TINY COMP's capabilities.

Tape version: **$19.95**
Disk version: **$24.95**

The Software Exchange
6 South Street, Box 68, Milford, NH 03055 603-673-5144



by
Ron Potkin

KRIEGSPIEL 2

A Wargamer's delight! Throw away your pencils, charts* and dice. Let the computer do the dirty work while you concentrate on strategy. Kriegspiel II is a much improved, two-player version of the original—with machine language routines for extra speed.

Select one of 9,999 scenarios including towns, tanks and terrain. Choose the number of mountains (up to 200), then sit back and watch as the computer generates your 31 x 32 game board, sets up the pieces, the towns, the mountains and a river.

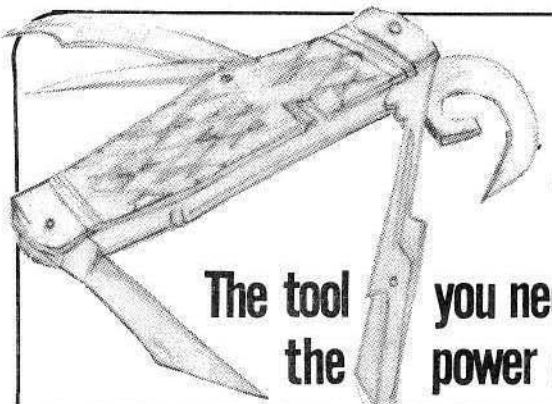
Even the weather will become an important factor as play proceeds. To win, you must enter the Capitol City of your opponent (or reduce his fighting strength below half of your own).

KRIEGSPIEL II — Level II 16K $14.95
(cassette version only)

*Combat Resolution Tables, Basic Turn Allowances, Terrain Effects Charts, etc.

The Software Exchange

6 SOUTH ST., MILFORD, N.H. 03055 (603) 673-5144



STAD

The tool you need to unlock the power of the Z-80

A powerful monitor for the TRS-80 with special ability in Tracing and Debugging. Single Step through machine language programs or set up to three breakpoints, and look at this display format!

```
AF   BC   DE   HL   IX   IY   AF'  BC'  DE'  HL'  SP   PC
0044 0000 C000 B77C 6433 FFFF 0102 0000 4000 3FC0 41FC 4400
4400     LD     A,93
```

★ ★ ★

All the power of regular monitors as well. Look at these.

A FIRST(0) LAST(FFFF)	ASCII dump
A FIRST 0	formatted ASCII dump
B	start of branch table
B VALA	display in decimal
B VALA VALB(0)	hex arithmetic
C	check system tape
D FIRST(0) LAST(FFFF)	dump hex
E FIRST(0)	edit memory
F FIRST LAST VALUE	find byte
G BRKPTS (3 max.)	set breakpoints, continue
H FIRST LAST VALUE	find word
I PORT	read port
K	keyboard echo
L	load system tape
L SECTOR MEMORY COUNT(1)	load from disk
M FIRST LAST BLOCK	move memory
N	display symbol table
N 0	symbol table to tape
N VALUE	define value for symbol table
N FIRST 0	define start symbol table
O PORT VALUE	write to port
P	initialize memory blocks
P ENTRY	write memory blocks and start
P FIRST LAST	define a memory block
Q FIRST LAST	calculate checksum
R	display / modify registers
S FIRST LAST OPTION(0)	disassembler
T COUNT OPTION(6)	trace instructions
U FIRST COUNT OPTION(0)	unformatted tape I/O
V FIRST LAST BLOCK	verify memory
W SECTOR MEMORY COUNT(1)	write to disk
X FIRST LAST BLOCK	exchange memory
Z FIRST LAST VALUE(0)	zero memory

★ ★ ★

16K, 32K, and 48K versions on one cassette for $24.95

Use from tape in Level II or as a command file from Disk.

The Software Exchange

6 SOUTH ST., MILFORD, NH 03055 (603) 673-5144

You, yes you, can help us plan future issues of SoftSide by telling us what you'd like to see. The following questionnaire is designed to help us find out who our readers really are. Please take a few minutes and let us know about you. We do listen.

THE GRAND READER SURVEY

1. Your approximate age_____
2. Do you own a TRS-80 computer?_____

(If not, explain: _____)

3. Please check the items below that will describe your computer.

HAVE	WILL PURCHASE		HAVE	WILL PURCHASE	WHAT KIND
____	____Level II BASIC				
____	___K How much memory?		____	____Speech Unit	____
			____	____Home Controller	____
			____	____Floppy Disk Drive	____
			____	____Hard Disk	____
			____	____Printer	____
			____	____Modem	____
			____	____Others?	____

4. Please give the percent of usage of your computer that goes toward:

____Business	____Learning to Program
____Home Applications	____Other Educational
____Word Processing	____Other _____
____Amusement	

5. Please list your five favorite programs for the TRS-80:

(1) _____
(2) _____
(3) _____
(4) _____
(5) _____

6. Which other computer-related magazines do you read on a regular basis?

7. Please number, from 1 to 12, your order of preference for types of articles for SoftSide:

_____ Detailed game or simulation programs
_____ Short game programs
_____ Home application/use programs
_____ Business application programs
_____ Educational application programs
_____ Applications using specific devices, such as speech synthesis, home controllers, graphics pads, music systems.
_____ Programming Ideas or Hints
_____ Program Reviews
_____ Hardware Reviews
_____ Tutorials on programming, using graphics, etc.
_____ Articles about unique uses for the computer.
_____ Other _____

8. How much have you spent on Hardware $ Software $

9. What do you like most about SoftSide?

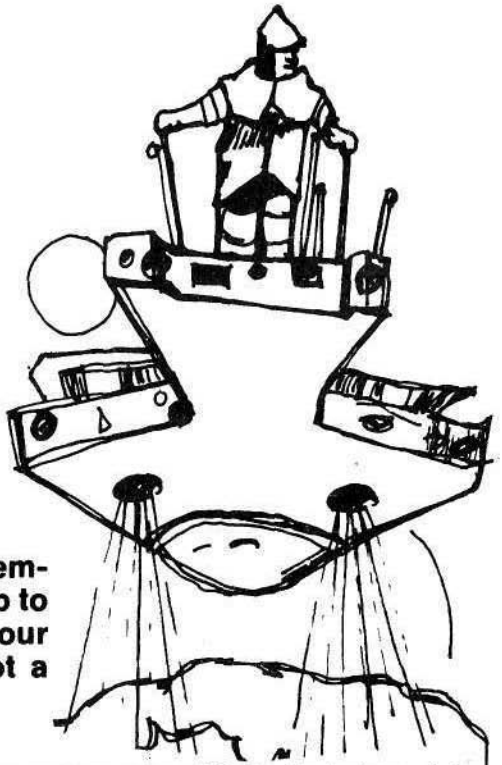
10. What would you like to see in future issues? Any additional comments on separate paper are welcome. Please return to:

SoftSide
Reader Survey
P.O. Box 68
Milford, NH 03055

new!
GALACTIC
REVOLUTION

Galactic Trilogy

by Douglas Carlston



Give up your shoot-em-up games and move up to grand strategy! Fight your wars as a general, not a mere pilot!

Galactic Empire — As commander of Galactica's Imperial Forces, you must conquer and hold the inhabited worlds of the galactic system. Deploy armies, raise taxes and conscript soldiers, gather intelligence, manage resources.

Galactic Trader — You have succeeded in uniting the universe. Now you are an ex-soldier who must scramble for a living as an intergalactic tramp freighter. Outwit the locals at bartering, struggle with the fuel cartel, and outmaneuver the big trading monopolies as you seek your fortune.

Galactic Revolution — The emperor is a bungler, and is becoming upopular. Your popularity is a threat, and he is seeking to kill you. Turnabout is fair play, so you start a revolution to unseat him. Will you succeed?

Each game...16K Level II Cassette $14.95
Special! — All three on Disk (32K) $39.95

The Software Exchange

6 South Street, Box 68, Milford, NH 03055 603-673-5144

Z80ZAP/CMD

from ORG-TEX Industries and Ramware.

Powerful disk modification utility in machine language allows you to READ, DISPLAY, MODIFY, WRITE, and COMPARE disk sectors. It will calculate Hash Index Codes for any filespec and tell you where to put it (ever have a HIT read error?). You can recover killed disk files. Search for a byte and have it identified with a flashing cursor. Convenient to use, with cursor controlled by arrows, paging forward and backward, toggle between same sector on different disks and between Z80ZAP and DEBUG. Do disk backups, apply patches and fixes, and explore your disk.

Program on disk for minimum 16K 1 disk system, with instruction manual, $29.95.

The Software Exchange

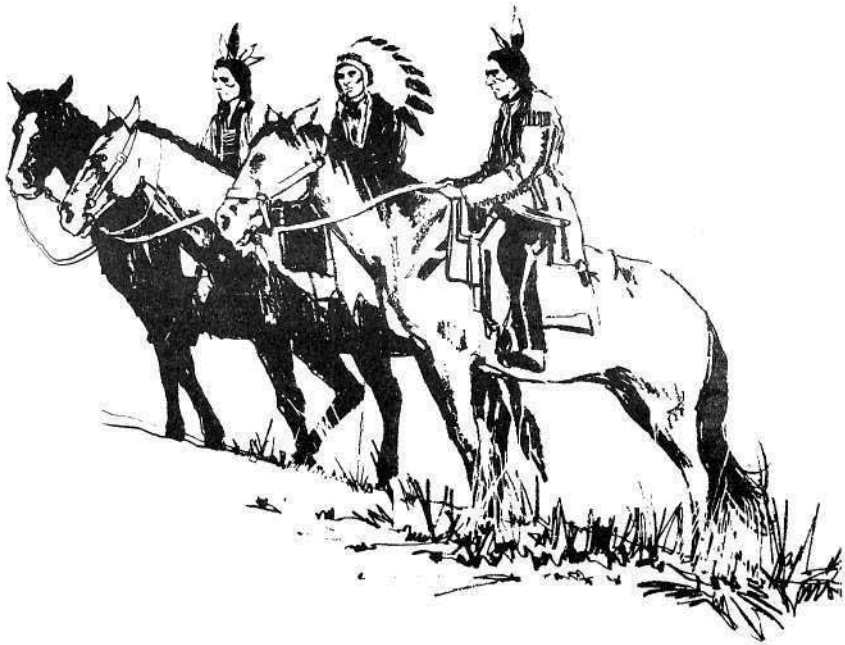
6 SOUTH ST., MILFORD, N.H. 03055 (603) 673-5144

9 Games for Pre-School Children

by George Blank

Until they go to school, children think that learning is fun, not work. Is this the reason that they learn so much faster in the early years? And learning is great play. With these games children teach each other the alphabet, addition and subtraction, recognition of letters and words, even art as they play with patterns on the screen. The games are written for ages four to six. The author has a degree in education, with graduate study in child development and counseling, plus a wide variety of teaching experience in industry, the military, public and private schools, and churches. If you have children, and you also have a TRS-80, then you should have **Nine Games for Pre-School Children.** All nine games and the menu are in the computer at one time, and the children will quickly learn to select the one they want. **Level II, 16K $9.95**

TSE THE SOFTWARE EXCHANGE 6 South St., Milford, NH 03055



LOST DUTCHMAN'S GOLD

by Teri Li

Deep in the Superstition Mountains of Arizona, hidden in the eerie mists of a forgotten time, the Lost Dutchman's Gold Mine awaits the fortune-seeker bold enough to challenge the fates. Protected by bands of hostile Indians, the ravines and gullies harbor silent death for the unwary adventurer.

You start in a miner's shack in the desert below the mountains with a mule, a rifle, and a few tools. There is a map hidden somewhere and this is your clue to uncoun[redacted]le wealth. There is a ghost town, and the desert, and, ultimately, the deadly Superstitions to explore as you search for the way to the Lost Dutchman's Mine.

```
10 CLS:CLEAR1000:DEFINTA-L,U-Z:DEFSTRM-T:DIMN(7),O(32,3),R(46):M
=STRING$(63,"="):POKE16553,255:B=0:IN=B:LN=50:LN=LN:X1=B:X2=B:T
="":M1=T:M2=T:QM=T:U=B:U1=B:IM=2
20 GOSUB2330
30 ONERRORGOTO2320
40 FORL=BTO26:FORI=BTO7:READN(I):NEXTI,L
50 FORI=BTO32:READO(I,0),O(I,1),O(I,2),O(I,3)="":NEXTI
60 FORI=BTO46:READR(I):NEXT
70 L=1
80 PRINTCHR$(28):PRINT@448,"":GOSUB2340
100 IFL<150RCL>0ANDX(O(12,3)="1"ORO(12,2)=STR$(L)))THEN150ELSEPR
INT@0,"ITS TOO DARK TO SEE !!";CHR$(30):IFL=15THENIFO(6,3)<>"1"A
NDO(4,3)<>"1"THENPRINT"YOU HEAR A STRANGE NOISE !"
110 GOTO350
120 T="OK":RETURN
140 B=1:PRINT"  YOU SEE ";CHR$(30):PRINT:RETURN
150 IFCL=1THENLN=LN-1:IFLN<1THENCL=0
160 RESTORE:FORL1=0TOL:FORI=0TO7:READN(I):NEXTI,L1:L1=L
170 B=0:PRINT@0,CHR$(30):PRINT:PRINT:PRINT:PRINT:PRINT:PRINT@64,
"YOU ARE "N(0)".";:FORJ=0TO32:IFVAL(O(J,2))<>LTHEN240ELSEIFB=0GO
SUB6140
180 IFO(J,3)="-7"ORO(J,3)="-2"THENPRINT"BURNT ";
190 IFJ=1THENIFVAL(G(1,2))=LTHENIFO(1,3)=""THENPRINT"UNTIED ":E
LSEIFO(1,3)="-9"THENPRINT"DEAD ";
200 IFO(J,3)="-3"THENPRINT"SMASHED ";
210 IFL=26ANDJ=32THENIFU1=0THENPRINT"LOCKED ":ELSEPRINT"UNLOCKE
D ";
220 IFCL=1ANDJ=12THENPRINT"LITE ";
230 PRINTO(J,0)". ";
240 NEXTJ
250 IFU1=1ANDL=1THENPRINT"OPEN TRAP DOOR. ";
260 IFN(1)=""THENPRINT:GOTO330ELSEIFB=0THENGOSUB140
270 IFL=16THENIFU=0THENPRINT"LOCKED ":ELSEPRINT"UNLOCKED ";N(2
)="E"+RIGHT$(N(2),3)
280 IFL=17THENIFU=1THENPRINT"UNLOCKED ":ELSEPRINT"BLOCKED ";:N(
2)=" "+RIGHT$(N(2),3)
285 IFU1=1ANDU=0THENPRINT"CAVED IN ";:N(2)=" "+RIGHT$(N(2),3):N(
4)=""
290 PRINTN(1)". "
```

```
330 PRINT:IFN(2)=""THEN350ELSEPRINT"OBVIOUS EXITS ARE : ";:FORI=
1TO4:P=MID$(N(2),I,1):IFP="N"THENPRINT"NORTH ";:ELSEIFP="S"THENP
RINT"SOUTH ";ELSEIFP="E"THENPRINT"EAST ";:ELSEIFP="W"THENPRINT"W
EST ";
340 NEXT:PRINT
350 B=0:PRINTM
360 IFL=9ANDO(22,2)="11"THENPRINT@960,"THAR'S NOISE UP AHEAD - -
 SOUNDS LIKE INJUNS."
370 IFL=9ANDO(22,2)=""THENO(22,2)="11"
390 PRINT@960,"       WHAT DO YOU WANT TO DO NOW",:INPUTQM
410 IFLN<10ANDCL=1THENPRINT"YOU'RE RUNNIN' LOW ON KEROSENE."
420 IFQM<>"SCORE"THEN450ELSEIFL<>6THENT="YOU CAN'T, YOU'RE IN TH
E WRONG LOCATION !":GOTO1900:ELSEZ=0:FORI=14TO17:IFO(I,2)=" 6"TH
ENZ=Z+1
430 NEXT
440 PRINT"YOU HAVE"Z"TREASURES, TOTALING"(Z/4)*100"%":IFZ=4THENP
RINT"YOU MADE IT !!!":FORI=1TO500:NEXT:FORI=1TO100:PRINT@RND(102
3),"YOU MADE IT !!!":NEXT:GOTO2290:ELSET="YOU MISSED SOME OF TH
E TREASURE.":GOTO1900
450 IFCL=0ANDL=15ANDO(6,3)<>"1"ANDO(4,3)<>"1"THENPRINT"OH NO!
YOU'VE BEEN BITTEN BY A RATTLESNAKE.
YOU'RE DEAD.":GOTO2290
460 IFL=17ANDU=1THENIFRND(9)<2THENPRINT" ! ! ! CAVE-IN ! ! !
THE IRON DOOR IS BLOCKED,
YOU CAN'T GET OUT ! !":U=0
480 IFQM="HELP"THENX=VAL(N(3)):ONXGOSUB2150,2160,2170,2180,2190,
2200,2210,2220:GOTO100
490 X1=LEN(QM):IFX1<3THENT="WHAT?":GOTO1900:ELSEFORX2=3TOX1:M1=M
ID$(QM,X2,1):IFM1<>CHR$(32)THENNEXTX2:X2=X1
500 P=LEFT$(QM,3):IFX2<>X1ANDX2+3>X1THEN610ELSEFORI=0TO42:IFP<>R
(I)THENNEXT:IFX1=X2THENT="WHAT?":GOTO1900:ELSET="SORRY, BUT YOU
CANNOT "+LEFT$(QM,X2):IFX2<X1THENT=T+RIGHT$(QM,X1-X2)+".":GOTO19
00:ELSET=T+".":GOTO1900
520 IFI<8ANDX1=X2THENON1+1GOSUB2010,2010,2010,2290,680,1010,1920
,2000,GOTO1900
540 M1=MID$(QM,X2+1,3):FORJ=0TO32:IFM1=LEFT$(O(J,0),3)THEN630ELS
ENEXTJ:IFM1="IRO"THEN580ELSEIFI=36THEN940
550 IFN(1)<>""THENZ=1:A=Z:X1=LEN(N(1)):FORX2=5TOX1:IFMID$(N(1),X
2,1)<>CHR$(46)ANDX2<>X1THENNEXTELSEM2=MID$(N(1),Z,3):IFM2<>M1THE
NZ=X2+2:A=A+1:NEXTX2:ELSEB=A:IFI=10THENPRINT"YOU SEE NOTHING SPE
```

```
CIHL.":GOTO160ELSE630
560 FORX=43TO46:IFM1=R(X)THEN650ELSENEXT
570 IFO(4,3)="1"ORO(6,3)="1"THENIFI=23ANDM1="SEL"THENPRINT"OK":G
OTO2290
580 IFI=32GOSUB780.GOTO1900
590 IFI=33GOSUB860:GOTO1900
600 T="I DON'T KNOW WHAT YOU WANT.":GOTO1900
610 T="I MUST BE DUMB, I DON'T UNDERSTAND YOU.":GOTO1900
630 IFI<9THEN650ELSEIFJ<33THENB=VAL(O(J,2)):IFB<>LANDB>0THEN1890
ELSEELSEJ=29
640 ONI-8GOSUB1250,1390,1390,1390,1250,1700,1700,1700,1700,1820,
1820,1250,700,700,1080,1060,1060,920,1150,1190,1210,730,730,780,
860,1390,900,940,1700,1690,1320,1340,1820,2300
650 IFI<9THENONI+1GOSUB970,970,970,2290,680,1010,1920,2000,1320
660 GOTO1900
680 IFO(3,3)<>"1"THEN1890ELSEPRINT"OK":FORI=13TO17:IFVAL(O(I,2))
=-LTHENT=" - - EUREKA! WE STRUCK GOLD ?!? ? !":O(I,2)=STR$(L):E
LSENEXT:T="DAG NAB IT! THERE'S NOTHIN' HERE!"
690 RETURN
700 IFJ<>23THEN1060ELSEIFL=14THENO(23,2)="15"ELSEIFL=15THENO(23,
2)="16"ELSEIFL=16ANDU=1THENO(23,2)="17"ELSEIFL=17THENO(23,2)="19
"ELSEIFL=19THENO(23,2)="23":O(23,3)="-3"
710 GOTO120
730 IFJ=30RJ=40RJ=60RJ=80RJ=90RJ=110RJ=120RJ=130RJ=190RJ=270RJ=2
8THENO(J,3)="-3":GOTO120:ELSE1050
770 T="ITS ALREADY UNLOCKED.":RETURN
780 IFL=16THENIFU=0THENIFO(10,3)="1"THENU=1:GOTO120:ELSE1890:ELS
E770
800 IFL=26THENIFU1=0THENIFO(10,3)="1"THENU1=1:RETURN:ELSE1890:EL
SE770
820 IFO(1,3)="1"THENIFO(0,3)="2"THENO(0,3)="":O(0,2)=STR$(L):GOT
O120:ELSE1050
840 IFCL=1ANDO(12,3)="1"THENCL=0:GOTO120
860 IF(L=16ORL=17)ANDU=1THENU=0:GOTO120
870 IFL=26ANDU1=1THENU1=0:GOTO120
880 GOTO1050
900 T="YOU CAN HEAR NOTHING SPECIAL.":RETURN
920 IFL<>11ORO(9,3)<>"1"THEN1320ELSEPRINT"THEY TOOK THE FIRE WAT
ER,
AND RAN OFF.":IN=IN-1:O(9,2)="":O(9,3)="":O(22,2)="":RETURN
```

```
940 IFM1="YOH"T="SORRY, YOU'RE IN THE WRONG ADVENTURE.
TURKEY!".GOTO1900
950 GOSUB120:T=T+"
"+RIGHT$(QM,X1-X2)+".":GOTO1900
970 IFB<>0THENL=VAL(N(B+3)):IFO(1,3)="1"AND(L=10RL=60RL=15)THENT
="THE MULE WON'T GO.":L=L1:RETURN:ELSEIFL=17ANDU=0THENL=L1:GOTO1
890:ELSEIFL1=26ANDL=1ANDU1=0THENL=L1:GOTO1890.ELSE1060
985 IFU1=1ANDL=1THENL=26:GOTO120
990 IFU1=1ANDM1="TRA"ANDL=26THENL=1.RETURN
1000 FORX1=1TO4:M2=MID$(N(2),X1,1):IFM2<>LEFT$(N1,1)THENNEXTX1:E
LSE.FORX2=43TO46:IFM1<>R(X2)THENNEXTX2ELSEL=VAL(N(X1+3)):IFL<>0T
HEN1060
1010 IFL=23THENT="ITS TOO SLIPPERY ":RETURN
1020 IFL=25THENL=26:RETURN
1030 IFL=26THENL=25.RETURN
1040 IFL=19THENL=23:T="WOW, ALMOST SLIPPED AND FELL.":RETURN
1050 T="SORRY, BUT YOU CAN'T DO THAT.":RETURN
1060 B=0.GOTO120
1080 IFO(4,3)<>"1"ANDO(6,3)<>"1"THENT="WITH WHAT?".RETURNELSEIFJ
<>1THEN1110ELSEIFO(J,3)="1"THENZ=99ELSEZ=0
1090 O(J,3)="-9":O(1,2)=STR$(L)
1100 IFZ=99THENIN=IN-1
1110 IFJ=22THENPRINT"YOU HIT ONE OF 'UM

BUT THE REST KILLED YOU.":GOTO2290
1120 IFJ=9THENT="YOU HIT ONE.":RETURN
1130 GOTO120
1150 IFO(18,3)<>"1"THEN1890ELSEIFJ=40R(J>5ANDJ<11)OR(J>14ANDJ<18
)ORJ=22ORJ=25ORJ=29ORJ>30THEN1050ELSEO(J,3)="-7".O(J,2)=STR$(L)
1160 IFO(0,3)="-7"THENO(0,2)=STR$(L):FORJ=5TO21 IFO(J,2)="-1"THE
NO(J,3)="-7".NEXT:ELSENEXT
1170 GOTO1060
1190 IFJ<>12THEN1150ELSEIFO(J,3)<>"1"ORO(18,3)<>"1"THEN1150ELSEC
L=1.GOTO120
1210 IFJ=13THENPRINT"YECH !
ITS KEROSENE.
YOU JUST POISONED YOURSELF.":GOTO2290
1220 IFJ=9THENT="WHEEEEEE !
YOU GOT PLASTERED AND LOST A DAY.".IFCL=1THENLN=LN-10:RETURN:ELS
ERETURN
```

```
1230 GOTO1050
1250 IFJ<23THENB=VAL(O(J,2)):IFO(J,3)<>"2"ANDB<>LANDB<>-1THENIFJ
<22THEN1890ELSET="IT'S NOT HERE.":RETURN
1260 IFJ>21ORJ=1THENT="? JUST WHO DO YOU THINK YOU ARE, PAUL BUN
YON?
YOU'RE NOT STRONG ENOUGH.":RETURN
1270 IFO(J,2)="-7"THENT="ITS BURNT UP AND RUINED.":RETURN
1280 IFIN>4THENT="YOU CAN'T. YOUR HANDS ARE FULL.":RETURN:ELSEIF
O(J,3)="1"THENPRINT"YOU ALREADY HAVE IT!":RETURN:ELSEIFVAL(O(J,1
))<>0ORI=16THENIN=IN+1:IFO(J,2)="-1"THENIM=IM-1:O(J,2)="":O(J,3)
="1"ELSEO(J,3)="1":O(J,2)=""
1290 IFJ<>9ANDJ<>11ANDJ<>2THEN120ELSEIFJ=9THENIFO(8,2)="-6"THENO
(8,2)="6":ELSE:RETURN:ELSEIFJ=11THENIFO(12,2)="-8"THENO(12,2)="8
"ELSE:RETURN:ELSEIFJ=2THENIFO(18,2)="-14"THENO(18,2)="14"
1300 RETURN
1320 IFO(J,3)<>"1"THENT="YOU DON'T HAVE IT !":RETURN:ELSET="OK":
IN=IN-1:O(J,3)="":O(J,2)=STR$(L):RETURN
1340 IFO(5,3)<>"1"THEN1890
1345 IFN(4)="THEN1050
1350 IFL=7THENL=8
1360 IFL=12THENL=13
1370 GOTO120
1390 GOSUB120 ONJ+1GOTO1400,1430,1440,1460,1470,1480,1490,1460,1
460,1500,1510,1520,1530,1540,1460,1460,1460,1460,1460,1560,1570,
1580,1590,1600,1610,1620,1460,1630,1460,1460,1460,1640,1460
1400 IFVAL(O(0,3))<1THENT="THEY ARE AN OLD PAIR OF LEATHER SADDL
EBAGS.
THEY APPEAR TO HAVE SOMETHING IN THEM.
MAYBE YOU SHOULD GET'UM.":RETURN
1410 PRINT"THEY CONTAIN ";:FORI=6TO22:IFO(I,2)="-1"THENPRINTO(I,
0)" ";
1420 NEXT I="":RETURN
1430 T="YOU SEE AN OLD, WEARY GREY MULE.":RETURN
1440 T="IT'S AN OLD TORN SACK.":IFO(18,2)="-14"THENO(18,2)="14"
1450 RETURN
1460 T="YOU CAN SEE NOTHING SPECIAL.":RETURN
1470 T="IT'S AN OLD WINCHESTER SINGLE-SHOT.":RETURN
1480 T="IT APPEARS TO BE A MAP TO THE LOST DUTCHMAN MINE.
THERE'S A DRAWING OF SOME BOULDERS.":RETURN
1490 T="NOTHING SPECIAL, JUST A LOADED SIX-SHOOTER.":RETURN
```

```
1500 IFO(8,2)="-6"THENT="THERE APPEARS TO BE SOMETHING BEHIND TH
E BOTTLES.":O(8,2)="6":RETURN:ELSE1460
1510 T="THERE ARE THREE KEYS,
TIED TOGETHER WITH A LEATHER STRAP.":RETURN
1520 IFO(12,2)="-8"THENT="IT LOOKS LIKE THERE'S GLASS UNDER 'UM.
":O(12,2)="8":RETURN:ELSE1460
1530 T="ITS AN OLD KEROSENE LANTERN.  THE KEROSENE LEVEL
IS BESIDE A MARK THAT SAYS '"+STR$(LN)+"' TURNS LEFT.":RETURN
1540 IFI=11THENT="IT SAYS 'KEROSENE'.":RETURN
1550 T="THERE'S WRITING ON IT.":RETURN
1560 IFO(20,2)="-17"THENO(20,2)="17":T="ITS A MESSAGE !":RETURN:
ELSE1460
1570 IFI=11THENT="IT SAYS :
BRING TREASURES TO SALOON,
AND SAY
SCORE.":RETURN:ELSE1550"
1580 IFI=11THENT="IT SAYS .
WATCH FOR OTHER RIDER FANTASY CREATIONS  ADVENTURES!":RETURN:ELS
E1550
1590 T="THEY ARE A SAVAGE LOOKING BAND.
AND THEY'VE SEEN YOU.":RETURN
1600 T="ITS JUST AN OLD EMPTY ORE CART.":RETURN
1610 IFO(5,2)="-25"THENO(5,2)="1":T="THERE'S SOMETHIN' HERE !!":
RETURN:ELSE1460
1620 IFI=11THENT="IT SAYS
WELCOME TO
FRONTIERTOWN.":RETURN:ELSE1550
1630 IFO(10,2)="-6"THENO(10,2)="6":T="THERE'S A SET OF KEYS THER
E!":RETURN:ELSE1460
1640 B=RND(3):ONBGOTO1650,1660,1670
1650 T="ITS A BARREL CACTUS.":RETURN
1660 T="ITS A CHOLLA CACTUS.":RETURN
1670 T="ITS A SAGUARO CACTUS.":RETURN
1690 IFJ=4ANDI=38THEN1780
1700 IFJ<>1ORVAL(O(1,3))<0T="SORRY, BUT THAT'S NOT POSSIBLE.":RE
TURN
1710 IFI=38THENIFO(1,3)=""THENT="TENDERFOOT! YOU HAVE'TA LEAD 'I
M FIRST.":RETURN.ELSE1780
1720 IFO(1,3)="1"THEN1320ELSEIFO(7,3)="1"THENIFI<>16T="TRY LEAD.
":RETURN
```

```
1730 ON I-13GOTO1740,1750,1760,1770
1740 T="YOU'RE TOO SLOW, HE GOT AWAY.":RETURN
1750 T="THE MULE GOT AWAY FROM YOU.":RETURN
1760 IFO(7,3)<>"1"THENT="TOUGH LUCK. YOU TRIPPED AND THE MULE RA
N OFF.":O(1,3)="":O(1,2)=STR$(L):RETURN.ELSEIFO(1,3)=""THENGOTO1
280ELSE1320
1770 T="THE MULE BUCKED YOU OFF ":RETURN
1780 INPUT"WITH WHAT";QM.IFJ=4THEN1800ELSEIFLEFT$(QM,3)<>"SAD"T=
"IT FELL OFF.
THE MULE GOT AWAY.":O(1,3)="":IN=IN-1.RETURN
1790 IFO(0,3)="1"THENO(0,3)="2":IN=IN-1.GOTO1060.ELSE1320
1800 IFLEFT$(QM,3)="BUL"THENIFO(8,3)<>"1"ORO(4,3)<>"1"THEN1320EL
SE120ELSE1050
1820 IFO(J,3)<>"1"THEN1320ELSEINPUT"ON OR IN WHAT? (IE. ON TABLE
)";QM:P=LEFT$(QM,2):IFP<>"IN"ANDP<>"ON"THENT="HUH?":RETURN
1830 M1=MID$(QM,4,3)
1840 IFP="ON"THENIF"MUL"=M1THEN1790:ELSEIFJ=13THENIFLM=0THENT="I
TS EMPTY.":RETURN:ELSELM=0:GOTO1320.ELSE1320
1850 IF"SAD"=M1THENIFJ<50ORJ=190RJ=22THENT="SORRY, IT WON'T FIT."
:RETURN:ELSEIFIM>4THENT="THE "+O(0,0)+" ARE FULL.":RETURNELSEO(J
,2)="-1":O(J,3)="":IN=IN-1:IM=IM+1.T="OK":RETURN
1860 IF"MUL"=M1THENT="YOU GOT KICKED !":RETURN
1870 IF"LAN"=M1THENIFO(13,3)="1"ANDO(12,3)="1"THENIFLM=50THENLN=
LN+50:LM=0:GOTO120.ELSET="ITS EMPTY!":RETURN:ELSE1320
1880 GOTO1050
1890 T="YOU CAN'T DO THAT... YET!"
1900 PRINTT.T="":GOTO100
1920 PRINT"YOU HAVE WITH YOU : ".IFIN=0ANDO(1,3)<>"1"THENT="NOT
HING.":RETURN
1930 B=VAL(O(0,3)):X1=8:IFB=1THENPRINT:PRINTO(0,0)", WHICH CONTR
IN: ";:FORI=1TO22:IFO(I,2)="-1"THENPRINTO(I,0)"  ";:X1=2:NEXT:EL
SENEXT.IFX1<>2THENPRINT"NOTHING!",
1940 IFO(1,3)="1"THENPRINT PRINT"THE "O(1,0)", WHICH YOU'RE LEAD
ING. ";.IFB=2THENPRINT"AND IS CARRYING THE SADDLEBAGS.",
1950 PRINT:X1=0:FORI=2TO22:IFVAL(O(I,3))<1THEN1970ELSEIFOL=1ANDI
=12THENPRINT"LITE ";
1960 PRINTO(I,0)",  ";
1970 NEXT
1980 T="":RETURN
2000 IFL=19THENCLS:PRINTCHR$(23)"
```

```
YOU HAVE FALLEN 100FEET.

YOU LANDED ON ROCKS.

YOU ARE DEAD.
":GOTO2290:ELSEIFJ=230RJ=320RM1="P"THENT="OK":RETURN:ELSE1050
2010 T="WHERE?":RETURN
2060 DATA,,,,,,,,IN A MINER'S SHACK,WINDOW. DOOR,,1,3,3,,,IN A D
ESERT,ROAD. MOUNTAINS. DESERT,WNES,2,4,2,2,2,ON DIRT PATH,MINER'
S SHACK. ROAD. MOUNTAINS," W  ",5,1,4,2,2
2070 DATAON A DIRT ROAD,MOUNTAINS. PATH. DESERT. TOWN IN THE DIS
TANCE,NE 5,2,7,3,2,5,IN A GHOST TOWN,SALOON," N  ",1,6,4,,,IN A
SALOON,,W  ,1,5,,,
2080 DATAAT THE BASE OF THE SUPERSTITION MOUNTAINS,ROAD. DESERT,
S N ,4,4,2,2,2,AT THE BASE OF WEAVER'S NEEDLE,,NS  ,1,9,7,,
2090 DATAIN A NARROW DEFILE,BUSHES. CAVES," NS",1,11,10,12,8,IN
 A SMALL CAVE,,E  ,1,9,,,,BEHIND A BUSH,BUSH,W  ,1,9,,,,IN A B
OX CANYON,BUSHES. TREES. BOULDERS,"  S",4,12,12,12,9
2100 DATAIN FRONT OF A PARTIALLY HIDDEN MINE,MINE SHAFT,ESNW,8,1
4,12,12,12,IN THE ENTRANCE OF A DIMLY LITE MINE,MINE SHAFT,EW  ,
1,15,13,,,IN THE MINE,DARK TUNNEL,EW  ,6,16,14,,
2110 DATAAT THE END OF THE TUNNEL,IRON DOOR," W  ",1,17,15,,,IN
A LARGE CHAMBER,IRON DOOR,WNES,1,16,19,18,20,IN A MAZE OF TUNNEL
S,,NSEW,6,18,18,18,18,IN FRONT OF A PIT,DARK HOLE," S  ",7,23,17
,,
2120 DATAAT A TUNNEL INTERSECTION,," SNW",6,,22,17,21,IN A DEAD
END TUNNEL,,E  ,8,20,,,,IN A BLOCKED TUNNEL,,N  ,8,20,,,,AT TH
E BOTTOM OF A SHAFT,WALL,S  ,8,24,,,
2130 DATAIN A TUNNEL,,NS  ,6,23,25,,,AT THE END OF THE TUNNEL,LA
DDER," N  ",6,26,24,,,AT THE TOP OF LADDER,,,6,1,25,,
2150 PRINT"TRY EXAMING THINGS.":RETURN
2160 PRINT"ROADS USUALLY GO PLACES.":RETURN
2170 PRINT"MAYBE THE TRAIL GOES SOMEWHERE.":RETURN
2180 IFO(5,3)<>"1"THENPRINT"DO YOU HAVE THE MAP?":RETURN.ELSEPRI
NT"TRY 'FOLLOW'.":RETURN
2190 IFVAL(O(1,2))=LTHENPRINT"MAYBE THE MULE IS HUNGRY.":RETURN:
ELSEGOTO2150
2200 PRINT"KEEP GOING.".RETURN
2210 PRINT"ITS SLIPPERY, BUT YOU MIGHT BE ABLE TO CLIMB DOWN.":R
ETURN
```

```
2220 PRINT"THIS IS A MINE, YOU KNOW.":RETURN
2240 DATASADDLEBAGS,2,1,MULE,,3,BURLAP SACK,4,14,SHOVEL,4,1,RIFL
E,4,1,MAP,1,-25,GUN,1,-1,CARROTS,1,-1,BOX OF RIFLE BULLETS,1,-6,
WHISKEY BOTTLES,2,6,KEYS,1,-6,PILE OF BONES (MINE),2,8
2250 DATALANTERN,2,-8,JAR OF LIQUID,1,-11,* SPANISH COINS *,1,-1
0,* TOURQUOISE *,1,-23,# SILVER #,1,-21,# GOLD #,1,-22,MATCHES,1
,-14,CRATES,3,17,NOTE,1,-17,PAPER,1,6,INDIANS,0,11
2260 DATAORE CART,,14,BED,,1,SIGN,,5,BROKEN GLASS,,6,TABLES,,6,C
HAIRS,,6,ROCKS,,10,WOODEN RAILS,,15,CACTUS,,2,TRAP DOOR,,26
2270 REM *** COMMAND TABLE ***
2280 DATAGO ,ENT,RUN,QUI,DIG,CLI,INV,JUM,DRO,GET,EXA,REA,LOO,MOV
,CAT,CHA,LEA,RID,PUT,PLA,PIC,PUS,PUL,SHO,OPE,CLO,GIV,BUR,LIG,DRI
,BRE,HIT,UNL,LOC,SER,LIS,SAY,FEE,LOA,UNT,FOL,POU,EAT,NOR,SOU,EAS
,WES
2290 PRINT@960,"DO YOU WANT TO PLAY ANOTHER GAME";:INPUTQM.IFLEF
T$(QM,1)="Y"THENRUNELSECLS.END
2300 IFJ=7THENIFO(8,3)="1"THENT="THEY TASTE PRETTY GOOD.":RETURN
2310 T="CAN'T DO THAT...
WIERDO !":RETURN
2320 RESUME160
2330 PRINTCHR$(23)"### RIDER FANTASY CREATIONS ###":PRINTTAB(10)
"ADVENTURE # 1":PRINTTAB(4)"THE LOST DUTCHMAN'S GOLD.

WORLD COPYRIGHT 1979,
  BY TERI LI,
ALL RIGHTS RESERVED.
":RETURN
2340 PRINT"      WELCOME TO THE SEARCH FOR THE LOST DUTCHMAN'S G
OLD.
I AM THE GHOST OF BACKPACK SAM  -  YOUR GUIDE ON THIS ADVENTURE.
YOU MAY USE TWO WORD COMMANDS TO FIND CLUES AND EXECUTE MOVEMENT
SUCH WORDS AS GET, GO, PUT, DROP, SCORE, INVENTORY ",
2350 PRINT"AND ABOUT A
HUNDRED MORE ARE AVAILABLE TO YOU.  HELP  WILL GIVE YOU HINTS
WHEN YOU ARE STUCK.  GOOD LUCK  AND I HOPE YOU DON'T END UP A
GHOST LIKE ME.",:INPUT"        PRESS ENTER TO CONTINUE.     READY"
,A$:CLS:RETURN
```

TING TONG

by Ray Daly
from Acorn Software

A Graphic Arcade Game of Ping-Pong with Sound Effects

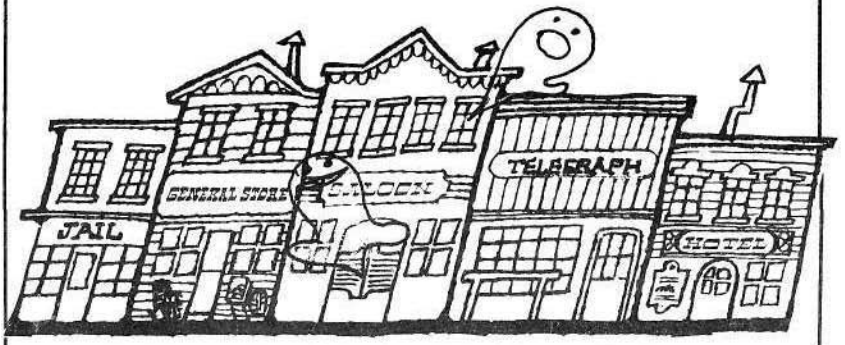
- **One or two players.**
- **Machine language graphics and speed.**
- **Sound effects which can be played through an inexpensive amplifier.**
- **Seven levels of skill.**

Can be enjoyed by all ages!

Level II, only 4K required *$9.95*

TSE
The Software Exchange
6 South Street, Box 68, Milford, NH 03055 603-673-5144

"It's agreed then. We call an expert."

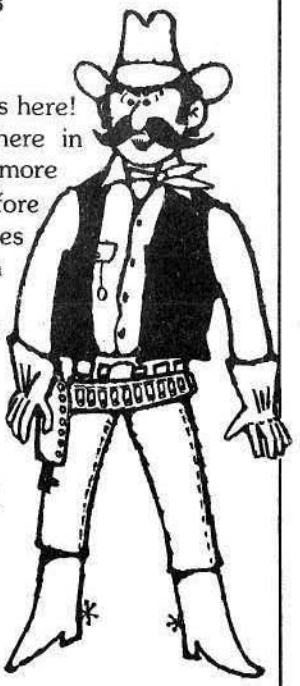


GHOST TOWN

by Scott Adams

Scott's long-awaited 9th adventure is here! Thirteen treasures are hidden somewhere in the GHOST TOWN. You'll need more resourcefulness than ever to find them before sunset. Be ready for a town full of surprises and some REAL ghosts! Bring along a sense of humor, but be alert for danger as well. If you live so long, you MAY learn the answer to the tantalizing question:

"What goes on in the saloon after dark?"



Cassette $14.95

Machine Language, 24K

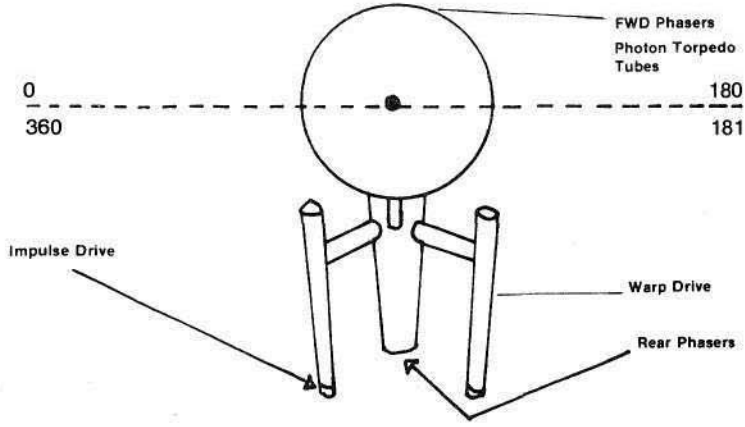
TSE **The Software Exchange**

6 SOUTH ST., MILFORD, N.H. 03055 (603) 673-5144

Bug Report

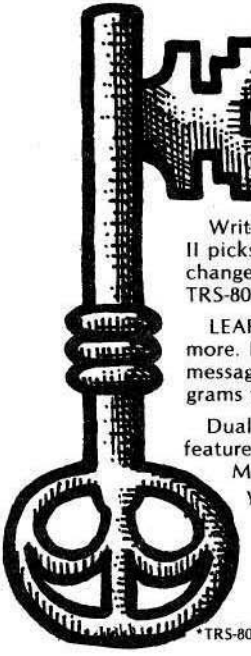
Encounter in the Near Tholian Sector, May 1980

The game documentation should have indicated that the Enterprise's phasers (frwd) and photon torpedos can only be used for targets between 0 and 180 degrees (not 90).



In Jeff Myers programming hint on Page 26 of the June 1980 SoftSide, to restore the ability to LIST a program, after it has been disabled;

POKE 16863,201



THE KEY TO YOUR TRS-80*...

LEARNING LEVEL II!

Written by the author of your Level I User's Manual, LEARNING LEVEL II picks right up where the Level I Manual leaves off. It also supplies the changes needed to make the Level I Manual compatible with your Level II TRS-80*.

LEARNING LEVEL II covers all Level II BASIC beyond Level I, plus much more. It shows you how to use the Editor, explains what the many error messages are really saying, and leads you thru conversions of Level I programs to Level II.

Dual cassettes, printers, the expansion interface with clock and other features are explained in the same easy-to-learn style that made the Level I Manual famous. LEARNING LEVEL II was created specifically for your Level II TRS-80*!

$15.95 soft cover
add $1.00 for shipping.

The Software Exchange

6 South Street, Box 68, Milford, NH 03055 603-673-5144

*TRS-80 is a registered trademark of Radio Shack and Tandy Corporation.

"Instant Alphanumeric Soup!?!"

SOFTSIDE: S-80 ON CASSETTE

SOFTSIDE ON CASSETTE

Magazine with programs on cassette. $9.95. Magazine and programs on diskette (after June 1979 only) $14.95. Your best buy in games!

January 1979 — 'Round the Horn, Ten Pin Bowling, Kiddy Slot, Computa Sketch, Writing Games Article

February 1979 — Income Tax Program, Concentration, Elements Quiz

March 1979 — Tarot, Metric/English Conversion, Jig Saw, Fog Index, Dive Bomb, Personal Finance Pt. 1

April 1979 — Safari, Personal Finance Pt. 2, Don't It Make My Brown Eyes Blue, Rabbits and Foxes, Spring Flowers

May 1979 — Dog Star Adventure, Awari Letter Crunch, Math Drill, Super Sub

June 1979 — Atlantic Balloon Crossing, Nim, German Word Quiz, Home Appliance Record System, Entrapment

July 1979 — All Star Baseball, Yahtzee, Tank, Spelling Bee, Collision

August 1979 — Melt Down, Shooting Gallery, Story Book, Morse Code Tutor, Cryptogram

September 1979 — Engineer, Treasure Dungeon, Hangman, Pyramids

October 1979 — Westward 1847, Battleship, Reaction, Time Indicator, What Kind of Work? Tug of War

November 1979 — Everest, Isolate, Picture Puzzles, Doodle Pad, Energy Cost

December 1979 — Oil Baron, Drag Race, Christmas Show and Tell, Index to Level II Manual, Towers of Hanoi, Slalom

January 1980 — Moving Maze, Dante's Inferno, Bomber, Reflection, Duck Hunter

February 1980 — Deadstick, Backgammon, Parachute, Play It Again Sam, Deep Six

March 1980 — Broadway, System Emulator, Line Four, Add, Sonic Torpedoes

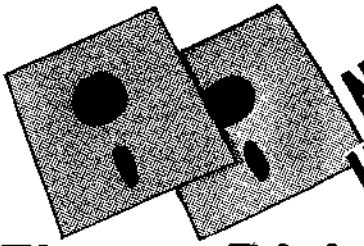
April 1980 — Stud Poker, Draw Poker, Compuslot, ICBM, Solitaire

***May 1980** — Star Trek III, Encounter in the Near Tholian Sector, Day of the week. ($14.95 tape, $19.95 Disk)

June 1980 — Micro Millionaire, Galaxy Combat, Numbagels, Simple Sound Interface

The price for 6 months of cassetts plus 6 months of SoftSide magazine is only $39.95. If you're already a subscriber to the magazine, you can enroll for the cassettes only, at a cost of $30.00 for 6 months. So, if you want to combine the best programming available for the TRS-80 with the convenience of prerecorded cassettes, send your order to SoftSide today, and leave the coding to us!

***NOTE: May 1980 Special Edition is $5.00 extra.**



NOW INCLUDES MEMORY DIAGNOSTIC AT THE SAME PRICE!

Floppy Disk Diagnostic

by Dave Stambaugh

- **35 or 40 track in same program**
- **Tests controller functions and status bits**
- **Tests drive speed and allows adjustment**
- **Tests switches and mechanical components**
- **Verifies data transfer**
- **Tests drive seek function**
- **Sector and byte write and read tests using all possible patterns**
- **16 to 48K, 1 to 4 disk drives**
- **Tests cross cylinder interference**
- **Tests drive-to-drive compatibility**

The best and most complete diagnostic you can buy to verify disk drive reliability and find problems. Displays 19 error messages and cross references them to 14 possible causes. Continuous test option for exhaustive testing keeps statistical record of all errors found.

Supplied on diskette with manual for only $24.95.

TSE **The Software Exchange**

6 South Street, Box 68, Milford, NH 03055 603-673-5144

market basket

TOLL FREE
1-800-258-1790
IN NH CALL (603) 673-5144

GAMES

TRS-80 Opera Theatre
Magnificent sound! by Richard Taylor
Level II, 16K..... $9.95

Challenge
Word game with sound by Richard Taylor
Level II, 16K..... $9.95

Opera Theatre Plus Challenge
on disk, 32K..... $19.95

Bridge Challenger
by Personal Software
Level II, 16K..... $14.95

Invasion
by Chris Freund
Level II, 16K..... $9.95
Disk..... $14.95

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

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

Sargon Chess
by Dan and Kathe Spracklen
Level II, 16K..... $19.95

Sargon II
by Dan and Kathe Spracklen
Level II, 16K..... $29.95

Amazin' Mazes
by Robert Wallace
Level II, 16K..... $9.95

Snake Eggs
With sound by Leo Christopherson
Level II, 16K..... $14.95

Life Two
With sound by Leo Christopherson
Level II, 16K..... $14.95

Android Nim
With sound by Leo Christopherson
Level II, 16K..... $14.95

Bee Wary
With sound by Leo Christopherson
Level II, 16K..... $14.95

Mastermind II
by Lance Micklus
Level II, 16K..... $7.95

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

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

End Zone II
by Roger W. Robitaille
Level II, 16K..... $9.95

Space Battles
by Level IV
Level II, 16K tape..... $14.95
32K disk..... $19.95

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

Adventures on Tape
by Scott Adams
Level II, 16K..... $14.95

Choose one:
- Adventureland: Magical beings, perils and puzzles!
- Pirate's Cove: Clue in a bloodsoaked book.
- Mission Impossible: Foil the saboteur, save the reactor!
- The Count: Protect your neck! Who do you think lives here?
- Voodoo Castle: Remove the curse from Count Cristo.
- Strange Odyssey: The ruins of an ancient alien culture?
- Fun House: Takes all your brains to get past the gate!
- Pyramid of Doom: Watch out for the Nomad!
- Ghost Town

Adventures on Disk
by Scott Adams
$39.95 for three-game combinations:
1) Mission Impossible, Pirate's Cove, Adventureland
2) Voodoo Castle, The Count, Strange Odyssey
$24.95 for two-game combinations:
3) Fun House, Pyramid of Doom

Adventure Sampler
by Scott Adams
Mini-version of Adventureland, serves as introduction
Level II, 16K..... $5.95

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

Barricade
by Small Systems Software
Machine Language $9.95

Pentominoes
by James Garon
Level II, 16K $7.95

Mean Checkers Machine
by Lance Micklus
Level II, 16K tape $19.95
Disk $24.95

Kriegspiel
by Ron Potkin
Level II, 16K $7.95

Kriegspiel II $14.95

Time Trek
by Joshua Lavinsky
Level II, 16K $14.95

Kamikaze
by Russell Starkey
Level II, 16K $7.95

Wordo
from Microfantastic Programming
Level II, 16K $9.95

Micro Chess 1.5
Level I or II, 4K $19.95

Fastgammon
from Quality Software
Level II, 16K $19.95

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

Galactic Empire
by Doug Carlston
Level II, 16K $14.95

Galactic Revolution
3 on disk $39.95

Galactic Trader (a sequel)
by Doug Carlston
Level II, 16K $14.95

Galactic Trader and Empire
on disk 32K $29.95

Airmail Pilot
..... $7.95

Air Traffic Controller
..... $7.95

Air Raid
by Small Systems Software
Level I or II, 4K $9.95

Lost Dutchman's Gold
by Teri Li
Level II, 16K $9.95

Original Adventure
by Microsoft as played on PDP-10
32K disk $29.95

Pigskin (Football)
by Acorn Software
Level II, 16K $9.95

Pit Dogfight
by David Bohlke
Level II, 16K $7.95

Ting Tong
from Acorn Software
Machine Language, with sound
Level II, 16K $9.95

Journey to the Center of the Earth
by Greg Hassett
Level II, 16K $7.95

Ten Subtitle on cassettes for additional games

BUSINESS

Inventory System II.3
by M. Kelleher
improved version $79.95

Inventory 'S'
by Roger W. Robitaille, Sr.
Level II, 16K tape $24.95
32K disk/without invoicing $39.95
with invoicing $59.95

Payroll
by Stephen Hebbler
Disk 32K $39.95

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

Mail List II
by SBSG
32K disk $49.95

Small Business Bookkeeping
by R.W. Robitaille, Sr.
Level II, 16K with journal
disk $36.95
tape $31.95
without journal
disk $29.95
tape $24.95

On Line Invoicing
by Stephen Hebbler
1 disk, manual; 32K, 1 drive, line printer $39.95

Accounts Receivable(with invoicing)
by Stephen Hebbler
3 disks, 2 manuals; 32K, 2 drives, line printer . $89.95

CCA Data Management System
from Personal Software
Ready for transfer to disk, with manual
Tape ..... $74.95 + $2

SPECIAL PURPOSE

Histograph/Scattergram
by Gary Breschini
Level II, 16K $9.95

Tiny Comp A BASIC Compiler in BASIC
by David Bohlke
Tape $19.95
Disk $24.95

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

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

Ham Radio
Advanced version for 32K disk $24.95

Electronic Assistant
by John Adamson
Level II, 16K $9.95

Basic Statistics
by Steve Reisser
Level II, 16K $9.95

Magic Paper Calculator
by Russell Starkey
Level II, 16K $14.95

Keyboard SB (improved)
by John Adamson
Level II, 16K $9.95

Text-80
by Frank B. Rowlette, Jr.
32K disk systems $59.95

Electric Pencil
by Michael Shrayer
Powerful machine language word processing system
Level II, 16K tape $100.00
disk $150.00

Pencil Pal
by Microcomputer Specialists
Requires 32K, 1 disk system, Electric Pencil, and lower case modification kit $35.00

Dynamic Data Base
by Ken Knecht
Manual and 3 programs on disk for 32K or larger systems with one or more drives $39.95

PERSONAL

Typing Tutor
by 80 US
Level II, 16K $19.95

Secrets of the Tarot
by John T. Phillipp
Level II, 16K $9.95

I Ching
by John T. Phillipp
Level II, 16K $7.95

Numerology
by John T. Phillipp
32K disk $14.95

Biorhythms
by Frank B. Rowlette, Jr.
Level II, 4K $4.95

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

Advanced Personal Finance
by Lance Micklus
32K disk $24.95

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

Periodical Cross Reference
by Dave Stambaugh
Level II, 16K $14.95
32K disk $19.95

Reels
by Bill Sholar
32K disk $19.95

UTILITIES

T-Shirt
by Web Associates
Level II, 16K $9.95

IRV
by Robin Mark
Level II, 16,32, and 48K
cassette $24.95
disk $29.95

APL-80
by Phelps Gates
Deluxe version—32K disk, instructional material book ..... $49.95 + $3
Level II, 16K tape—reduced features, no course or book $14.95
Book (separately) ..... $15.95 + $3

File Manager 80
by Nepenthe
32K disk $49.95

Automated Disk Directory
by George Blank
32K disk, requires NEWDOS $14.95

STAB
Trace and Debug Monitor for tape and disk systems 16, 32 and 48K on one tape $24.95

NEWDOS by Apparat $49.95

NEWDOS+ by Apparat $99.95

NEWDOS 80 by Apparat $149.95

RSM2 by Small Systems Software
Level II, 16K $26.95

RSM20 by Small Systems Software
Disk for 16-48K on one tape $29.95

KVP by Lance Micklus
Tape $24.95
Disk $29.95

KVP 232 by Lance Micklus
KVP adapted for the TRS-232
Tape $24.95

ST80 Smart Terminal
by Lance Micklus
Level II, 16K $49.95

ST80D Smarter Terminal
by Lance Micklus
For Disk $79.95

ST80-UC dedicated to THE SOURCE
by Lance Micklus
Level II, 16K $24.95

ST80 III
by Lance Micklus $150.00

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

Level III BASIC
by Microsoft $49.95

Level I in Level II
by Apparat
Level II, 16K $15.00

FORTRAN
by Microsoft
32K, 2disks ..... $80.00 + $2.50

Assembler
by Microsoft
32K ..... $80.00 + $2.50

FORTRAN Plus Assembler ..... $150.00 + $5

Spool
Will print an ASCII file to a parallel line printer at the same time you are using your computer for another program. For 32K disk systems only. Will NOT work with NEWDOS (2.3 or VTOS 3.0 OK).
Disk $24.95

Cross Reference Utilities
by Lance Micklus
Level II cassette versions
XREF $19.95
RENUMX (XREF with RENUMBER and rescue after reset) $24.95
RENUMBER separately $7.95

RX—Cross Reference for Disk
by Lance Micklus
32K, 1 disk $24.95

RENUMBER
by Lance Micklus
The full-featured RENUMBER program. One version now works in 16K, 32K, or 48K $7.95

System Copy
by Kalman Bergen
Level II, 16K $9.95

Floppy Disk Diagnostic
by Dave Stambaugh
Disk with manual $24.95

BOOKS

Sargon Handbook
by Dan and Kathe Spracklen ..... $15.95 + $1

The BASIC Handbook
by Dr. David A. Lien ..... $14.95 + $1

Z-80 Instruction Handbook
by Scelbi Publications ..... $4.95 + $1

The Little Book of BASIC Style
by John Nevison ..... $5.95 + $1

TRS-80 Assembly Language Programming
by William Barden, Jr. ..... $3.95 + $1

APL — An Interactive Approach
by Gilman and Rose ..... $15.50 + $3

Introduction To TRS-80 Graphics
by Don Inman ..... $7.95 + $1

Learning Level II
by Dr. David A. Lien ..... $15.95 + $1

Z-80 Software Gourmet Guide and Cookbook
from Scelbi Publications ..... $14.95 + $1

TRS-80 Disk and Other Mysteries
by Harvard Pennington ..... $22.95 + $1

TRS-80 Interfacing
by Jonathan Titus ..... $8.95 + $1

Secret Guide to Computers
by Russ Walters ..... $5.95 + $1

SUPPLIES

Cassettes: Boxes of 10 each
C-10 ..... $6.95 + $1
C-20 ..... $7.95 + $1

Diskettes:
Dysan (premium quality)
Box of 5 ..... $29.95 + $1
BASF
Box of 5 ..... $24.95 + $1
Box of 10 ..... $39.95 + $2
Box of 20 ..... $69.95 + $2
Case of 100 ..... $299.00 + $3

Diskette Storage Box ..... $5.00 + $1

Floppy Armor™
Protective envelopes for shipping floppy disks.
5 pack ..... $4.95 + $1

Z-80 Chip Poster ..... $3.99 + $1

SoftSide Vinyl Binders ..... $4.95 + $1

Tape Recorder Alignment Kit ..... $9.95 + $1

IMPORTANT

- No sales tax.
- All C.O.D.'s or special delivery orders are a minimum of $5 for special handling.

For more detailed descriptions of our software and supplies send for the TSE Catalog - it's FREE! Write or call today for your copy:

?MOVING?

TO CORRECT OR CHANGE YOUR ADDRESS

Attach label from your latest copy here and print new address below.

NAME: _____

ADDRESS: _____

CITY: _____ **STATE:** _____ **ZIP:** _____

MAIL TO: The Software Exchange, PO Box 68, Milford, NH 03055

SoftSide™

PO Box 68
Milford, NH 03055
"your BASIC software magazine"

Rush me the next 12 issues of **SoftSide**.

☐USA bulk $18 1 yr. ☐$32-2 yrs. ☐CANADA/MEXICO $25 1 yr.
☐USA first class $25 1 yr. ☐OVERSEAS airmail $30 1 yr.
☐APO/OVERSEAS surface $25 1 yr.

Telephone your charge card order! Call our Subscription office Monday through Friday 9:30 to 5:30 (Eastern time) at 1-800-258-1790 (in NH call 673-5144)

Credit Card · VISA

Exp. Date_____Interbank # (M/C only)_____

Signature_____

Name_____

Address_____

City_____State_____Zip_____

Please remit in US funds ONLY

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

SUBSCRIPTION RATES - 6 issues per year

USA		Canada	
Bulk mail - $15.00		Mexico	$21.00
First Class Mail - $21.00		APO/FPO	
Overseas airmail - $27.00		Overseas surface mail	

☐ 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 1-800-258-1790 (in NH call 673-5144)

PO BOX 68, MILFORD, NH 03055

PROG/80

TSE Order Form

Special prices in effect 60 days from mailing

DESCRIPTION	MEMORY LEVEL		PRICE
		ADD HANDLING CHARGE	$1.00
		ADDITIONAL CHARGES	
		TOTAL ENCLOSED WITH ORDER	

DO NOT USE FOR HARDWARE

Check VISA Master Charge

Money Order

ALL SOFTWARE GUARANTEED TO LOAD AND RUN. If you experience difficulties, simply return the tape or disk for free replacement. Send to the attention of Bette Keenan, Customer Service Representative; please enclose a brief note and your name and mailing address with the software.

Not responsible for typographical errors

THE SOFTWARE EXCHANGE

6 SOUTH STREET MILFORD, NH 03055

Order toll free: 1-800-258-1790 (In NH call 673-5144)

Level II software available on disk for a $5.00 (**per order**) medium charge. This extra fee is for any number of programs transferred to disk from tape when you order. If the order exceeds the capacity of a single disk, we absorb the extra cost.

Be sure to include handling charge and any additional charges when figuring your total. All orders shipped within 48 hours.

All prices are subject to change without notice. We are not responsible for typographical errors, including incorrect prices.

Charge card account number

Signature.....

Exp. Date.....Inter. #.....

Charge customers: Please fill in account information above and below

Name.....

Address.....

City.....State.....ZIP.....

ALL SOFTWARE SOLD ON AN AS-IS BASIS WITHOUT WARRANTY. TSE assumes no liability for loss or damage caused or alleged to be caused directly or indirectly by equipment or products sold or exchanged by them or their distributors, including but not limited to any interruption in service, loss of business or anticipatory profits or consequential damages resulting from use or operation of such equipment or software.

in this issue:

the original

ADVENTURELAND

Thirteen Treasures await the clever adventurer. Remember:
In many cases, mud is good. In others . . .

LOST DUTCHMAN'S GOLD

With the help of the ghost of Backpack Sam - can you recover the vast fortune hidden deep in the Superstition Mountains?

MICRO 80 PINBALL

Featuring the challenging "African Safari". Lights, SOUND, Action !!!!

SoftSide™

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

P.O. BOX 68, MILFORD, NH 03055