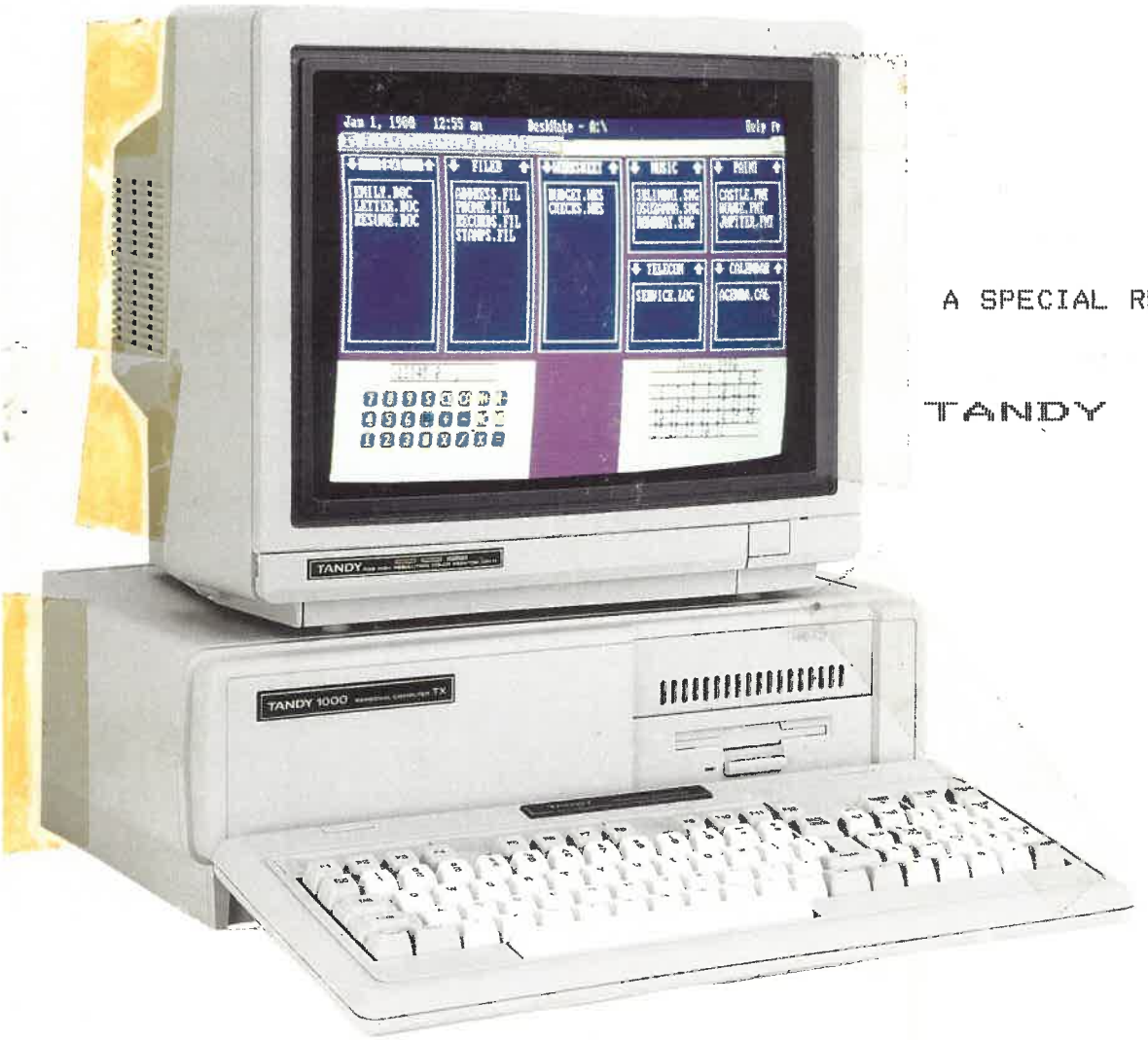
TRS-80
COMPUTING
65 OAK ROAD
CANTON, MA. 02021
828-7749

AUGUST/1988

$.80

VOLUME 2
NUMBER 3

TRS-80 COMPUTING



A SPECIAL REPORT ON THE

TANDY 1000 TX

ORIGINAL PROGRAMS FOR:
TANDY/APPLE/C64/128

INTERESTING ARTICLES FOR:
TANDY, AND OTHER COMPUTERS

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NOTE:Corrections from the June/1988 issue will be found on page 10 of this month's magazine.

GRAPHICS PROGRAM—#8

This month's graphic program is called 'Traffic Light'. When you run the program the computer will draw a blue high-resolution traffic light. Then it will go from green to yellow to red making a sound after every change.

THE PROGRAM:TRAFFIC LIGHT

```
5 PMODE 3,1
10 PCLS
15 SCREEN 1,0
20 DRAW"C3;BM123,52;R17;D7;R17;D73;L51;U73;R17;U7"
25 CIRCLE(131,73),10,3
30 CIRCLE(131,93),10,3
35 CIRCLE(131,113),10,3
40 DRAW"C3;BM125,133;D60;R2;U60;R2;D60;R2;U60;R2;D60;R2;U60"
45 PAINT(128,83),3,3
50 PAINT(128,113),1,3:SOUND 5,3:FOR T=1 TO 1000:NEXT T
55 PAINT(128,93),2,3:SOUND 60,3:FOR T=1 TO 1000:NEXT T
60 PAINT(128,73),4,3:SOUND 115,3:FOR T=1 TO 1000:NEXT T
70 GOTO 70
```

1 LINER PROGRAM....

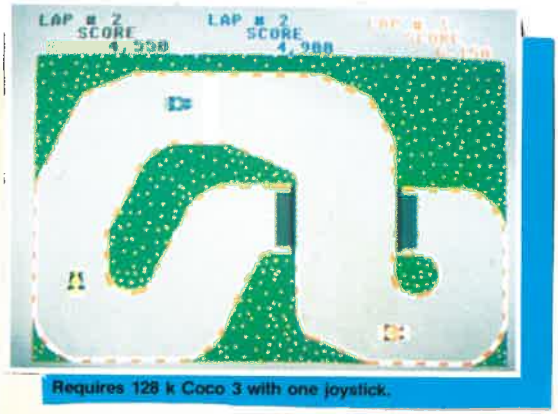
FIRE ENGINE SIREN

```
5 FOR T=100 TO 200 STEP 2:SOUND T,1:NEXT T:FOR T=200 TO 100 STEP -2:SOUND T,1:NE
XT T:GOTO 5
```

To exit program, press the <BREAK> key.

TELL YOUR FRIENDS ABOUT US!

TRS-80 SOFTWARE



GRANDPRIX CHALLENGE

Tape or Disk

$28.95 U.S.

$38.95 CAN.

Race alone against the computer, or with a friend against the computer in this high speed racing game. You compete in 5 lap races around twisting and turning race courses. Finish the race ahead of all the computer cars and you will progress to a more challenging course. Collect repair tools as you race around the track and you will be able to increase the speed and handling of your race car. But watch out for oil slicks and water puddles or you might find your car crashing into a wall. Detailed 320x200 graphics and realistic driving conditons make this a must for your CoCo 3 collection. Many different race tracks will keep you challenged.

GANTELET II

Tape or Disk

Requires 128 k Coco 3

$28.95 U.S.

$38.95 CAN.

Four people can now play simultaneously in one game. Dozens of new levels with new monsters will challenge even the best players. Collect keys to open doors and chests, treasures, and many new magic potions to help you battle more powerful monsters. Watch out for hidden trapsas you search for the exit to the next level.

ALSO AVAILABLE:MISSION:F-16 ASSAULT, PAPER ROUTE, KNOCK OUT, KARATE, MARBLE MAZE $28.95 U.S. $38.95 CAN. TAPE OR DISK 64K REQUIRED.

DIECOM PRODUCTS INC.
6715 FIFTH LANE
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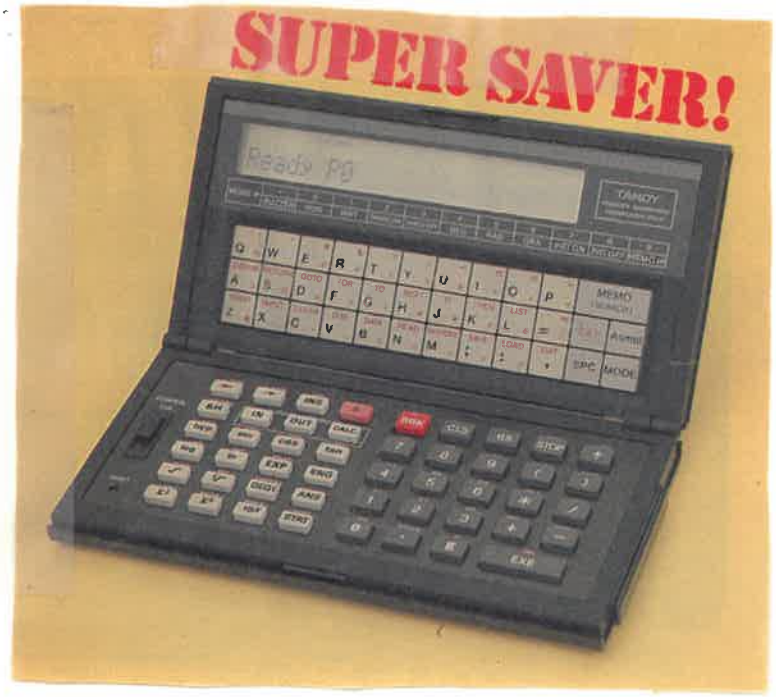
Please add $2 for shipping & handling. Ontario residents add 7% sales tax. We accept:Visa, Mastercard, cheque or money order.

WHAT'S ON SALE?

Current sales at Radio Shack

PC-6 POCKET COMPUTER



$79.95

Reg.$119.95

POCKET SCIENTIFIC COMPUTER PC-6. An ideal tool for engineers and students, the PC-6 combines the best features of a powerful scientific calculator and a pocket computer. Performs up to 65 scientific calculations-or write your own programs in BASIC or assembly language. Retains program and data even when power is off. Features easy-to-read 24-character LCD. Includes battery. #26-3672 8K RAM MODULE (For 16K total memory.) #26-3674.....$19.95

DISKETTE STORAGE BOXES Lets you protect your floppy disks from dirt and dust, and keeps them neatly organized. For 3 1/2" & 5 1/4" diskettes...Reg.$1.19..$.79

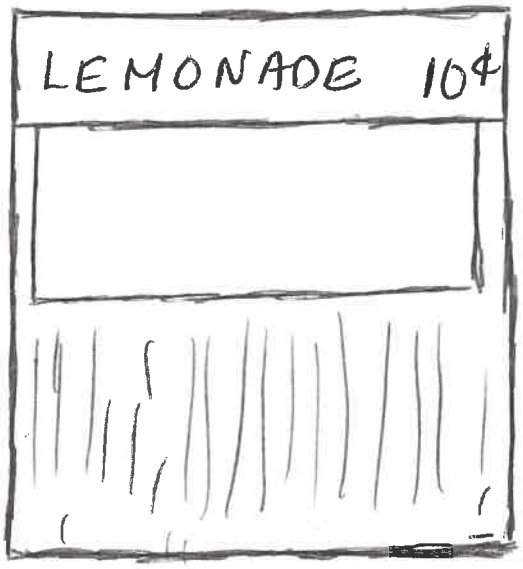
ENTERTAINMENT/EDUCATION SOFTWARE FOR YOUR TANDY 1000

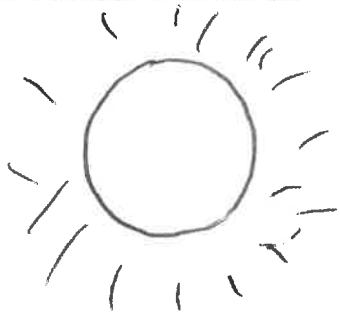
Title	Cat. No.	Was	Now
Earl Weaver's Baseball™	25-1182	39.95	35.95
Thexder™	25-1183	34.95	29.95
Chuck Yeager's Advanced Flight Trainer™	25-1196	39.95	35.95
Gunship™	25-1219	49.95	44.95
Reader Rabbit™	25-1216	49.95	44.95
Writer Rabbit™	25-1217	49.95	44.95
Math Rabbit™	25-1218	39.95	34.95
The FUNdamentals HX/TX™	25-1186	29.95	24.95
Typing Tutor IV™	25-1188	49.95	44.95
Lovejoy's SAT Preparation	25-1189	49.95	44.95
Where in the World is Carmen Sandiego?™	25-1151	39.95	34.95

Title	Cat. No.	Price
New! Space Quest II™	25-1220	39.95
New! Police Quest™ (Contains real-life police simulations—Parental guidance advised)	25-1229	39.95
F-15 Strike Eagle™	25-1125	34.95
Term Paper Writer™	25-1154	49.95
Deluxe Paint™	25-1306	49.95
HomeWord Plus™	25-1161	69.95
Varsity SCRIPSIT™	25-1174	89.95
CardWare™	25-1310	11.95
PartyWare™	25-1311	14.95
PFS: Professional Plan™	25-1173	99.00

SALE ENDS: 8/22/88

THE PROGRAMMER





A U G U S T

THIS MONTH'S PROGRAM

THE LEMONADE STAND!

THE LEMONADE STAND

BY: DAVID McNALLY

This program is family fun! You do lose money but it is designed so that you never lose. It was taken from the Commodore version and copied very well. I hope you enjoy it.

```
0 CLEAR 10000:REM MININUM 16K
1 GOSUB 6000
5 CLS
10 PRINT@227,"***THE LEMONADE STAND***"
12 X=500:H=0
14 FOR PAUSE=1 TO 2000:NEXT PAUSE
15 CLS:PRINT@1,"NOTE:THERE ARE NO DECIMAL POINTS IN THIS PROGRAM.  EX. THIS(500)
 WOULD BE $5.00"
17 FOR PAUSE=1 TO 3050:NEXT PAUSE:GOTO 2000
18 GOTO 19
19 B$=CHR$(143+48):C$=B$+CHR$(143+16)
20 D$=C$+C$+C$:H$=CHR$(143+32)+CHR$(143+32)+CHR$(143+32)+CHR$(143+32)+CHR$(143+3
2)
21 F$=CHR$(143+32)+CHR$(143+32)+CHR$(143+32)+CHR$(143+32)+CHR$(143+32)+CHR$(143+
32)+CHR$(143+32)
22 PRINT@293,D$+D$+D$+C$+F$+H$+D$+D$+D$+C$+F$+H$
24 PRINT@357,D$+D$+D$+C$+F$+H$+D$+D$+D$+C$+F$+H$
26 PRINT@421,D$+D$+D$+C$+F$+H$+D$+D$+D$+C$+F$
28 FOR B=6 TO 15
30 SET(48,B,1):SET(49,B,1):SET(10,B,1):SET(11,B,1)
32 NEXT B
34 FOR T=12 TO 47
35 SET(T,6,1):SET(T,7,1):SET(T,10,1):SET(T,11,1)
37 NEXT T
38 PRINT@134,"   LEMONADE $.10   "CHR$(143+32)CHR$(143+32)CHR$(143+32)CHR$(143+3
2)CHR$(143+32)CHR$(143+32)
40 SET(62,8,3):SET(62,9,3):SET(63,8,3):SET(63,9,3)
41 IF Z=1 THEN PRINT@480,"              SUNNY"
42 IF Z=2 THEN PRINT@480,"            HOT AND DRY"
43 IF Z=3 THEN PRINT@480,"              CLOUDLY"
44 FOR L=1 TO 4050:NEXT L:CLS:IF H>0 THEN GOTO 2022
45 H=H+1
46 GOTO 2020
49 GOSUB 7000
50 CLS:GOSUB 8000
52 PRINT@2,"$$   TODAYS      REPORT   $$"
53 PRINT
54 PRINT"NUMBER OF GLASSES SOLD-"A
55 PRINT:G=0
56 PRINT"PRICE OF EACH GLASS-$.10"
57 FOR N=1 TO A
58 X=X+10:G=G+10
59 NEXT N
60 PRINT
62 PRINT"YOUR PROFIT IS-"G
64 PRINT
66 PRINT"YOUR TOTAL IS-"X
67 IF X=0 OR X<1 THEN GOTO 5000
68 FOR L=1 TO 5000:NEXT L:GOTO 2041
```

```
2000 CLS
2002 PRINT@1,"THIS IS LEMONADE STAND. THE OBJECT OF THIS GAME IS TO EARN AS MUCH
 MONEY AS POSSIBLE."
2004 PRINT"WRITE DOWN YOUR HIGHEST EARNINGS FOR LATER USE."
2006 PRINT"ANY KEY TO GO ON."
2007 INPUT A$
2010 CLS
2012 PRINT"GOOD LUCK!"
2014 FOR Y=1 TO 1050:NEXT Y
2015 GOSUB 2041
2020 CLS
2021 PRINT"YOU START WITH $5.00"
2022 PRINT"TO MAKE 1 GLASS IS $.02"
2024 PRINT"HOW MANY GLASSES DO YOU WANT?"
2026 INPUT B
2027 IF B>100 THEN PRINT"THATS TOO MANY":FOR L=1 TO 2000:NEXT L:GOTO 2022
2028 IF B<2 THEN PRINT"THATS TOO LITTLE":FOR L=1 TO 2000:NEXT L:GOTO 2022
2030 CLS
2032 FOR G=1 TO B
2034 X=X-2
2035 NEXT G
2036 IF X=0 OR X<1 THEN GOTO 5000
2037 PRINT"YOU NOW HAVE $"X
2038 K=X
2040 FOR L=1 TO 2000:NEXT L:GOTO 49
2041 Z=RND(3):CLS(3)
2042 IF Z=1 THEN GOTO 18
2043 IF Z=2 THEN GOTO 2045
2044 IF Z=3 THEN GOTO 2050
2045 FOR N=1 TO 62
2046 SET(N,4,4):SET(N,5,4):SET(N,6,4)
2047 NEXT N:GOTO 2055
2050 FOR N=1 TO 62
2051 SET(N,4,5):SET(N,5,5):SET(N,6,5)
2052 NEXT N:GOTO 2056
2055 PRINT@480,"     HOT AND DRY":GOTO 18
2056 PRINT@480,"         CLOUDLY":GOTO 18
5000 PRINT"SORRY, YOU RAN OUT OF MONEY":END
6000 CLS:PRINT"THIS PROGRAM IS BY DAVID MCNALLY"
6002 PRINT"THE IDEA OF THIS PROGRAMS WAS TAKEN FROM THE COMMODORE VERSION.  I HO
PE YOU ENJOY IT."
6004 FOR PAUSE=1 TO 6000:NEXT PAUSE:RETURN
7000 A=RND(B)
7002 IF Z=1 THEN RETURN
7004 IF Z=2 AND A<B/2 THEN 7000
7006 IF Z=3 AND A>B/2 THEN 7000
7008 RETURN
8000 FF=RND(100):IF FF<80 THEN RETURN
8002 IF Z=3 THEN RETURN
8004 PRINT"THE LOCAL STREET CREW BOUGHT ALL YOUR LEMONADE":FOR V=1 TO 2010:NEXT
V:A=B:CLS:RETURN
```

QUESTIONS

For the Apple computer

Type and RUN this program and the computer will give you 15 questions. The idea is to try to get them all right. You can even compete against a friend to see who is smarter!

```
50 ' DESIGNED BY SCOTT RAINEY AND BRIAN FRANCOIS
55 ' APPLE VERSION DESIGNED BY  DAVID MCNALLY
60 HOME
120 HOME:PRINT"WHO IS THE FATHER OF THE COUNTRY?":PRINT
140 PRINT" A) GEORGE WASHINGTON"
142 PRINT" B) JOHN ADAMS"
144 PRINT" C) THOMAS JEFFERSON"
150 PRINT:INPUT A$
151 IF A$="A"THEN RC=RC+1:GOSUB 1010:GOTO 155
152 WC=WC+1:GOSUB 2010
155 HOME:PRINT"WHAT IS THE CAPITAL OF THE UNITED STATES?":PRINT
170 PRINT" A) NEW YORK"
172 PRINT" B) WASHINGTON D.C."
174 PRINT" C) PHILADELPHIA"
180 PRINT:INPUT A$
181 IF A$="B"THEN RC=RC+1:GOSUB 1010:GOTO 185
182 WC=WC+1:GOSUB 2010
185 HOME:PRINT"WHO IS THE CURRENT PRESIDENT OF THE UNITED STATES?":PRINT
200 PRINT" A) JIMMY CARTER"
202 PRINT" B) RONALD REAGAN"
204 PRINT" C) OTHER"
210 PRINT:INPUT A$
211 IF A$="C" THEN RC=RC+1:GOSUB 1010:GOTO 215
212 WC=WC+1:GOSUB 2010
215 HOME:PRINT"WHICH COUNTRY GIVES ITS PEOPLE THE MOST FREEDOM?":PRINT
230 PRINT" A) RUSSIA"
232 PRINT" B) POLAND"
234 PRINT" C) UNITED STATES"
240 PRINT:INPUT A$
241 IF A$="C"THEN RC=RC+1:GOSUB 1010:GOTO 245
242 WC=WC+1:GOSUB 2010
245 HOME:PRINT"WHICH COUNTRY WAS THE FIRST TO PUT A MAN IN";
246 PRINT"SPACE?":PRINT
260 PRINT" A) RUSSIA"
262 PRINT" B) UNITED STATES"
264 PRINT" C) CHINA"
270 PRINT:INPUT A$
271 IF A$="A"THEN RC=RC+1:GOSUB 1010:GOTO 275
272 WC=WC+10:GOSUB 2010
275 HOME:PRINT"WHO DISCOVERED ELECTRICITY?":PRINT
290 PRINT" A) BENJAMIN FRANKLIN"
292 PRINT" B) ISAAC NEWTON"
294 PRINT" C) THOMAS JEFFERSON"
300 PRINT:INPUT A$
301 IF A$="A"THEN RC=RC+1:GOSUB 1010:GOTO 305
302 WC=WC+1:GOSUB 2010
305 HOME:PRINT"WHO DISCOVERED AMERICA IN 1492?":PRINT
320 PRINT" A) AMERIGO VESPUCCI"
322 PRINT" B) VIKINGS"
324 PRINT" C) CHRISTOPHER COLUMBUS"
330 PRINT:INPUT A$
331 IF A$="C"THEN RC=RC+1:GOSUB 1010:GOTO 335
```

```
332 WC=WC+1:GOSUB 2010
335 HOME:PRINT"WHAT COUNTRY WAS THE FIRST TO PUT A MAN IN ";
336 PRINT"THE MOON?":PRINT
350 PRINT" A) RUSSIA"
352 PRINT" B) UNITED STATES"
354 PRINT" C) BRITIAN"
360 PRINT:INPUT A$
361 IF A$="B"THEN RC=RC+1:GOSUB 1010:GOTO 365
362 WC=WC+1:GOSUB 2010
365 HOME:PRINT"WHAT WAS THE FIRST COUNTRY TO ENTER THE ";
366 PRINT"NUCLEAR AGE?":PRINT
370 PRINT" A) UNITED STATES"
372 PRINT" B) CHINA"
374 PRINT" C) RUSSIA"
390 PRINT:INPUT A$
391 IF A$="A"THEN RC=RC+1:GOSUB 1010:GOTO 395
392 WC=WC+1:GOSUB 2010
395 HOME:PRINT"WHAT WAR WON THE UNITED STATES HER FREEDOM?"
396 PRINT
400 PRINT" A) WAR OF 1812"
402 PRINT" B) REVOLUTIONARY WAR"
404 PRINT" C) CIVIL WAR"
420 PRINT:INPUT A$
421 IF A$="B"THEN RC=RC+1:GOSUB 1010:GOTO 425
422 WC=WC+1:GOSUB 2010
425 HOME:PRINT"WHO INVENTED THE TELEPHONE?":PRINT
440 PRINT" A) THOMAS EDISON"
442 PRINT" B) ALEXANDER GRAHAM BELL"
444 PRINT" C) BENJAMIN FRANKLIN"
450 PRINT:INPUT A$
451 IF A$="B"THEN RC=RC+1:GOSUB 1010:GOTO 455
452 WC=WC+1:GOSUB 2010
455 HOME:PRINT"WHEN IS THE AMERICAN INDEPENDENCE DAY?":PRINT
470 PRINT" A) NOVEMBER 25"
472 PRINT" B) OCTOBER 31"
474 PRINT" C) JULY 4"
480 PRINT:INPUT A$
481 IF A$="C"THEN RC=RC+1:GOSUB 1010:GOTO 485
482 WC=WC+1:GOSUB 2010
485 HOME:PRINT"WHO WAS THE PRESIDENT OF THE UNITED STATES AT ";
486 PRINT"THE BEGINNING OF THE CIVIL WAR?":PRINT
500 PRINT" A) ABRAHAM LINCOLN"
502 PRINT" B) ANDREW JACKSON"
504 PRINT" C) U.S. GRANT"
510 PRINT:INPUT A$
511 IF A$="A"THEN RC=RC+1:GOSUB 1010:GOTO 515
512 WC=WC+1:GOSUB 2010
515 HOME:PRINT"WHICH OF THE FOLLOWING IS A NUMERIC VARIABLE?"
516 PRINT
530 PRINT" A) AX$"
532 PRINT" B) Z"
534 PRINT" C) 45"
540 PRINT:INPUT A$
541 IF A$="B"THEN RC=RC+1:GOSUB 1010:GOTO 545
542 WC=WC+1:GOSUB 2010
545 HOME:PRINT"WHAT BRAND OF COMPUTER ARE YOU USING?":PRINT
550 PRINT" A) ATARI"
552 PRINT" B) APPLE"
554 PRINT" C) TIMEX"
570 PRINT:INPUT A$
```

```
571 IF A$="B"THEN RC=RC+1:GOSUB 1010:GOTO 575
572 WC=WC+1:GOSUB 2010
575 HOME:PRINT"YOUR SCORE IS:"
590 PRINT:PRINT
600 PRINT"    "RC"RIGHT"
610 PRINT"    "WC"WRONG"
620 PRINT:PRINT
630 IF RC=15 THEN PRINT"YOU ARE A GENIUS!":GOTO 700
640 IF RC>=11 THEN PRINT"YOU ARE PRETTY SMART!":GOTO 700
650 IF RC=>8 THEN PRINT"YOU DID OKAY.":GOTO 700
660 IF RC=>4 THEN PRINT"YOU NEED A LITTLE WORK.":GOTO 700
670 IF RC=>1 THEN PRINT"YOU NEED TO STUDY MORE!":GOTO 700
680 PRINT"OH! OH! OH!"
700 FOR PAUSE=1 TO 7000:NEXT PAUSE
710 HOME:END
1000 '
1010 HOME
1015 PRINT"THAT'S CORRECT!"
1020 FOR T=1 TO 2000:NEXT T
1025 RETURN
2000 '
2010 HOME
2015 PRINT"SORRY...THAT'S WRONG"
2020 FOR T=1 TO 2000:NEXT T
2025 RETURN
```

CORRECTIONS (JUNE/1988)

On page 7 & 8 of our June 1988 issue the following lines must be changed:

```
129 PRINT B$" POURED "C$" ALL OVER THE STATE OF NEW YORK AND"
130 PRINT" HIS/HER PET LICKED IT UP."
1010 PRINT"MOM! MOM!, THERE IS A SKUNK OUT HERE."
1011 PRINT"HE SAYS HE'S "E" YEARS OLD"
1012 PRINT", AND HIS NAME IS "F$"."":END
10012 PRINT"     MY "A$" HAS A VERY BAD PROBLEM."
10014 PRINT"HE HAS "C$" GROWING OUT OF HIS "B$"."
10016 PRINT"I THINK HE HAS THE(A) "D$"."
10017 END
```

Note:The same corrections must be made for the C64/128 version also.

On page 9 under typing hints for the Apple, the closing parenthesis should be after the word quickly.

On page 15, to merge cassette file, does not work. Also, some others might not work with Extended BASIC.

On page 15 there should be a comma on the third line after the word fire.

THE DEADLY LAUNCH II

This is part I & II of Deadly Launch. Part I alone appeared in the September/1987 issue of TRS-80 Computing.

```
5 PRINTCHR$(147)
10 PRINT"THE DEADLY LAUNCH"
14 PRINT"BY:KEVIN AND DAVID"
15 PRINT:PRINT:PRINT
16 PRINT"YOU ARE IN A SHUTTLE.  SOMETHING WENT WRONG WITH THE COMPUTERS.  THERE
IS A OVERHEAT IN BOOSTER B."
18 PRINT"DO YOU CHOOSE TO TAKE OFF THE WAY IT IS OR...";
20 PRINT"IGNITE BOOSTER A AND TAKE OFF."
22 PRINT:PRINT:PRINT"(TAKE OFF OR LAUNCH WITH A)"
24 INPUT A$
26 IF A$="TAKE OFF"THEN PRINT"SORRY, YOU EXPLODED.":END
28 PRINT"YOU HAVE NOW LAUNCHED."
30 PRINT"NUMBER OF OXYGEN TANKS:4 NUMBER OF TANKS FULL:1 TOTAL TIME:12 HRS."
32 PRINT"10 1/2 HRS. TO GET TO THE NEAREST SPACE STATION. 12 1/2 TO GET HOME."
34 PRINT"DO YOU WANT TO GO TO THE STATION OR TRY TO GET BACK HOME?"
36 PRINT"(HOME OR STATION)"
38 INPUT B$
40 IF B$="HOME" THEN PRINT"SORRY, YOU RAN OUT OF AIR.  BETTER LUCK NEXT TIME.":E
ND
42 PRINTCHR$(147)
44 PRINT"YOU MADE IT TO THE STATION.  YOU NOW HAVE 3 TANKS OF AIR LEFT."
46 PRINT"ARE YOU READY TO GO HOME NOW?"
48 PRINT"YES OR NO"
50 INPUT C$
52 IF C$="YES"THEN 60
54 IF C$="NO"THEN PRINT"YOU ARE A HERO FOR MAKING IT ALIVE. NOW CAN YOU GET HOME
?":GOTO 70
60 PRINT"YOU ARE NOW SAFE AT HOME. EVERYONE THINKS YOU ARE A WIMP."
62 PRINT"THANK YOU FOR PLAYING":END
70 PRINTCHR$(147)
72 PRINT"TO TAKE OFF ENTER A NUMBER 1-10"
74 PRINT"THE LOWER THE NUMBER, THE LESS ENERGY THE BOOSTERS GET."
76 PRINT"IF YOU TYPE TOO HIGH OF A NUMBER THE BOOSTERS WILL EXPLODE."
78 INPUT D
80 IF D=5THEN PRINT"YOUR SAFE IN SPACE"
82 IF D<>5 THEN PRINT"YOU LOSE":END
83 PRINTCHR$(147)
84 PRINT"READY TO LAND?":INPUT E$
85 IF E$="N"THEN PRINT"YOU JUST RAN OUT OF GAS":END
90 PRINT"YOU MADE IT BACK ALIVE!"
95 PRINT"YOU TELL AMERICANS YOUR STORY."
100 PRINT"YOU WIN!!":END
```

A SPECIAL REPORT ON THE...
TANDY 1000 TX

THE TANDY 1000 TX FEATURES:

80286 MICROPROCESSOR

The Tandy 1000 TX features an 8 MHz 80286 microprocessor for far greater performance than ordinary PCs. This brings 80286 technology, previously found only in AT class machines, to an affordable PC. The 1000 TX boasts over 6 times faster throughout than a standard PC XT-you'll fly through your applications.

BUILT-IN 3 1/2 DISK DRIVE

The Tandy 1000 TX is outfitted with a new 3 1/2 disk drive, ready to use MS-DOS 3.2 software released on durable, pocket-size diskettes. Each diskette can store up to 720,000 characters, and you can internally add a second 3 1/2 disk drive anytime. If you prefer, you can expand with a 5 1/4 disk drive instead of a second 3 1/2 disk drive-so you can use existing 5 1/4 software along with new releases available on 3 1/2 diskettes.

PERSONAL DESKMATE 2

Your first program is included. Personal Deskmate 2 is an easy-to-use integrated program that lets you put your Tandy 1000 TX to work right away. Features include pull-down menus and 'dialogue boxes' for selecting functions. You can use Personal Deskmate 2 to extend your business day by using Text, Worksheet and Filer to complete your office or personal business tasks. After you've left the office, you can relax at home with the 16-color Paint program and the Music program. You can use these two functions of Personal Deskmate 2 to express your creative urges. A Communications program and an optional modem will let you access the latest news or stock quotes from the various computer information networks.

MS-DOS INCLUDED

The 1000 TX includes Microsoft's MS-DOS 3.2 and GW-BASIC software-an expensive option with other PCs. MS-DOS gives you access to the most powerful and proven software packages on the market today. Choose from the best names in business, entertainment, and educational programs.

EASY TO EXPAND

The tandy 1000 TX comes with 640K RAM-enough power to handle almost any application. Five card slots make it easy to customize the 1000 TX just the way you want. Add more memory, an internal modem, a hard disk card, or add an additional card for connecting the TX to your workgroup environment.

AND THERE'S MORE

The 1000 TX includes the adapters you'd pay extra for with ordinary PC compatibles. Monochrome and color graphics adapters, parallel printer adapter, joysticks adapters and an RS-232C serial port are all built in. There's even an advanced three-voice sound circuit for generating music through the built-in speaker and a headphone jack with volume control.

A picture of what the Tandy 1000 TX looks like is shown on the front cover of this magazine.

Shack® Went Shopping for You

(1) Plug-In 3-Output DC Supply. Heavy-duty supply originally designed for video game. Use as a spare or for powering circuits. Plugs into AC and delivers +5VDC up to 900 mA, −5VDC up to 100 mA and +12VDC up to 300 mA. Has 5-foot DC cord with 4-position connector. UL listed AC. #277-1022 . . . . . **4.95**

(2) Sound/Color-Video TV RF Modulator. With this prewired module and a few inexpensive parts, you can convert a standard TV set for use as a monitor for computer, portable VCR or video camera. Has antenna/modulator switch. #277-1015 . . . . . **4.95**

(3) T-1 Super-Bright Green LEDs. Dress up your projects with these brilliant LEDs. 4.0 volts, 10 mA. #276-056 . . . **Pkg. 4/89¢**

(4) Full-Stroke Keyboard. Just the thing for upgrading your old membrane-type keyboard. Sixty-three full-stroke keys, three function keys, 11" lead with 18-position connector. With schematic and data. #277-1027 . . . . . **4.95**

Demag/Cleaner

Reg. 5.95

Five piece kit—demagnetizer cassette, probe, mirror, solution, cloth. #44-1167

Cleaner Spray

1.99

For All Tape Heads

Quickly and easily removes dirt and oxide deposits for improved response and clarity. 6 oz. #44-1014

Cassette Head Demagnetizer

Reg. 9.95

Looks and loads like an ordinary cassette. Works in one second. With battery. #44-1165

"Non-Slip" Solvent

99¢

Helps Reduce Wow & Flutter

For phonos, cassette players. Stops slippage of idler wheel, belts, cords. 2 oz. #44-1013

Bulk Tape Eraser

29.95

Erases Tapes in Seconds

Erases faster and more completely than your tape recorder's erase head for a better quality picture the next time you use the tape. For video and audio tapes. UL listed AC. #44-233

Color Computer Software for Fun & Learning

Title	Format	Reg.	Cat. No.
Where in the World Is Carmen Sandiego?	Disk	34.95	26-3243
Winnie the Pooh	Disk	34.95	26-3244
Donald Duck's Playground	Disk	34.95	26-3245
Cave Walker	Disk	24.95	26-3246
Mickey's Space Adventure	Disk	34.95	26-3247
Color Computer DeskMate	Disk	99.95	26-3258
Microscopic Mission	Disk	29.95	26-3271
Sub Battle Simulator	Disk	29.95	26-3272

New Color Computer ROM Software

Title	Format	Reg.	Cat. No.
Phantomgraph	Disk	39.95	26-3276
The Color Computer Artist	Disk	29.95	26-3277
Zone Runner	Disk	29.95	26-3286
The Interbank Incident	Disk	29.95	26-3287
Thexder	ROM	24.95	26-3072
Springster	ROM	24.95	26-3078
Shanghai	ROM	24.95	26-3084
Color Math	Tape	19.95	26-3201

Title	Cat. No.	Price
A Mazing World of Malcolm Mortar	26-3160	29.95

TRS-80 COMPUTING ORDER FORM

I WANT:

....3 ISSUES FOR $3.33 TOTAL
....6 ISSUES FOR $6.66 TOTAL
....12 ISSUES FOR $9.99 TOTAL
....1 ISSUE TO TRY IT. $.80

I WILL PAY BY:

....CASH ....CHECK

IF YOU BUY 1 ISSUE YOU WILL BE BILLED UPON
RECEPTION OF THE ISSUE.
IF YOU BUY MORE THAN 1 YOU WILL BE BILLED
BEFORE RECEPTION OF ALL ISSUES.

NAME OF PERSON TO RECEIVE MAGAZINE.....
ADDRESS TO SEND TO.....
SIGNATURE OF BUYER.....

WE ARE NOT RESPONSIBLE FOR ISSUES YOU DON'T
RECEIVE AFTER WE SEND IT.

TOTAL PRICE INCLUDES:

* $.80 FOR EACH ISSUE
* POSTAGE COST TO SEND MAGAZINE
  APP. $.93 FOR POSTAGE

ANY CHANGE WILL BE GIVING BACK
ALONG WITH A RECEIPT.

SIGNED Joseph Aber AND David McNally

GAMES FROM THE WIZARD

Music Player-Use high and low notes. CoCo only.....$.95

Picture Plotter-Save, load, and print pictures that you can draw. Also has a color changing and text adding function. For CoCo only.....$1.95

Checker Chase-Can you catch the computer? It's hard but not impossible! It watches for you in all directions but it does have a weakness. Can you find it? For CoCo only.....$1.25

Choice Maker-Answers yes and no questions and gives you advice. For C64/128, Apple, and TRS-80's.....$1.00

CoCo Pack-Get all above for $3.50. Offer good till 12/25/88 with slip below! CoCo's only.

Note:For books by the wizard see Classified section!

NEW! FROM THE WIZARD!
THE VIDEO SHOW WITH Q*BERT

Features:

* Song with title screens
* Q*bert (he talks!)
* Songs like Wipeout & theNational Anthom
* Other video creatures (they also talk!)

COMING SOON!

For CoCo only.....$5.95 tape.....$9.95 disk and tape

If you order disk and tape, the program is on the disk. The music and voices are on the tape.
(The characters are not actual size)

. NAME..... .
. ADD..... .
. DATE SENT..... .
. PROGRAMS NAME... .
. ...

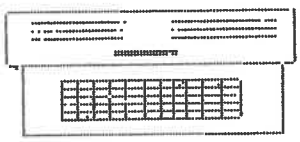
Note:For a catalog of all the Wizard's games, send a letter to our office asking for it!

PRINTER PROGRAM
FOR DMP 2100

This printer program prints a high-res cowboy on a horse. It is for the DMP 2100. You can use the same figure on another printer but it may come in different proportions.

```
100 'COWBOY GRAPHICS PROGRAM
110 CLEAR 2000
120 LPRINT CHR$(18)
130 READ A
140 IF A=-1 THEN 190
150 IF A<>-2 THEN LPRINT CHR$(A);:GOTO 130
170 LPRINT STRING$(B,CHR$(C));
180 GOTO 130
190 LPRINT CHR$(30)
200 'COWBOY VALUES
210 DATA -2,50,128,-2,11,128,224,252,140,-2,4,128,-2,3,192,13
220 DATA -2,50,128,-2,10,128,142,159,191,248,240,242,246,246,255,255,223,134,134
,130,13
230 DATA -2,50,128,-2,13,128,248,-2,3,255,159,143,159,190,240,224,-2,4,128,192,2
24,192,224,224,192,224,192,192,13
240 DATA -2,50,128,-2,11,128,176,-2,6,255,254,254,255,255,252,253,254,-2,6,255,1
,91,-2,3,159,-2,3,255,190,252,168,13
250 DATA -2,50,128,-2,7,128,224,240,248,252,254,-2,18,255,224,-2,3,192,128,128,1
29,159,143,159,13
260 DATA-2,50,128,240,248,252,188,142,130,159,191,255,255,159,131,-2,4,129,128,1
28,129,129,131,135
270 DATA 252,152,128,129,131,198,252,13
280 DATA -2,50,128,129,135,159,252,-2,5,128,243,255,143,131,129,128,135,143,-2,3
,136,152,240,224,-2,5,128,140,142,135,-2,3,128
290 DATA 131,131,129,13
300 DATA -2,50,128,-2,10,128,129,131,134,140,184,240,224,13
310 DATA -1
```

HIGH-RES PICTURE This was done on Big Pix 3 (Tothian Software) showing the popular Tandy Color Computer 2



TRS-80 COMPUTING ON TAPE

IS IT A BACK ISSUE.....
WHAT MONTH IS THE ISSUE YOU WANT ON TAPE?.....
WHAT VOLUME IS IT?.....

WHAT IS YOUR NAME AND ADDRESS?.....

SEND $5.00 FOR THE COSTS (PER TAPE ORDERED)

IF YOU WOULD LIKE MORE THAN ONE WRITE DOWN THE ABOVE INFO. AND SEND IT TO US.

NOTE:REMEMBER IT IS $5.00 PER TAPE ORDERED AND IT IS FOR THE TRS-80'S ONLY!

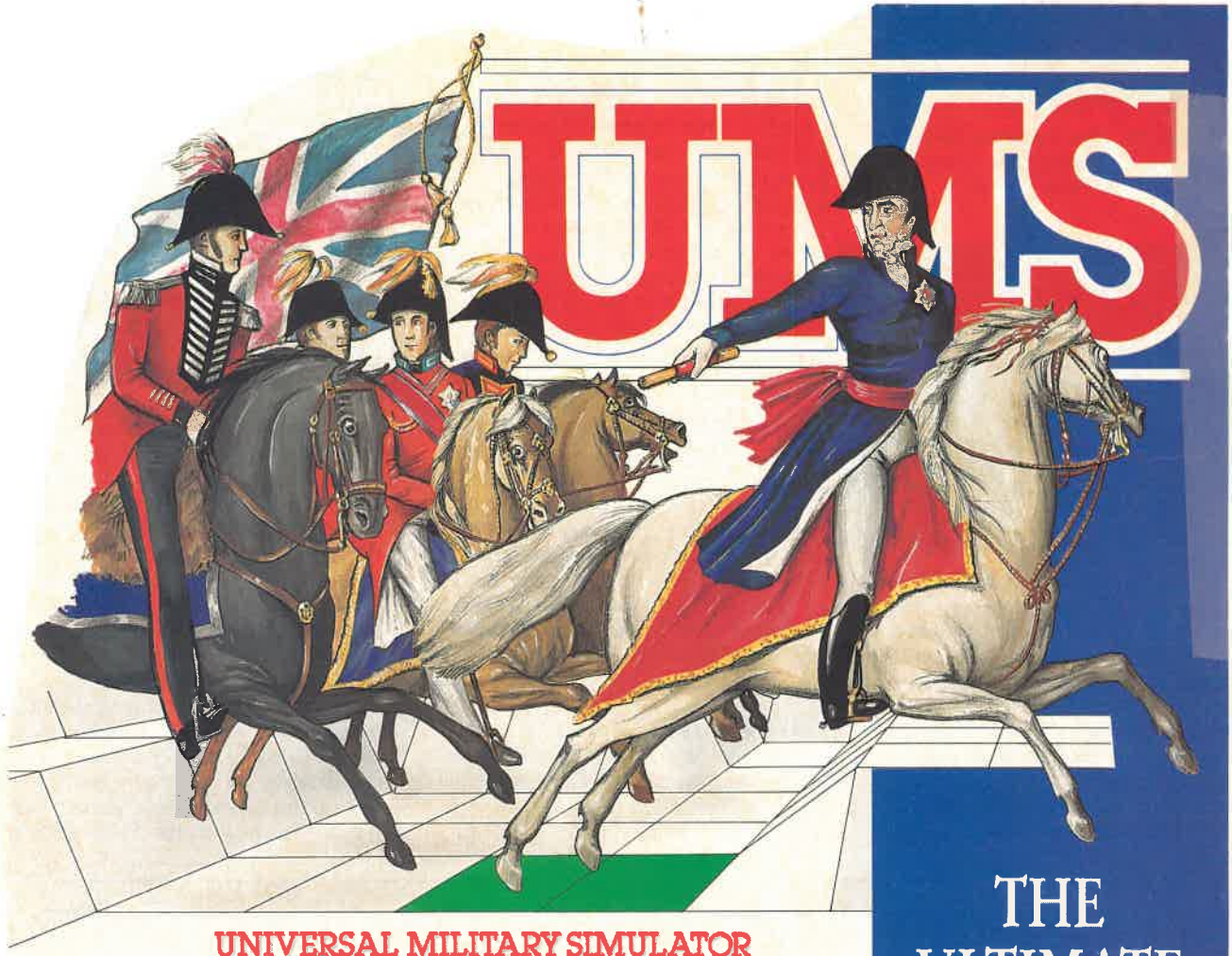
PLEASE WAIT ABOUT 1 WEEK FOR DELIVERY. THANKS!

SPECIALS (REPORTS, PROGRAMS, ETC...)

THE PROGRAM:ADDRESS BOOK

In this program you can save all the addresses and telephone #'s of your friends and relatives on data tape. 16K required.

```
5 CLS:X=0
10 PRINT"A. INSERT NAME"
12 PRINT"B. LOAD NAME"
14 PRINT"C. END PROGRAM"
16 A$=INKEY$:IF A$=""THEN 16
18 IF A$<>"A" AND A$<>"B" AND A$<>"C" THEN SOUND 55,5:GOTO 5
20 IF A$="C"THEN END
22 IF A$="B" THEN 1000
24 IF A$="A"THEN 2000
26 GOTO 16
1000 CLS:PRINT"REWIND YOUR ADDRESS DATA TAPE TO THE BEGINNING OF THE ADDRESSES."
1002 PRINT"NAME TO LOOK FOR:";:INPUT US$
1004 PRINT"PRESS PLAY ON TAPE PLAYER.  ENTER WHEN READY":INPUT WQ$
1006 CLS:PRINT"SEARCHING FOR ";US$
1008 OPEN "I",#-1,US$
1010 IF EOF (-1) THEN 1024
1012 INPUT #-1,N$
1014 INPUT #-1,P$
1016 INPUT #-1,Q$
1018 INPUT #-1,R$
1020 INPUT #-1,S$
1022 INPUT #-1,T$
1024 CLOSE #-1:X=3
1026 GOTO 3000
2000 CLS
2002 PRINT"NAME":INPUT N$:PRINT"STREET ADDRESS OR P.O. BOX.":INPUT P$:PRINT"CITY
":INPUT Q$:PRINT"STATE":INPUT R$:PRINT"ZIP CODE":INPUT S$:PRINT"PHONE #(XXX-XXXX
)":INPUT T$:CLS
2003 PRINTN$:PRINTP$:PRINTQ$;",";R$:PRINTS$:PRINTT$
2004 PRINT"IS THIS CORRECT(Y OR N)"
2006 A$=INKEY$:IF A$=""THEN 2006
2008 IF A$<>"Y"AND A$<>"N"THEN SOUND 55,5:GOTO 2006
2010 IF A$="N"THEN 2000
2012 IF A$="Y"THEN 2016
2014 GOTO 2006
2016 REM
2018 CLS:PRINT"A. LOOK AT FINISHED NAME"
2020 PRINT"B. SAVE NAME"
2022 A$=INKEY$:IF A$=""THEN 2022
2024 IF A$<>"A"AND A$<>"B" THEN SOUND 55,5:GOTO 2022
2026 IF A$="A"THEN GOSUB 3000
2028 IF A$="B"THEN GOSUB 4000
2030 GOTO 2016
3000 CLS
3002 PRINTN$:PRINTP$:PRINTQ$;", ";R$:PRINTS$:PRINTT$
3004 PRINT"ENTER TO GO ON":INPUT MM$:IF X=3 THEN RUN
3006 RETURN
4000 CLS:PRINT"GET RECORDER READY TO SAVE.  PRESS PLAY AND RECORD.  PRESS ENTER
WHEN READY.":INPUT MM$
4001 CLS:PRINT"WHAT NAME SHOULD I SAVE IT AS?  (MAX. 8 LETTERS)":INPUT NA$
4002 PRINT"SAVING ";N$;"'S ADDRESS"
4004 OPEN "O",#-1,NA$
4006 PRINT#-1,N$:PRINT#-1,P$:PRINT#-1,Q$:PRINT#-1,R$:PRINT#-1,S$:PRINT#-1,T$:CLO
SE #-1:CLS:RUN
```



UNIVERSAL MILITARY SIMULATOR

You may never buy another war game.
"One's first impression of UMS is that of awe. The computer-generated topographical battlefields, the highly playable nature of the game, and the very flexible nature of the construction set come together to give us the impression that UMS is definitely a breakthrough product."
That's what the wargame experts at Computer Gaming World say about UMS. They also like UMS' high-tech graphics...

"...the three-dimensional topographical views of the battlefield offer a unique perspective in computer gaming. The ability to look at the entire map from eight different compass points is, to our knowledge, unique."
...the power and flexibility...
"...the program's constructability allows for tremendous flexibility. Not only can players design their own maps, orders of battle and objectives, but players who feel that certain units are too strong, too fast, or too experienced can adjust those with the powerful editor...the program truly does allow almost any historical, fantasy or science fiction battle to be created."

"...gamers will appreciate the program inclusion of elements such as terrain, elevation, weaponry, morale, status, and unit efficiency in its calculations."
...and to sum it all up...
"...we want to say that this is a cutting edge product that all computer wargamers will want to play."
Universal Military Simulator. It's the new standard in wargames.
Available now on Atari ST and IBM. Coming soon on Amiga and Mac.

Screenshots from Atari ST.

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