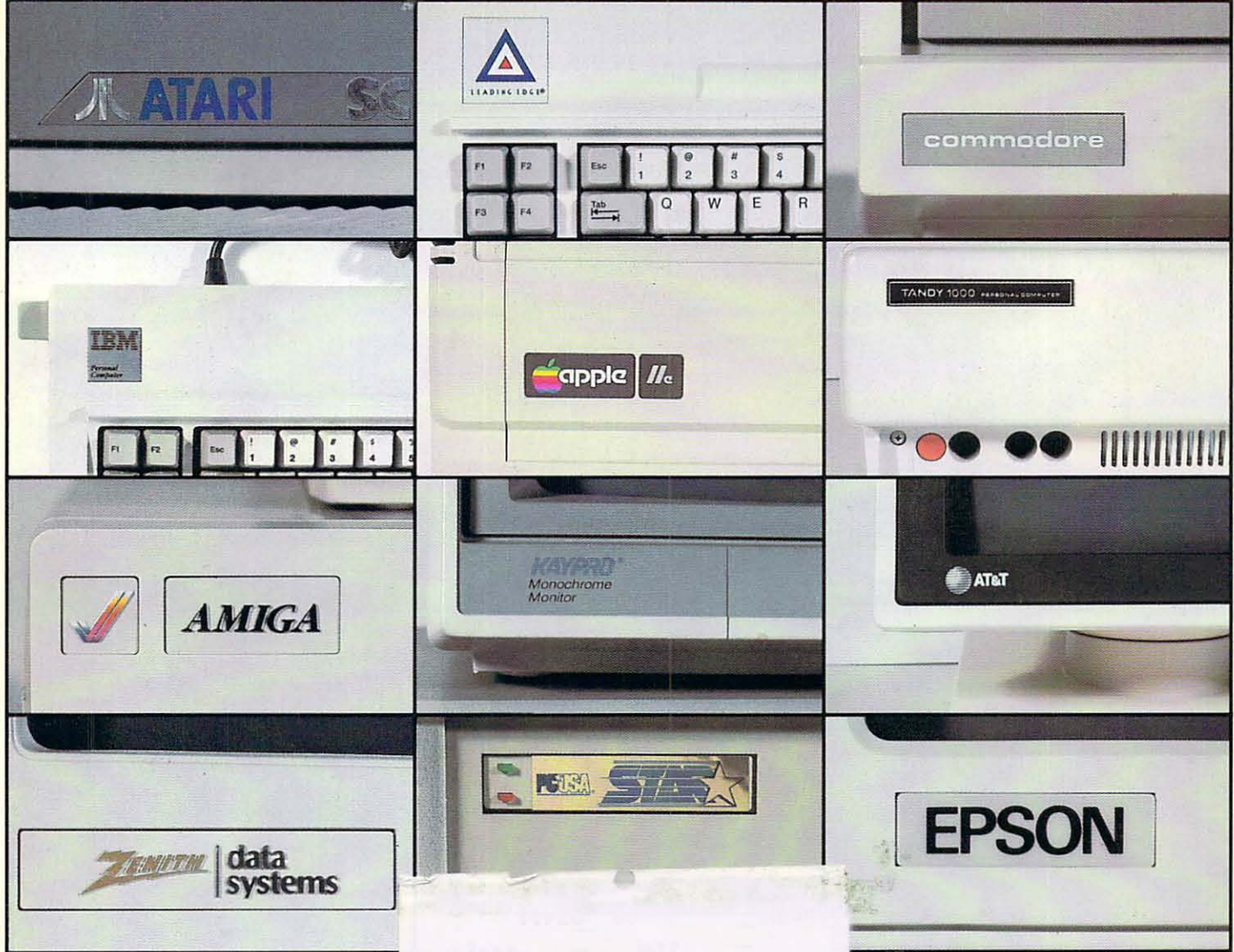


**TAX WRITE-OFFS
HOT NEW TANDYS**

FAMILY COMPUTING

Personal Finances Home Office Word Processing Games Entertainment Home-School Connection Telecomputing

BUYER'S GUIDE TO COMPUTERS



ORIGINAL
 APPLE II S
 800, 600/800
 VIC 20, IBM PC & COMPATIBLES, TANDY COCO
 & MODELS III & 4, TI-99/4A

24
 AT-A-GLANCE
 SOFTWARE REVIEWS

FAMILY COMPUTING

COVER STORY

51 BUYER'S GUIDE TO COMPUTERS

Which computer is right for you? Read our reviews of computers from Apple, AT&T, Atari, Commodore, Epson, IBM, Kaypro, Leading Edge, Tandy, and Zenith.

HOME OFFICE

16 WHY PAY MORE? TAX WRITE-OFFS FOR YOUR HOME BUSINESS

Act now! Find out if you're eligible to claim deductions for your 1986 expenses and equipment. PLUS: A COMPUTER-DEPRECIATION TABLE

32 NETWORKS FOR PROFESSIONALS

Use your modem to stay current with your colleagues and developments in your field.

PERSONAL FINANCE

20 IS YOUR HOUSE WORTH THE MONEY?

Decide whether you should trade in your assets for a better deal—or hold on to what you've got.

PLUS: ASSET ANALYSIS PROGRAM

EDUCATION

12 KEYS TO COMPUTING

Guide your children past hunt-and-peck with these teaching tips and the right keyboarding software.

LIFESTYLE

66 NEW DIRECTIONS IN ELECTRONIC INFORMATION

What are the benefits of electronic information, and what lies ahead? Senior editor Nick Sullivan interviews Bill Dunn of Dow Jones/News Retrieval.

68 COMPUTER CONVERSATIONS

Computers that listen and talk improve the lives of the handicapped, and now businesses and schools are actively applying these technologies.

PLUS: PRODUCT CHART

73 TIPS FROM GRANDMOTHER

Grandma's got a computer, and she knows how to boot it! Wow *your* family with these proven hints from one of our readers.

ENTERTAINMENT

28 BECOME A WINNER! TRICKS FOR MASTERING ARCHON, AUTODUEL, AND MORE

Discover the tricks to becoming an ace at some of the most challenging and entertaining computer games around.

61 BOARD GAMES THAT THINK

Pit your brain against computer-controlled foes that are always ready to play.

PRODUCTIVITY

64 GUIDE TO WRITING WITH COMPUTERS, PART 4: HEADERS AND FOOTERS

Dress up your documents from head to foot with these handy techniques for your word processor.

PROGRAMS IN THIS ISSUE

20 PERSONAL FINANCE

Run *Asset Productivity Analysis* on your IBM PC or compatible or Tandy

76 THANKSGIVING PROGRAM

Help Freddy Fleetfoot grab a gobbler with our *Turkey Chase* program for Apple, Atari, Commodore, IBM PC & compatibles, and Tandy computers.*

88 THANKSGIVING PROGRAM

Make as many wishes as you like with *Wishbone*, for two players. Program for Apple, Atari, Coleco, Commodore, IBM PC & compatibles, and Tandy computers.*

93 ARCADE GAME

Which *Doors* will lead you to the evidence you came for and let you get out alive? Program for Commodore computers.*

99 HEALTH & SAFETY QUIZ

It may taste good, but is it good for you? Test your NQ (nutrition quotient) with *Nutrition*, a program for Apple, Atari, Coleco, Commodore, IBM PC & compatibles, TI-99/4A, and Tandy computers.*

112 MICROTONES

Sing a rollicking tune from the Middle Ages with the accompaniment of *Musical Round* on your Atari, Commodore, Macintosh, or IBM PCjr or compatible computer.*

*See program for specific computer models covered.

HARDWARE

116 NEW HARDWARE & ACCESSORIES

Check out our reviews of the StyleWriter letter-quality printer enhancement, the TransWarp circuit board, the new Blue Chip computer, and the Leading Edge modem.

DEPARTMENTS

5 EDITOR'S NOTE

8 LETTERS

36 MACHINE SPECIFICS
"Orphaned" computers (Adam, TI-99/4A, and Timex) are the latest arrivals in this new department, which also delivers quotes and rumors from and about Apple, Atari, Commodore, IBM, Tandy, and the manufacturers of MS-DOS-compatible hardware.

75 THE PROGRAMMER

107 K-POWER
Reader responses to July's "How Computers Changed My Life Contest," strategy for *Infiltrator*, and more.

122 SOFTWARE GUIDE
Reviews of 24 new and noteworthy programs for education/fun learning, home business/productivity, and entertainment.

128 SOFTWARE REVIEWS
Our reviewers look at several programs in the Guide.

140 ADVERTISER INDEX

Picture Brush Mode Special Font Pref.



DesignWare® grows with your child— to keep learning alive. Year after year.

Most learning software will educate—even entertain—your child. For a week or so. DesignWare not only educates and entertains; it *grows* with your child. All year long.

And because you can choose from several skills levels and can easily add your own homework problems, your child can *continue* to grow with DesignWare programs. Year after year.

But isn't this what you'd expect from a Britannica Learning company?



age 10 and up

Awarded "Best Grammar Program" by *Family Computing*.

THE GRAMMAR EXAMINER™

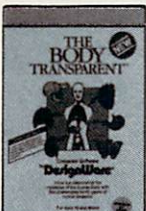
Your children start as newspaper reporters. While learning to edit news stories using correct grammar, they try to make it all the way to Editor in Chief.

STATES & TRAITS™ and EUROPEAN NATIONS & LOCATIONS™

Both programs captivate children as they move shapes and facts on to U.S. and European maps. They become experts at major land forms, capitals and important and historic events.



age 9 and up



age 10 and up

THE BODY TRANSPARENT™

Human biology has never been this much fun to learn. Move bones, organs and facts into correct locations. Learn systems, functions, diseases and more.

For Apple®II, IBM®PC & C64™ computers.

DesignWare®
A Britannica Learning Company

To order or to obtain the name of your nearest retailer, call toll-free, 800-572-2272 or write DesignWare, Inc., Dept. C, 185 Berry Street, San Francisco, CA 94107

CIRCLE READER SERVICE 26

MACHINE SPECIFICS

shell out big dollars up front for the privilege of using the Phoenix BIOS.

The Write Price. If people are buying reasonably priced MS-DOS computers, they expect to buy reasonably priced software, right? Unfortunately, corporate budgets have allowed publishers to charge hundreds of dollars for most worthwhile IBM word-processing packages, and bargains have been hard to come by. I just received one, though. It's *Webster's New World Writer*, from Simon & Schuster.

It combines two top-notch products—the *Webster's New World Spelling Checker* (\$59.95 sold alone) and *Webster's New World On-Line Thesaurus* (\$69.95 sold alone)—and adds a full-featured word processor. The price for the complete package is \$150, so you're getting the word processor for about \$20.

Safety In Numbers. The Model "L" 1200-baud modem from Leading Edge is a Hayes-compatible internal modem. It comes with software and lists at a modest \$149. I can't vouch for its performance yet, but I know one thing I like already: It comes with a 24-month warranty. Leading Edge obviously understands the power of long warranties when it comes to quelling the qualms of buyers who can't afford top-of-the-line brand names. A key factor in my decision to buy their Model D computer was the generous 15-month warranty on that machine.

Contributing editor STEVEN MORGENSTERN can be reached on CompuServe (ID: 72545.606).

ORPHANS

BY PATRICK SPERA

It always gives me a chuckle the way some people are amazed to find me using a Timex Sinclair 1000 (those people who know what one is, I mean!). While my 1000 can do a lot more than most people expect, the problem for the Timex, and all "orphans"—computers whose manufacturers either went bankrupt or left the business—is finding support for it. I hope the information in this and future columns will help end this struggle for Adam, Timex, and TI owners.

Adam 80-Column Video Board. John Lingrel of Orphanware (P.O. Box 324, Canal Fulton, OH

44614) has announced an 80-column video board for the Coleco Adam computer. Currently, the Adam's own screen display is only 32 columns. The card uses the Adam's external slot and will require a separate monitor. (The cost of the board and monitor will be about \$170. The board alone is approximately \$55.) The card will allow the full use of CP/M on the Adam. Also, it adds a serial (RS 232C) port so you'll be able to use third-party modems and printers on your Adam.

Orphanware also sells an internal Centronics interface and 64K RAM expansion cards.

TS 2068 Technical Manual. If you love your TS 2068 and would like to make it do everything that Timex said it could, then you need this technical manual. The first version of this manual was released just as Timex said bye-bye to computers. It was a horrid mess of listings, diagrams, and text, which cost an appalling \$25! The second edition is spiral bound, has over 300 printed pages (not photocopied like the first manual!), and best of all, the errors in the first issue have been corrected.

The manual still costs \$25, but this little gem (if you think a two-pound book is little!) is well worth the cost. To find a copy, check with Timex dealers, or write *Time Designs* magazine, 29722 Hult Rd., Colton, OR 97017. Oh, yeah! They print a bi-monthly Timex Sinclair magazine, too.

TI-99 Computer Fayuh. The Second Annual TI-99 Computer Fayuh will be held in the Greater Boston area on April 4, 1987. It is an all-day affair, with lectures, demonstrations, and the ubiquitous dealers area (and if last year was any indication, lots of TI-99 users!). Many well-known suppliers of TI hardware and software have indicated that they will attend the festivity. Further information and updates can be found on the TI Forum on CompuServe or by writing to the Boston Computer Society (TI-99/4A Club, One Centre Plaza, Boston, MA 02108).

It Can't Happen Here Department. A true story: Paul R. Todd, of Manassas, Virginia, has a friend in the sanitation department. While his friend was making the rounds, he discovered parts of an Adam computer in the trash. Luckily, he recovered all the hardware and software,



Tandy 1000 SX

too. However, the computer was fouled with garbage! It took a lot of cleaning, but the first time Paul powered it up, it ran! As Paul later quipped, "This disproves the saying, 'Garbage In, Garbage Out!'"

TANDY

BY STEVE MILLER

There has been some confusion over Tandy's new policy of fee-based customer support. The main fear is that Tandy's push into the business market will be at the expense of regular customers who can't afford the higher prices. But, it's not quite that bad. "The phone lines to Fort Worth for the average customer are still open," says a Tandy spokesperson. The number comes with your computer when you purchase it.

However, when you buy a Tandy computer you can also purchase a service contract. If you want regional phone support, you must pay for it. You can get a three-month, six-month, or one-year contract.

In addition, there are several phone numbers (not toll-free) you can call in Texas, depending on the nature of your question. For DOS and language support, Color Computers and portables, and home software questions, call (817) 338-2395; for educational software, call (817) 338-2396.

1000 This, 1000 That. The hot-selling Tandy 1000 has been discon-

PATRICK SPERA, who has been in the Air Force for 10 years, started with a Super-Elf kit computer. He then progressed to the Sinclair series. He is the Sysop of the Computer Club Forum (GO CLUB) on CompuServe (ID: 74125.552), which caters to Actrix, Eagle, Sanyo, Panasonic, and Timex/Sinclair users.

tinued and replaced by the 1000 EX (see "Buyer's Guide") and the 1000 SX (see photo). The EX is especially interesting because it brings IBM compatibility within the price range of many families who felt they couldn't afford it before. Many of the cheapie "no-name clones" are priced to compete with Tandy, but they don't have the brand-name authority and backup service that emanates from Fort Worth.

The 1000 SX, however, seems better dressed for the long haul. It comes with 384K, and two built-in disk drives. Also included is *Desk-Mate II*, an improved version of the multi-application program that comes with many Tandy computers. Five expansion slots leave plenty of room for future expansion.

CoCo 3 Gets RGB. More than one million Color Computers have been bought, according to Tandy, and most of them are being used with televisions for screen displays. The CoCo 3 however, can be connected to an RGB color monitor. **FC**

STEVE MILLER, former computer columnist for UPI, writes frequently about computers.

LEARN PROGRAMMING

MASTER COMPUTERS IN YOUR OWN HOME

Now you can write programs and get a computer to do just what you want. Get the most out of any computer, and avoid having to pay the high price of pre-packaged software.



LEARN AT YOUR OWN PACE IN YOUR SPARE TIME

Our independent study program allows you to learn about computers, operations, applications and programming in your spare time, at home. Our instructors provide you with one-on-one counseling.

LEARN EVEN BEFORE YOU DECIDE ON A COMPUTER

Everything is explained in simple language. You will enjoy learning to use a computer—EVEN IF YOU DON'T OWN ONE. Learn to program on any personal computer, IBM, APPLE, COMMODORE, TRS, and more.

BE YOUR OWN COMPUTER EXPERT

Programming is the best way to learn to use computers, and we can show you the best—and most economical—way to learn programming! Send today for your free information package. No obligation. No salesman will call.

halix

CENTER FOR COMPUTER EDUCATION

INSTITUTE 1543 W. OLYMPIC # 226 LOS ANGELES, CA 90015-3894

HALIX INSTITUTE CENTER FOR COMPUTER EDUCATION DEPT.
1543 W. OLYMPIC # 226 LOS ANGELES, CA 90015-3894 5 2 1 1

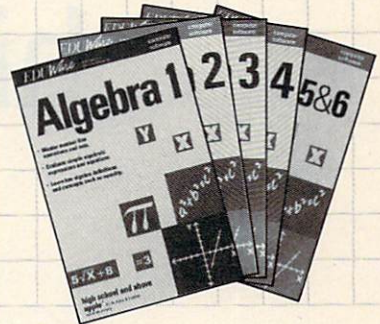
YES! Send me information on how I can learn about computers and programming at home!

Name _____ Age _____

Address _____

City _____ State/Zip _____

If your child is taking first-year Algebra, make sure they're taking it seriously.



With EduWare's comprehensive tutorial series.

With its serious, step-by-step tutorial approach, EduWare's high school Algebra Series first presents terms and concepts. Then gives the rules and applications, followed by step-by-step examples. Plus plenty of problem solving practice with instant feedback.

Each volume in the Algebra series is structured so you can easily help your child select specific lessons to master specific skills. In fact, you can use each volume individually. Or use the entire series.

You won't find a more complete or effective way to help your child take algebra seriously than EduWare's Algebra series. But isn't that what you'd expect from a Britannica Learning company?

Algebra 1: numerals, number lines, number systems and evaluating expressions.

Algebra 2: axioms, solving equations, functions, and inequalities.

Algebra 3: monomials, polynomials, factoring and quadratic trinomials.

Algebra 4: graphing, functions and solving linear equations and inequalities.

Algebra 5 & 6: irrational numbers, radicals, square roots, the Pythagorean Theorem and solving quadratic equations. And a comprehensive posttest on Algebra 1 through 6 that can be printed out.

For Apple® II (1-6), IBM® PC (1-4) & C64™ (1-3) computers.

Other EduWare Tutorials: Fractions, Decimals, Writing and more.

EDUWare®

A Britannica Learning Company

To order or to obtain the name of your nearest retailer, call toll-free, 800-572-2272 or write EduWare Services, Inc. Dept. C, 185 Berry Street, San Francisco, CA 94107

CIRCLE READER SERVICE 27

the PROGRAMMER

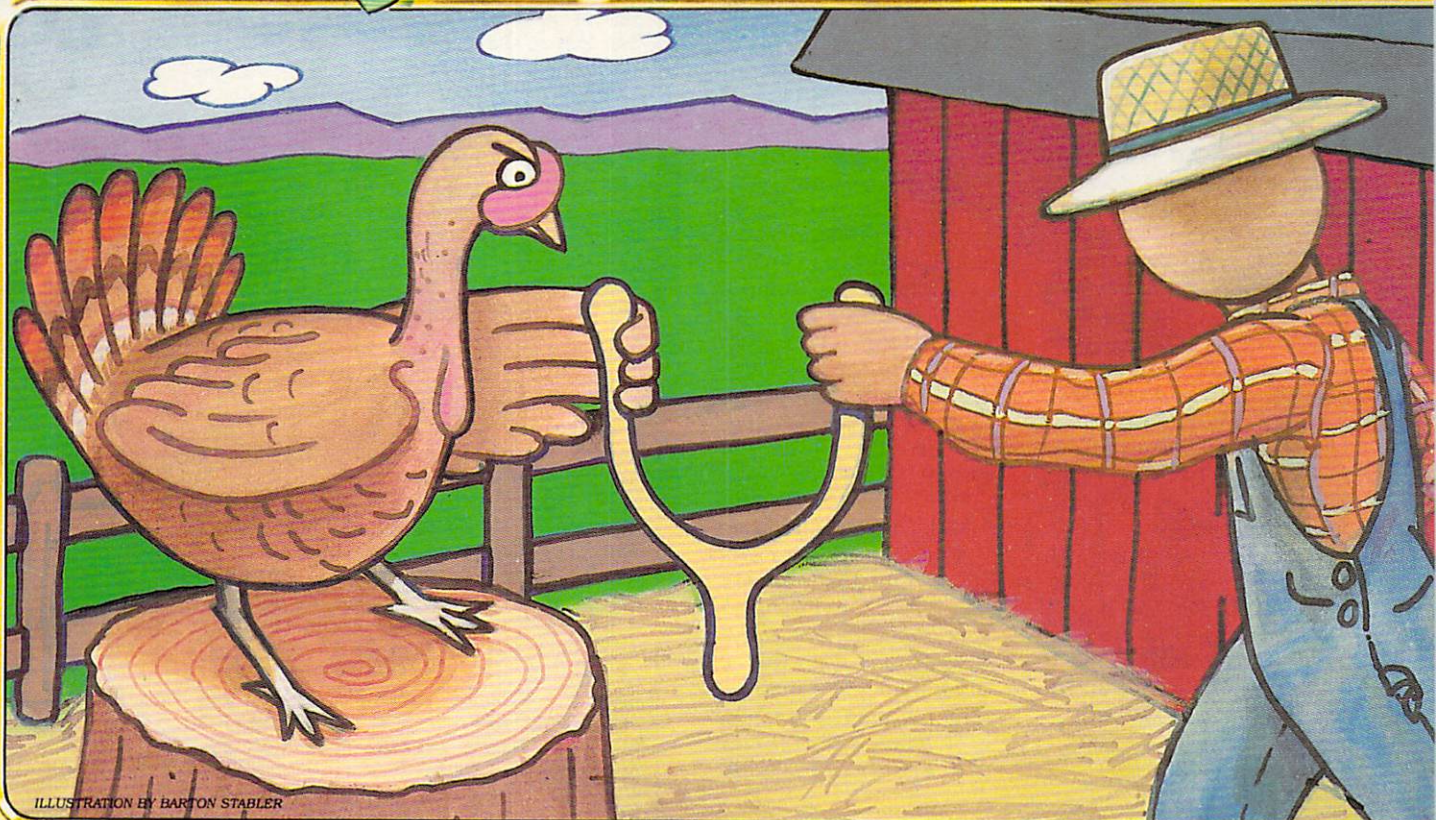


ILLUSTRATION BY BARTON STABLER

★ N O V E M B E R ★

THANKSGIVING PROGRAMS

Work up a Thanksgiving appetite playing *Turkey Chase* (Page 76), and *Wishbone* (Page 88).

ARCADE GAME

Page 93
Electric walls and killer droids menace you. Can you escape before you're vaporized? Find out in *Doors*, a fast-action game for C 64 & C 128 (C 64 mode).

HEALTH AND SAFETY QUIZ

Page 99
Do you know enough about nutrition to plan a healthy, well-balanced daily diet? Test your knowledge of basic food facts with *Nutrition*.

TIPS TO THE TYPIST

Page 92
How to type in FAMILY COMPUTING's programs, and what to do if a program doesn't run.

MORE PROGRAMS IN K-POWER
(Page 112)
and
PERSONAL FINANCE
(Page 20)

ILLUSTRATION BY JIM CHERRY III

Cherry

THANKSGIVING PROGRAM

```
440 NEXT L:GOSUB 4000:IF JF THEN 460
450 IF EX=FX AND EY=FY THEN 490
460 IF C=0 THEN 350
470 MF=-1:L=T(RND(C)):CU=0
480 MX=DR(L,1):MY=DR(L,2):GOSUB 5000:GOTO 290
490 FOR L=1 TO 10
500 PRINT@23,"CONGRATULATIONS!";
510 FOR D=1 TO 40:GOSUB 4000:NEXT D
520 PRINT@23,STRING$(16,32);
530 FOR D=1 TO 10:NEXT D,L:GOTO 600
540 PRINT@64+ZX,CHR$(149);:PRINT@EX,SP$;
550 EY=0:FOR L=1 TO 3
560 FOR X=-62*(L=2) TO 62+62*(L=2) STEP 2*(L=2)+1
570 EX=X:GOSUB 2000:GOSUB 4000
580 IF RND(0)>.8 THEN FOR D=1 TO 30:NEXT D
590 PRINT@X,SP$;:NEXT X,L
600 PRINT@0,"Would you like to try again?";
610 GOSUB 1000:IF K$<>"Y" AND K$<>"N" THEN 610
620 IF K$="Y" THEN 80 ELSE CLS:END
1000 K$=INKEY$:IF K$="" THEN 1000
1010 K=ASC(K$):K$=CHR$(K-32*(K>96)*(K<123)):RETURN
2000 PRINT@EY*64+EX,CHR$(184);:RETURN
3000 PRINT@FY*64+FX,"F";:RETURN
4000 JF=0:K$=INKEY$:IF K$="" THEN 4100
4010 K=ASC(K$):K$=CHR$(K-32*(K>96)*(K<123))
4020 K=0:FOR L=1 TO 8
4030 IF K$=MID$(DKEY$,L,1) THEN K=L:L=8
4040 NEXT L:IF K=0 THEN 4100
4050 NX=FX+DR(K,1):NY=FY+DR(K,2)
4060 Z=Z+1:IF Z=2 THEN EF=-1
4070 IF NX=0 OR NX=62 OR NY=1 OR NY=15 THEN 4100
4080 PRINT@FY*64+FX,SP$;
4090 FX=NX:FY=NY:PRINT@FY*64+FX,"F";:RETURN
4100 JF=-1:RETURN
5000 IF RND(0)>.95 THEN RETURN
5010 PRINT@EY*64+EX,SP$;
5020 EX=EX+MX:EY=EY+MY:PRINT@EY*64+EX,CHR$(184);
5030 CU=CU+1:IF CU=CT THEN MF=0:IF RF THEN ZF=-1
5040 IF EX<>FX OR EY<>FY THEN RETURN
5050 GOSUB 3000:IF MF THEN 5020
5060 EX=EX-MX:EY=EY-MY:GOSUB 2000:RETURN
6000 DATA <1> Beginner,3,<2> Intermediate,6
6010 DATA <3> Advanced,9,<4> Expert,13,<5> Master,19
7000 DATA 0,-1,1,-1,1,0,1,1,0,1,-1,1,-1,0,-1,-1
```

COMPUTERS WE COVER

We regularly present two or more programs in each issue for the Apple II series; Atari 400/800, 600/800XL, & 130XE; Commodore 64 & 128 (in C 64 mode); IBM PC and compatibles; Macintosh; and Tandy Models III/4 and Color Computer. However, occasionally we have to omit versions when a program requires capabilities that some of these computers lack. For example, we usually won't run a Tandy Model III or 4 version of a program featuring sound and/or color graphics. And many Microtones programs can only run on computers that have three voices, which eliminates the Apple II series; IBM PC and compatibles (except the PCjr with Cartridge BASIC and the Tandy 1000); and Tandy Models III, 4, and Color Computer.

In addition, we publish at least one program each issue for the Adam, TI-99/4A, and VIC-20. In the future, we also hope to cover the Atari 520ST and the Amiga. This month, these programs can be found here in The Programmer, in Microtones (in the K-POWER section of FAMILY COMPUTING), and in Personal Finance.

WISHBONE

BY STEVEN C.M. CHEN



Preparing the wishbone from the Thanksgiving turkey is always a fun holiday ritual. You carefully remove the Y-shaped bone, lay it out to dry until it is brittle, and then select one person to challenge in the "tug-of-good luck." If you are successful in snapping the wishbone with the long end in your possession, your wish is supposed to come true. The only problem is that there is only one wishbone in every turkey, and there are usually more than two people who want a crack at it.

This Thanksgiving, you can make as many wishes as you'd like with our *Wishbone* program. The simple game displays a wishbone graphic that can be snapped over and

over again. To play *Wishbone*, you and an opponent each select one side of the bone to "pull." The "Q" key pulls the left side, and the "P" key pulls the right. When you type RUN, the words GET READY! will flash below the wishbone graphic. Place your pinky finger (traditionally, the wishbone is grasped with hooked pinkies) on the chosen key, and when the word GO! appears, each person pulls his or her side of the bone with a quick press of the key. The wishbone will divide on the screen to reveal the lucky winner. Be careful not to press your key before the word GO! appears or you will automatically lose. And, don't forget to make a wish or two!

—KAREN KANE

Adam/Wishbone

```
10 LOMEM: 29000:DIM m$(6):NORMAL:HOME
20 FOR i = 28000 TO 28005:READ a:POKE i,a:NEXT i
30 a$ = "B":sp$ = CHR$(32):li$ = sp$
40 FOR c = 2 TO 10:li$ = li$+sp$:NEXT c
50 m$(1) = LEFT$(li$,4)+a$:FOR c = 2 TO 4
60 m$(c) = LEFT$(li$,5-c)+a$+LEFT$(li$,2+c-3)+a$
70 NEXT c:m$(5) = a$+LEFT$(li$,7)+a$:m$(6) = m$(5)
80 x = 11:GOSUB 1000:CALL 28000
90 PRINT "PRESS <Q>";SPC(12);"PRESS <P>"
100 FOR c = 1 TO 10+RND(1)*9
110 VTAB 19:HTAB 11:PRINT "GET READY!"
120 FOR d = 1 TO 25+RND(1)*25
130 k = PEEK(64885):IF k <> 0 THEN d = 50:c = 19
140 NEXT d:VTAB 19:HTAB 11:PRINT li$
150 IF k <> 0 THEN 190
160 FOR d = 1 TO 6:k = PEEK(64885)
170 IF k <> 0 THEN d = 6:c = 19
180 NEXT d
190 NEXT c:IF k <> 0 THEN 230
200 FOR d = 1 TO 100+RND(1)*100
210 k = PEEK(64885):IF k <> 0 THEN d = 200
```

THANKSGIVING PROGRAM

```
220 NEXT d:IF k = 0 THEN 260
230 GOSUB 2000:IF k <> 80 AND k <> 81 THEN 100
240 GOSUB 3000:x = 1+21*(k = 81):GOSUB 1000
250 x = 2+21*(k = 81):GOTO 350
260 VTAB 19:HTAB 14:INVERSE:PRINT "GO!":NORMAL
270 k = PEEK(64885):z = RND(1):IF k = 0 THEN 270
280 GOSUB 2000:IF k <> 80 AND k <> 81 THEN 270
290 GOSUB 3000:p = 3+2*(k = 81)+INT(RND(1)*2)
300 x = 2+21*(k = 80):t$ = LEFT$(L$,3)
310 FOR c = 1 TO 6:VTAB 10+c:HTAB 10
320 b$ = LEFT$(M$(c),p)+t$+MID$(M$(c),p+1)
330 GOSUB 4000:NEXT c
340 VTAB 19:HTAB 14:PRINT t$
350 VTAB 19:PRINT TAB(X);"WINNER!"
360 CALL 28000:END
1000 FOR c = 1 TO 6:VTAB 10+c:HTAB x
1010 b$ = M$(c):GOSUB 4000:NEXT c
1020 PRINT:PRINT:RETURN
2000 k = k-32*(k > 96)*(k < 123):RETURN
3000 FOR c = 1 TO 6:VTAB 10+c:PRINT TAB(11);L$
3010 NEXT c:RETURN
4000 FOR j = 1 TO LEN(b$):z$ = MID$(b$,j,1)
4010 IF z$ = sp$ THEN PRINT sp$;:GOTO 4030
4020 INVERSE:PRINT sp$;:NORMAL
4030 NEXT j:RETURN
5000 DATA 62,0,50,117,253,201
```

Apple II series/Wishbone

```
10 DIM M$(6):NORMAL:HOME
20 AS = "B":SP$ = CHR$(32):LIS = SP$
30 FOR L = 2 TO 10:LIS = LIS+SP$:NEXT L
40 M$(1) = LEFT$(LIS,4)+AS:FOR L = 2 TO 4
50 M$(L) = LEFT$(LIS,5-L)+AS+LEFT$(LIS,2*L-3)+AS
60 NEXT L:M$(5) = AS+LEFT$(LIS,7)+AS:M$(6) = M$(5)
70 X = 16:GOSUB 1000:POKE -16368,0
80 PRINT "PRESS <Q> KEY.":SPC(12);"PRESS <P> KEY."
90 FOR L = 1 TO 7:RND(1)*7
100 VTAB 18:HTAB 16:PRINT "GET READY!"
110 FOR D = 1 TO 15+RND(1)*15:K = PEEK(-16384)-128
120 IF K > -1 THEN D = 30:L = 14:POKE -16368,0
130 NEXT D:VTAB 18:HTAB 16:PRINT LIS
140 IF K > -1 THEN 180
150 FOR D = 1 TO 3:K = PEEK(-16368)-128
160 IF K > -1 THEN D = 3:L = 14:POKE -16368,0
170 NEXT D
180 NEXT L:IF K > -1 THEN 220
190 FOR D = 1 TO 20+RND(1)*20:K = PEEK(-16384)-128
200 IF K > -1 THEN D = 40:POKE -16368,0
210 NEXT D:IF K < -1 THEN 250
220 GOSUB 2000:IF K <> 80 AND K <> 81 THEN 90
230 GOSUB 3000:X = 3+26*(K = 81):GOSUB 1000
240 X = 4+26*(K = 81):GOTO 340
250 VTAB 18:HTAB 19:INVERSE:PRINT "GO!":NORMAL
260 K = PEEK(-16384)-128:IF K < 0 THEN 260
270 GOSUB 2000:IF K <> 80 AND K <> 81 THEN 260
280 GOSUB 3000:P = 3+2*(K = 81)+INT(RND(1)*2)
290 X = 4+26*(K = 80):T$ = LEFT$(LIS,3)
300 FOR L = 1 TO 6:VTAB 10+L:HTAB 15
310 B$ = LEFT$(M$(L),P)+T$+MID$(M$(L),P+1)
320 GOSUB 4000:NEXT L
330 VTAB 18:HTAB 19:PRINT T$
340 VTAB 19:PRINT TAB(X);"WINNER!"
350 POKE -16368,0:END
1000 FOR L = 1 TO 6:VTAB 10+L:B$ = M$(L)
1010 PRINT TAB(X);:GOSUB 4000:PRINT:NEXT L
1020 PRINT:RETURN
2000 K = K-32*(K > 96)*(K < 123):RETURN
3000 FOR L = 1 TO 6:VTAB 10+L:PRINT TAB(16);LIS
3010 NEXT L:RETURN
4000 FOR J = 1 TO LEN(B$):Z$ = MID$(B$,J,1)
4010 IF Z$ = SP$ THEN PRINT SP$;:GOTO 4030
4020 INVERSE:PRINT SP$;:NORMAL
4030 NEXT J:RETURN
```

Atari 400/800, 600/800XL, & 130XE/Wishbone

```
10 DIM B$(54),LIS(10):GRAPHICS 0
20 POKE 752,1:OPEN #1,4,0,"K:"
30 B$=CHR$(32):B$(54)=CHR$(54):B$(2)=B$:LIS=B$
40 FOR L=1 TO 7:READ T:B$(T)=CHR$(160):NEXT L
50 B$(37)=CHR$(153):B$(45)=CHR$(25)
60 B$(46)=CHR$(124):B$(54)=CHR$(124)
70 PRINT CHR$(125);:X=15:GOSUB 1000
80 POSITION 0,16:PRINT "PRESS <Q> KEY."
90 POSITION 26,16:PRINT "PRESS <P> KEY."
100 K=0:FOR L=1 TO 7+RND(0)*7
110 POSITION 15,16:PRINT "GET READY!"
120 FOR D=1 TO 10+RND(1)*10:IF PEEK(764)=255 THEN 140
130 GET #1,K:D=20:L=14
140 NEXT D:POSITION 15,16:PRINT LIS
150 IF K<>0 THEN 190
160 FOR D=1 TO 3:IF PEEK(764)=255 THEN 180
170 GET #1,K:D=3:L=14
180 NEXT D
190 NEXT L:IF K<>0 THEN 230
200 FOR D=1 TO 20+RND(0)*20:IF PEEK(764)=255 THEN 220
210 GET #1,K:D=40
220 NEXT D:IF K=0 THEN 260
230 GOSUB 2000:IF K<>80 AND K<>81 THEN 100
240 GOSUB 3000:X=2+26*(K=81):GOSUB 1000
250 X=3+26*(K=81):GOTO 330
260 POSITION 18,16:PRINT "GO!"
270 GET #1,K
280 GOSUB 2000:IF K<>80 AND K<>81 THEN 270
290 GOSUB 3000:P=3+2*(K=81)+INT(RND(0)*2)
300 X=4+26*(K=80)
310 FOR L=0 TO 5:S=L+9+1:POSITION 14,9+L
320 PRINT B$(S,S+P-1);LIS(1,3);B$(S+P,S+8):NEXT L
330 POSITION 18,16:PRINT LIS(1,3)
340 POSITION X,17:PRINT "WINNER!"
350 POKE 764,255:POKE 752,0:END
1000 POKE 82,X:POKE 83,X+8:POSITION X,9:PRINT B$
1010 POKE 82,2:POKE 83,39:PRINT:RETURN
2000 K=K-32*(K>96)*(K<123):RETURN
3000 FOR L=9 TO 14:POSITION 15,L:PRINT LIS
3010 NEXT L:RETURN
4000 DATA 5,13,15,21,25,29,35
```

Commodore 64 & 128 (C 64 mode)/Wishbone

```
10 DIM M$(6):PRINT CHR$(147);
20 SP$=CHR$(32):A$=CHR$(18)+SP$+CHR$(146)
30 LIS=SP$:FOR L=2 TO 10:LIS=LIS+SP$:NEXT L
40 M$(1)=LEFT$(LIS,4)+A$:FOR L=2 TO 4
50 M$(L)=LEFT$(LIS,5-L)+A$+LEFT$(LIS,2*L-3)+A$
60 NEXT L:M$(5)=CHR$(182)+LEFT$(LIS,7)+CHR$(181)
70 M$(6)=M$(5):X=15:GOSUB 1000
80 PRINT "PRESS <P> KEY.":SPC(12);"PRESS <Q> KEY"
89 REM --PUT "." INTO MEMORY LOCATION 1783--
90 POKE 1783,46:FOR L=1 TO 8+RND(1)*8
100 POKE 214,17:PRINT:PRINT TAB(15);"GET READY!"
110 FOR D=1 TO 80+RND(1)*80:NEXT D
120 POKE 214,17:PRINT:PRINT TAB(15);LIS
130 GET K$:IF K$<>" " THEN L=16:GOTO 150
140 FOR D=1 TO 8:NEXT D
150 NEXT L:IF K$<>" " THEN 180
160 FOR D=1 TO 150+RND(1)*150:NEXT D
170 GET K$:IF K$="" THEN 210
180 IF K$<>"P" AND K$<>"Q" THEN 90
190 GOSUB 2000:X=3-26*(K$="Q")
200 GOSUB 1000:X=4-26*(K$="Q"):GOTO 320
210 POKE 214,17:PRINT
220 PRINT TAB(18);CHR$(25);"GO!";CHR$(154)
230 GET K$:IF K$="" THEN 230
240 IF K$<>"P" AND K$<>"Q" THEN 230
250 GOSUB 2000:P=3-2*(K$="Q")+INT(RND(1)*2)
260 X=4-26*(K$="P"):T$=LEFT$(LIS,3)
```

NUTRITION

BY KAREN KANE AND STEVEN C.M. CHEN



"In the face of nutritional ignorance, myths and downright quackery have gained a strong foothold," says Jane Brody, nutrition columnist for *The New York Times* in *Jane Brody's Nutrition Book* (Bantam Books, 1982). The book offers a no-nonsense approach to sound nutrition and suggests that people be aware of "nutritional hogwash."

November is "Good Nutrition Month," which is intended to make people aware of the sound nutritional principles and foods that promote healthier and longer lives.

Nutrition is the second program in FAMILY COMPUTING'S *Health and Safety Series*.

**IBM PC & compatibles (80-column version)/
Nutrition**

This program has been tested and found to work on the following computers and hardware configurations, using the BASICs shown: IBM PC w/Color/Graphics Monitor Adapter or Monochrome/Printer Card, w/Disk BASIC D2.00 or Advanced BASIC A2.00. IBM PCjr w/128K RAM, 80-column monitor, and Cartridge BASIC J1.00. Tandy 1000 w/GW-BASIC 2.02 version 01.01.00. (IBM PCjr owners with 64K RAM should use the 40-column version.) It should also work on many other PC compatibles.

```
10 READ IC,QC,FF,CC,EC
20 DIM AS(QC),CMS(CC),EMS(EC),FMS(QC),IMS(IC),QMS(QC)
30 CT=0:SPS=CHR$(32):READ TTS
40 SW=80:KEY OFF
50 FOR L=1 TO IC:READ IMS(L):NEXT L
60 FOR L=1 TO QC:READ QMS(L),AS(L)
70 IF AS(L)="F" AND FF THEN READ FMS(L)
```

To help celebrate good nutrition, try this month's health and safety quiz to test how much you really know about some basic nutrition principles.

Nutrition presents 12 questions that address some general food facts. Respond to each question by pressing the "T" (true) or "F" (false) key. A counter keeps track of the number of correct responses and presents your score when the program is completed. Be sure to retake the quiz if you do not answer all 12 questions correctly. And once you do get a perfect score, investigate further. There are many more interesting facts about the nutritive value of food and how the human body reacts to the foods we eat.

If you typed in last month's *Fire Safety* quiz, you need only delete the DATA statements (lines 8000-9230 for IBM PC, Apple, Tandy Color Computer, Macintosh, and Model III versions; and lines 8000-9500 for Atari and C 64 versions) and replace them with the new DATA statements. We have also added versions for the TI-99/4A and Adam computers.

If you're interested in developing an improved diet that is more healthful, but still practical for your lifestyle, our *Nutrition* program may be a place to start.

LEARN TO TYPE QUICKLY, ACCURATELY
AND FOR KEEPS. WITH...



Type! from Brøderbund is the first software program to take advantage of extensive research on how you learn to type.

It doesn't matter whether you're a beginner or nearly an expert. *Type!*'s interesting lessons and advanced diagnostics can help you—by displaying detailed graphs of your performance and by recommending customized exercises to improve your speed and skill. The program can even save daily results for several people and print out progress reports.

Type! also includes an exciting, arcade-style typing game that will both challenge and entertain you.

Available for... IBM, PC, PC XT, PC AT* and 100% compatibles; Apple II+/IIe/IIc; and Commodore 64/128.

*Supports IBM Monochrome Display Adapter, IBM Color/Graphics Adapter, Hercules Monochrome Graphics Card.

Type! is a trademark of Brøderbund Software, Inc.

Look for **TYPE!** at your local dealer or fill out the order form below, put it in an envelope and mail to:

**SOFTWARE-DIRECT**

P.O. Box 12947, San Rafael, CA 94913-2947 Offer expires Dec. 31, 1986

Name _____ Phone _____

Address _____

City _____ State _____ Zip _____

Computer	Item #	Qty.	Price
IBM	IBMSK-203	_____	× \$49.95 = _____
Apple II	APDSK-31	_____	× \$44.95 = _____
Com 64/128	COMDSK-267	_____	× \$39.95 = _____

Type of Payment

(check one) Check/Money Order _____ SUBTOTAL: _____

MasterCard _____ Visa _____ Calif. residents

Credit Card # _____ add 6% sales tax: _____

Expiration Date _____ Shipping &

To order by phone, please call (415) 479-1185 from Handling: \$3.00

8:30 A.M.-5:00 P.M., Pacific Standard Time. Allow

4-6 weeks for delivery. TOTAL: _____

Signature _____

(required for all credit card orders)

17FCN
NOVEMBER 1986 99

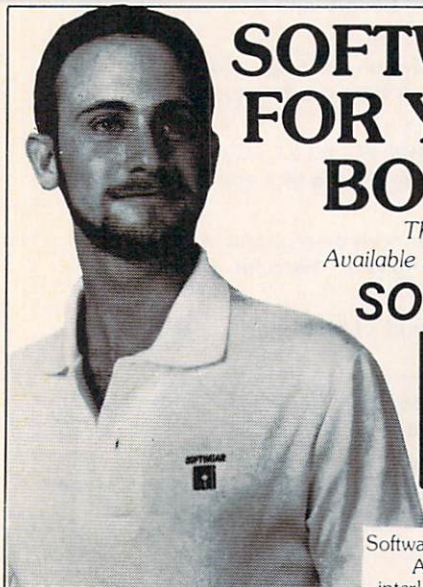
HEALTH AND SAFETY QUIZ

```

80 NEXT L:FOR L=1 TO CC:READ C$(L):NEXT L
90 READ R$(L):FOR L=1 TO EC:READ E$(L):NEXT L
100 GOSUB 1000:IF IC>1 THEN PF=-1 ELSE PF=0
110 C=1:M$=IMS(1):GOSUB 2000:GOSUB 3000
120 FOR L=1 TO QC:GOSUB 1000:M$=QMS(L)
130 GOSUB 2000:PRINT:PRINT "<T>rue or <F>alse? ";
140 GOSUB 5000:IF K$<>"T" AND K$<>"F" THEN 140
150 PRINT K$:PRINT:PRINT
160 IF K$=AS(L) THEN M$=CMS(INT(RND*CC)+1):GOSUB 6000:
CT=CT+1:GOTO 200
170 PRINT "Sorry, the correct answer is ";AS(L);"."
180 FOR S=1 TO 3:SOUND 500,6:SOUND 800,5:NEXT S
190 IF AS(L)="F" AND FF THEN PRINT:M$=FMS(L):GOSUB 200
0
200 GOSUB 3000:NEXT L:CLS
210 PRINT "You had";CT;"correct out of";STR$(QC);"."
220 PRINT:IF CT=QC THEN M$=RMS:GOSUB 2000:END
230 FOR L=1 TO EC:M$=EMS(L):GOSUB 2000:NEXT L
240 PRINT:PRINT "Would you like to try again?";
250 GOSUB 5000:IF K$<>"Y" AND K$<>"N" THEN 250
260 IF K$="Y" THEN CT=0:GOTO 100 ELSE END
1000 CLS:COLOR 0,12:LOCATE 1,(SW-LEN(TT$))/2
1010 PRINT TT$:COLOR 2,0:PRINT:RETURN
2000 IF LEN(M$)>SW THEN 2040
2010 IF NOT PF THEN N$=M$:GOSUB 4000:RETURN
2020 C=C+1:M$=M$+SP$+SP$+IMS(C):IF C=IC THEN PF=0
2030 GOTO 2000
2040 Y=SW+1:Z=1:FOR X=Y TO 2 STEP -1
2050 IF MID$(M$,X,1)=SP$ THEN Z=0:Y=X:X=2
2060 NEXT X:N$=LEFT$(M$,Y-1):GOSUB 4000
2070 M$=RIGHT$(M$,LEN(M$)-Y+Z):GOTO 2000
3000 M$="PRESS <SPACE BAR> TO CONTINUE."
3010 LOCATE 23,1:GOSUB 6000
3020 IF INKEY$<>SP$ THEN 3020 ELSE RETURN
4000 IF LEN(N$)=SW THEN PRINT N$;:RETURN
4010 PRINT N$:RETURN
5000 K$=INKEY$:IF K$="" THEN 5000
5010 K=ASC(K$):K$=CHR$(K-(K>96)*(K<123)*32):RETURN
    
```

```

6000 PRINT TAB((SW-LEN(M$))/2);M$:RETURN
8000 DATA 3,12,-1,4,1,NUTRITION
9000 DATA NUTRITION is a True/False quiz that tests yo
ur knowledge of basic food facts.
9010 DATA "The more you know about foods and their nut
rients, the more likely you are to practice good nutri
tion."
9020 DATA Answer the following questions by pressing <
T> if the statement is true or <F> if the statement is
not true.
9030 DATA "1. The four basic food groups are meats, fr
uits and vegetables, bread and cereal products, and da
iry products.",T
9040 DATA 2. It is important to get a variety of foods
from each food group every day.,T
9050 DATA 3. Milk provides more nutritive value per se
rving than any other naturally existing food.,T
9060 DATA 4. Sugar is a fat.,F
9070 DATA Sugar is a carbohydrate.
9080 DATA 5. Carbohydrates are the body's primary sour
ce of energy.,T
9090 DATA 6. Cooking a fresh vegetable adds to its nut
ritional value.,F
9100 DATA Uncooked vegetables contain more vitamins th
an cooked vegetables.
9110 DATA 7. It is not possible to get too many vitam
ins.,F
9120 DATA "Fat-soluble vitamins (A, D, E, and K) can b
uild up to toxic levels if taken in excess."
9130 DATA 8. A calorie is a unit of measuring energy.,
T
9140 DATA 9. One hundred calories from an apple has th
e same fuel value as 100 calories of peanut butter.,T
9150 DATA 10. Skipping breakfast is a good way to cut
calories.,F
9160 DATA Breakfast is the most important meal of the
day.
9170 DATA 11. Protein is the most important component
of the human diet.,F
9180 DATA "Water is. We need about one liter for ever
y 1,000 calories we eat."
9190 DATA "12. Vitamin D, necessary for strong bones a
nd teeth, can be depleted from exposure to the sun.",F
9200 DATA Sunlight is one of our main sources of vitam
in D.
9210 DATA Fantastic!,Good Thinking!,Great!,Wonderful!
9220 DATA You have an excellent sense of good nutritio
n!
9230 DATA You could stand to learn a little more about
nutrition.
    
```



SOFTWARE FOR YOUR BODY

The Original!
Available For The First Time!

SOFTWARE



tm

Software YOU CAN WEAR!

A 100% cotton. Quality interlock knit shirt. sports the SOFTWARE logo and the universal symbol of the Micro Computer Age. a floppy disk. Embroidered shirt comes in White, Yellow, Red, Gray, and Navy (white logo) with button placket, ribbed collar and cuffs and vented tail. Made in U.S.A.

Sizes S, M, L, and XL.
Childrens sizes S, M, & L.

\$19.95 ^{\$2 ship.}
& hand.

100% Satisfaction Guaranteed

Apple II series/Nutrition

```

10 READ IC,QC,FF,CC,EC
20 DIM A$(QC),C$(CC),E$(EC),F$(QC),I$(IC),Q$(QC)
30 SW = 40
40 CT = 0:SP$ = CHR$(32)
50 READ TT$:FOR L = 1 TO IC:READ I$(L):NEXT L
60 FOR L = 1 TO QC:READ Q$(L),A$(L)
70 IF A$(L) = "F" AND FF THEN READ F$(L)
80 NEXT L:FOR L = 1 TO CC:READ C$(L):NEXT L
90 READ R$(L):FOR L = 1 TO EC:READ E$(L):NEXT L
100 GOSUB 1000:PF = 0:IF IC > 1 THEN PF = 1
110 C = 1:M$ = IMS(1):GOSUB 2000:GOSUB 3000
120 FOR L = 1 TO QC:GOSUB 1000:M$ = QMS(L)
130 GOSUB 2000:PRINT:PRINT "<T>RUE OR <F>ALSE? ";
140 GOSUB 5000:IF K$ <> "T" AND K$ <> "F" THEN 140
150 PRINT K$:PRINT:PRINT
160 IF K$ = AS(L) THEN M$ = CMS(INT(RND(1)*CC)+1):GOSU
B 6000:CT = CT+1:GOTO 210
170 PRINT "SORRY, THE CORRECT ANSWER IS ";AS(L);"."
180 FOR S = 1 TO 3:PRINT CHR$(7);:FOR D = 1 TO 20
190 NEXT D:PRINT CHR$(7);:NEXT S
200 IF AS(L) = "F" AND FF THEN PRINT:M$ = FMS(L):GOSUB
2000
    
```

CALL TOLL FREE
1-800-526-7443 Ext. 747
N.J. RESIDENTS
1-800-522-4503 Ext. 747
Master Card and Visa Accepted Or Mail
\$19.95 plus \$2.00 shipping and handling to.

SOFTWARE INTERNATIONAL
PO. BOX 1532, LAKEWOOD, N.J. 08701

Name _____
Address _____
State _____ Zip _____
Size _____ Color _____

```

210 GOSUB 3000:NEXT L:HOME
220 PRINT "YOU HAD ";CT;" CORRECT OUT OF ";QC;". "
230 PRINT:IF CT = QC THEN MS = RMS:GOSUB 2000:END
240 FOR L = 1 TO EC:MS = EMS(L):GOSUB 2000:NEXT L
250 PRINT:PRINT "WOULD YOU LIKE TO TRY AGAIN? ";
260 GOSUB 5000:IF K$ <> "Y" AND K$ <> "N" THEN 260
270 IF K$ = "Y" THEN CT = 0:GOTO 100
280 END
1000 HOME:INVERSE:HTAB (SW-LEN(TT$))/2
1010 PRINT TT$:NORMAL:PRINT:RETURN
2000 IF LEN(MS) > SW THEN 2050
2010 IF NOT PF THEN NS = MS:GOSUB 4000:RETURN
2020 C = C+1:MS = MS+SP$+SP$+IMS(C)
2030 IF C = IC THEN PF = 0
2040 GOTO 2000
2050 Y = SW+1:Z = 1:FOR X = Y TO 2 STEP -1
2060 IF MIDS(MS,X,1) = SP$ THEN Z = 0:Y = X:X = 2
2070 NEXT X:NS = LEFT$(MS,Y-1):GOSUB 4000
2080 MS = RIGHT$(MS,LEN(MS)-Y+Z):GOTO 2000
3000 MS = "PRESS <SPACE BAR> TO CONTINUE."
3010 VTAB 23:HTAB 1:GOSUB 6000
3020 GOSUB 5000:ON K <> 32 GOTO 3020:RETURN
4000 IF LEN(NS) = SW THEN PRINT NS;:RETURN
4010 PRINT NS:RETURN
5000 GET K$:K = ASC(K$):IF K = 3 THEN PRINT:END
5100 K$ = CHR$(K-(K > 96)*(K < 123)*32):RETURN
6000 PRINT TAB((SW-LEN(MS))/2);MS;:RETURN

```

After you have typed in the above lines, add the DATA statements (lines 8000-9230) from the IBM PC 80-column version.

Atari 400/800, 600/800XL, & 130XE/Nutrition

```

10 READ IC,QC,FF,CC,EC,SL
20 DIM A$(QC),CMS(CC*SL),EMS(EC*SL),FMS(QC*SL)
30 DIM IMS(IC*SL),K$(1),MS(SL),NS(SL),Q$(1)
40 DIM QMS(QC*SL),RMS(SL),SP$(1),TT$(40),X$(SL)
50 DIM Y$(SL),Z$(SL)
60 SS=PEEK(82):POKE 82,0:OPEN #1,4,0,"K:"
70 CT=0:SP$=CHR$(32):Q$=CHR$(34):READ TT$
80 FOR L=1 TO IC:GOSUB 1000:IMS(SL*L-SL+1)=X$:NEXT L
90 FOR L=1 TO QC:GOSUB 1000
100 QMS(L*SL-SL+1)=X$:READ X$:A$(L,L)=X$
110 IF A$(L,L)="F" AND FF THEN GOSUB 1000:FMS(L*SL-SL+1)=X$
120 NEXT L:FOR L=1 TO CC:GOSUB 1000
130 CMS(L*SL-SL+1)=X$:NEXT L:READ RMS
140 FOR L=1 TO EC:GOSUB 1000:EMS(L*SL-SL+1)=X$:NEXT L
150 GOSUB 2000:PF=0:IF IC>1 THEN PF=-1
160 C=1:MS=IMS(1,ASC(IMS(SL))):GOSUB 3000:GOSUB 4000
170 FOR L=1 TO QC:GOSUB 2000
180 MS=QMS(L*SL-SL+1,L*SL-(SL-ASC(QMS(L*SL))))
190 GOSUB 3000:PRINT :PRINT "<T>true or <F>alse? ";
200 GOSUB 6000:IF K$<"T" AND K$<"F" THEN 200
210 PRINT K$:PRINT :PRINT :PRINT
220 IF K$=A$(L,L) THEN X=INT(RND(0)*CC)+1:MS=CMS(X*SL-SL+1,X*SL-(SL-ASC(CMS(X*SL)))):GOSUB 7000:CT=CT+1:GOTO 260
230 PRINT "Sorry, the correct answer is ";A$(L,L);". "
240 FOR S=15 TO 0 STEP -1:SOUND 1,10,12,S:NEXT S
250 IF A$(L,L)="F" AND FF THEN PRINT :MS=FMS(L*SL-SL+1,L*SL-(SL-ASC(FMS(L*SL)))):GOSUB 3000
260 GOSUB 4000:NEXT L:PRINT CHR$(125);
270 PRINT "You had ";CT;" correct out of ";STR$(QC);". "
280 PRINT :IF CT=QC THEN MS=RMS:GOSUB 3000:END
290 FOR L=1 TO EC:MS=EMS(L*SL-SL+1,L*SL-(SL-ASC(EMS(L*SL)))):GOSUB 3000:NEXT L
300 PRINT :PRINT "Would you like to try again? ";
310 GOSUB 6000:IF K$<"Y" AND K$<"N" THEN 310
320 IF K$="Y" THEN CT=0:GOTO 150
330 POKE 82,SS:END
1000 Y$="":F=0

```

DEAL DIRECT WITH THE DISTRIBUTOR!

CALL FOR PRICE QUOTES ON ALL YOUR SOFTWARE & HARDWARE NEEDS!

IBM COMPATIBLES

FREE MONITOR!



DISKETTES

MEMOREX

Boxes of 10

5 1/4 SS/DD	5.99
5 1/4 DS/DD	10.99
5 1/4 DS/DD HD	24.99
3 1/2 MF1	14.99
3 1/2 MF2	22.99

BULK DISKETTES

5 1/4 DS/DD	Minimum 100 . . . 49¢ EA.
-------------	---------------------------

BONDWELL 34

- MS-DOS & PC-DOS compatibility
- 640KB RAM
- 5 expansion slots
- 2 360KB drives

\$895

WITH FREE MONITOR!

BONDWELL 8

Laptop Portable

- Weighs 10 lbs.
- IBM PC compatible
- 512KB RAM
- Built-in modem

\$1295



EPSON

IBM Compatible

PC Equity I CALL ABOUT
 XT Equity II FREE QUOTES &
 AT Equity III GIVE AWAY!

Epson Printers

LX-86	299.
FX-85	490.
FX-286	668.
LQ & EX Series In Stock	CALL
IBM Printer Cable	19.95

IBM CARDS

Color Graphics	
w/Printer Port	95.
Multi I/O Card	109.
Mono w/Printer Port	95.
Game Card 1 Port	39.
Game Card 2 Ports	49.
EGA Adaptor Card	CALL
Seagate or Lapine 20 meg hard drive w/controller	469.

PRINTERS

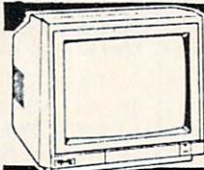
Seiksha w/built-in Commodore interface and NLO	179.
Panasonic 1091 SPECIAL	226.
Star Micronics NX-10	235.

COMMODORE

C64	CALL
1541	159.
128	249.
1571	229.
1902A	CALL

ACCESSORIES

Storage Case Reg.	14.95 . . . 9.95
Surge Protector	
Reg.	79.95 29.95
Xetec Super Graphic Interface	
for Commodore	59.95
for PC Jr.	39.95
Joysticks: IBM	29.95
C64, 128	14.95



MAGNAVOX MONITORS

8505 RGB/Color Composite	199.
8562 RGB/Color Composite	249.
8515 RGB/Analog 2 yr. warr.	269.
Amber or Green TTL Monitor	79.
Reg. Composite Monitor	59.
Our New EGA Monitor	CALL

Universal Management & Marketing



138 Prospect Ave.
 Hewlett, NY
 11557



800-468-4689
 IN NY CALL 516-599-4647



MasterCard, Visa, Money Order or Check. NY orders add sales tax.
NO EXTRA CHARGE FOR VISA OR MASTERCARD!

Send \$5 for catalog & additional specials.
 Corporate, School & Dealer Inquiries Welcome!

No returns without authorization number.
 All products are new merchandise sold with manufacturers warranties.
 All prices & availability subject to change without notice.
 Prices are mail order only and do not include shipping and handling.

CALL FOR OUR OTHER NY LOCATIONS!

HEALTH AND SAFETY QUIZ

```
70 IF A$(L)="F" AND FF THEN READ FMS(L)
80 NEXT L:FOR L=1 TO CC:READ CMS(L):NEXT L
90 READ RMS:FOR L=1 TO EC:READ EMS(L):NEXT L
100 GOSUB 1000:IF IC>1 THEN PF=-1 ELSE PF=0
110 C=1:MS=IMS(1):GOSUB 2000:GOSUB 3000
120 FOR L=1 TO QC:GOSUB 1000:MS=QMS(L)
130 GOSUB 2000:PRINT:PRINT "<T>RUE OR <F>ALSE? ";
140 GOSUB 5000:IF K$<>"T" AND K$<>"F" THEN 140
150 PRINT K$:PRINT
160 IF K$=A$(L) THEN MS=CMS(RND(CC)):GOSUB 6000:CT=CT
+1:GOTO 200
170 PRINT "SORRY, THE CORRECT ANSWER IS ";A$(L);"."
180 FOR S=1 TO 3:SOUND 150,3:SOUND 100,2:NEXT S
190 IF A$(L)="F" AND FF THEN PRINT:MS=FMS(L):GOSUB 20
00
200 GOSUB 3000:NEXT L:CLS
210 PRINT "YOU HAD";CT;"CORRECT OUT OF";STR$(QC);"."
220 PRINT:IF CT=QC THEN MS=RMS:GOSUB 2000:END
230 FOR L=1 TO EC:MS=EMS(L):GOSUB 2000:NEXT L
240 PRINT:PRINT "WOULD YOU LIKE TO TRY AGAIN?";
250 GOSUB 5000:IF K$<>"Y" AND K$<>"N" THEN 250
260 IF K$="Y" THEN CT=0:GOTO 100 ELSE END
1000 CLS:PRINT$(SW-LEN(TTS))/2,TTS:RETURN
2000 IF LEN(MS)>SW THEN 2040
2010 IF NOT PF THEN NS=MS:GOSUB 4000:RETURN
2020 C=C+1:MS=MS+SPS+SPS+IMS(C):IF C=IC THEN PF=0
2030 GOTO 2000
2040 Y=SW+1:Z=1:FOR X=Y TO 2 STEP -1
2050 IF MID$(MS,X,1)=SPS THEN Z=0:Y=X:X=2
2060 NEXT X:NS=LEFT$(MS,Y-1):GOSUB 4000
2070 MS=RIGHT$(MS,LEN(MS)-Y+Z):GOTO 2000
3000 MS="PRESS <SPACE BAR> TO CONTINUE."
3010 PRINT$(SW*15,"");:GOSUB 6000
3020 K$=INKEY$:IF K$<>SPS THEN 3020 ELSE RETURN
4000 IF LEN(NS)=SW THEN PRINT NS:RETURN
4010 PRINT NS:RETURN
5000 K$=INKEY$:IF K$="" THEN 5000
5010 K=ASC(K$):K$=CHR$(K-(K>96)*(K<123)*32):RETURN
6000 PRINT TAB((SW-LEN(MS))/2);MS:RETURN
```

After you have typed in the above lines, add the DATA statements (lines 8000-9230) from the IBM PC 80-column version.

TI-99/4A w/TI Extended BASIC/Nutrition

```
10 DIM A$(12),CMS(4),EMS(1),FMS(12),IMS(3),QMS(12)
20 READ IC,QC,FF,CC,EC
30 CT=0 :: SPS=CHR$(32):: READ TTS
40 SW=28
50 FOR L=1 TO IC :: READ IMS(L):: NEXT L
60 FOR L=1 TO QC :: READ QMS(L),A$(L)
70 IF A$(L)="F" AND FF THEN READ FMS(L)
80 NEXT L :: FOR L=1 TO CC :: READ CMS(L):: NEXT L
90 READ RMS :: FOR L=1 TO EC :: READ EMS(L):: NEXT L
100 GOSUB 1000 :: IF IC>1 THEN PF=-1 ELSE PF=0
110 C=1 :: MS=IMS(1):: GOSUB 2000 :: GOSUB 3000
120 FOR L=1 TO QC :: GOSUB 1000 :: MS=QMS(L)
130 GOSUB 2000 :: PRINT :: PRINT "<T>rue or <F>alse? "
;
140 GOSUB 5000 :: IF K$<>"T" AND K$<>"F" THEN 140
150 PRINT K$ :: PRINT :: PRINT :: PRINT
160 IF K$=A$(L) THEN MS=CMS(INT(RND*CC)+1):: GOSUB 6000
:: CT=CT+1 :: GOTO 200
170 PRINT "Sorry, the correct answer is ";A$(L);"."
180 FOR S=1 TO 3 :: CALL SOUND(200,300,3):: CALL SOUND
(200,600,3):: NEXT S
190 IF A$(L)="F" AND FF THEN PRINT :: MS=FMS(L):: GOSU
B 2000
200 GOSUB 3000 :: NEXT L :: CALL CLEAR
210 PRINT "You had";CT;"correct out of ";STR$(QC);"."
220 PRINT :: IF CT=QC THEN MS=RMS :: GOSUB 2000 :: END
230 FOR L=1 TO EC :: MS=EMS(L):: GOSUB 2000 :: NEXT L
240 PRINT :: PRINT "Would you like to try again?";
250 GOSUB 5000 :: IF K$<>"Y" AND K$<>"N" THEN 250
260 IF K$="Y" THEN CT=0 :: GOTO 100 ELSE END
```

```
1000 CALL CLEAR :: MS=TTS :: GOSUB 6000
1010 PRINT :: PRINT :: RETURN
2000 IF LEN(MS)>SW THEN 2040
2010 IF NOT PF THEN NS=MS :: GOSUB 4000 :: RETURN
2020 C=C+1 :: MS=MS&SPS&SPS&IMS(C):: IF C=IC THEN PF=0
2030 GOTO 2000
2040 Y=SW+1 :: Z=1 :: FOR X=Y TO 2 STEP -1
2050 IF SEG$(MS,X,1)=SPS THEN Z=0 :: Y=X :: X=2
2060 NEXT X :: NS=SEG$(MS,1,Y-1):: GOSUB 4000
2070 MS=SEG$(MS,Y-Z+1,LEN(MS)):: GOTO 2000
3000 MS="Press <SPACE BAR>."
3010 PRINT :: PRINT :: GOSUB 6000
3020 CALL KEY(3,K,S):: IF K<>32 THEN 3020 ELSE RETURN
4000 IF LEN(NS)=SW THEN PRINT NS:;: RETURN
4010 PRINT NS :: RETURN
5000 CALL KEY(3,K,S):: IF S=0 THEN 5000
5010 K$=CHR$(K):: RETURN
6000 PRINT TAB((SW-LEN(MS))/2);MS :: RETURN
```

After you have typed in the above lines, add the DATA statements (lines 8000-9230) from the IBM PC 80-column version.

MODIFICATIONS FOR OTHER COMPUTERS

Adam/Nutrition

Use the Apple version, except change line 30 to read as follows:

```
30 SW=31
```

IBM PC & compatibles (40-column version)/Nutrition

This program has been tested and found to work on the following computers and hardware configurations, using the BASICs shown: IBM PC w/ColorGraphics Monitor Adapter, w/Disk BASIC D2.00 or Advanced BASIC A2.00, IBM PCjr w/Cartridge BASIC J1.00, Tandy 1000 w/GW-BASIC 2.02 version 01.01.00. It should also work on many other PC compatibles.

Use the IBM PC 80-column version, except change line 40 to read as follows:

```
40 SW=40:KEY OFF
```

Macintosh w/Microsoft BASIC 2.0 or 2.1/Nutrition

Use the IBM PC 80-column version, except change lines 40, 1000, and 1010 to read as follows:

```
40 SW=84:CALL TEXTFONT(4):CALL TEXTSIZE(9):WINDOW 1,TT
$(0,38)-(527,338):WIDTH 85
1000 CLS:PRINT
1010 RETURN
```

Tandy Models III & 4 (Model III mode)/Nutrition

Use the Color Computer version with the following alteration. Delete line 180. Also, change line 30 to read as follows:

```
30 SW=64
```

FREE CATALOGS!

TI 99/4A

C-64, C-128

Our catalogs, The Everything Book for the TI 99/4A and The Everything Book for the C-64, C-128 are packed full of the newest software, hardware, books, accessories and much more! The prices are low, the service is dependable, and you can order toll-free!! Request your catalog today!

Order Toll Free
1-800-348-2778

or write



P.O. Box 6578
South Bend, IN 46660
219-259-7051

CIRCLE READER SERVICE 72

ADAM		
Data Pack (Adam)		1/\$3.95 - 10/\$37.50
Ribbon Cart (Adam)		1/\$5.50 - \$3/15.00
Daisy Wheel (Adam)-Italic Script Elite		1/\$5.50
Adam Covers - Set with Logo		\$17.95
PACKCOPY - Backup SmartBASIC, etc.		\$29.95
DIABLO - Mind challenge - Graphic		\$19.95
EBU - SmartBasic - Data Pack or Disk		\$21.95
MULTIWRITE-DP-64column World Processor		\$37.95
HACKERS GUIDE TO ADAM - Disk or DP		\$17.95
TurboLOAD - Speeds up loading programs		\$27.95
SIGNSHOP-DP-Design & Printing System		\$22.95
RIB - Basic tutor for Adam - SPECIAL		\$24.95
64K MEMORY EXPANDER		\$69.95
DIGITAL DATA DRIVE		\$24.95
TRACTORT FEED for Adam printer		\$79.95
PRINTER STAND - Front ON/OFF switch		\$19.95
AMIGA™ - Atari™ ST Series		
DIABLO-Graphic Mind-Challenge Game		\$29.95
DISK LIBRARY-File Catalog Search More		\$49.95
DEALER INQUIRIES INVITED		
3 1/2" DISK (SS DD)	10/\$20.95 - 1/\$2.19	
3 1/2" DISK (DS DD)	10/\$27.99 - 1/\$2.99	
DISK HOLDER - 3 1/2" up to 30 disks		\$12.95
AMIGA COVERS - Set with Logo & mouse		\$21.95
AMIGA COVERS - Disk drive - 1010 ro 1020		\$7.39
ATARI COVERS - 520 ST SYSTEM SET		\$34.95
All AMIGA™ and Atari™ ST software, write for low prices		
Paper T/F-F/F White 9 1/2 - 11, 20 lb	1000/\$20.95	
Labels T/F-F/F (Address)	1000/\$6.95	
3 1/2" DISK LABELS T/F-F/F	100/\$8.95	
S&H - \$2.50 US		
S&H - \$4.50 CN		
US \$s only		
	VISA	M W RUTH CO Dept F11
	MASTER	510 Rhode Island Ave
	FREE CATALOG	Cherry Hill, NJ 08002
		(609) 667-2526

Amiga is a reg trademark of Commodore Corp
Atari is a reg trademark of Atari Corp

CIRCLE READER SERVICE 43

UNIQUE GIFTS PERSONALIZED SIGNS

UP TO 50 FEET LONG!



Buy the BANNER MACHINE program and make signs or give the program as a gift. Examples were printed with the PC version of the program. You get numerous: letter styles & sizes, graphic symbols, borders and background shades.

HOLIDAY SPECIAL!
C-64 \$49.95 NOW \$34.95 + S&H
PC \$149.95 NOW \$79.95 + S&H
OFFER EXPIRES 12/31/86

800 762-5645

Cardinal Software
14840 Build America Drive
Woodbridge, VA 22191
Info: (703) 491-6494

CIRCLE READER SERVICE 13

ADAM

IS ALIVE AND WELL

We at the NIAD ADAM USERS GROUP are committed to the ADAM as our growing number of members are aware of. We provide a support service to the ADAM owner via a monthly newsletter packed with programs, instructions, tips, product reviews, and a discount buying service --

Featuring hardware from
EVE ELECTRONIC SYSTEMS
SERIAL/PARALLEL INTERFACE —
for other printers
SPEECH SYNTHESIZER/CLOCK
CALENDAR
64K MEMORY EXPANDER
80 COLUMN VIDEO/EXPANDER
and more to come

SOFTWARE—Over 75 titles in stock including SmartBEST/TRIX, Paintmaster, Signshop, Multiwrite. Over 300 additional Public Domain programs!

NIAD P.O. BOX 1317 LISLE, IL 60532

CIRCLE READER SERVICE 52

Create Speech!

With your PC or Compatible

Announcing... The PEH-1 Speech CREATOR



- Educational - Help learn languages
 - Fun - Create any word the way you want it
 - Easy to use - Menu-driven software
 - Attaches to any program
 - External Speech Unit - No slots needed
- Requires 68K and MS Dos 2.0 or Higher

Order now for the Holidays! Visa, Mastercard accepted

only \$139! ION Morristown Airport Morristown, NJ 07960 only \$139!

Phone orders- (201) 267-6800 (201) 326-9896

Money Back Guarantee 1 year limited warranty

Catalog with SASE

CIRCLE READER SERVICE 38

New Graphics for Print Master™ Newsroom™ and Print Shop™

Steele Publishing has just released a series of inexpensive graphics disks including new pictures, borders and fonts. Priced from \$9.95 to \$12.95, these disks are NOT PUBLIC DOMAIN, but warranted, supported products. Avail. in Apple, IBM & C64 formats.

Sample disk & catalogue \$9.95 (CA res. add 6.5%) plus \$2.50 S/H. Specify a computer & one program.

Steele Publishing
P.O. Box 5493
Concord, CA 94524

CIRCLE READER SERVICE 68

FAMILY COMPUTING cannot be responsible for the accuracy of description, but will attempt to screen out misleading and/or incorrect statements.

Give Your Product or Service a Boost with Classified Exposure

Cost-effectively reach the more than 1 million FAMILY COMPUTING readers who want information on computing and computer-related products.

Active, aware users of: Apples, Ataris, Coleco's, Commodores, Franklins, IBMs, Tis, Timex Sinclairs, TRSs, etc. who have an ongoing interest in system upgrade, adding peripherals, writing programs, acquiring software, joining data bases, bulletin boarding, and accessing you.

CATEGORIES:

*ANNOUNCEMENTS
BOOKS/MANUALS
BUSINESS OPPORTUNITIES
COMPUTER REPAIR
FOR FREE/TO SWAP
HARDWARE
MISCELLANEOUS
NOVELTIES
SMALL BUSINESSES
SOFTWARE
TELECOMPUTING
USED COMPUTERS/SOFTWARE
USERS' GROUPS

RATES:

Cost per line per issue:
In 1 issue: \$18.95
In 3 consecutive issues: \$15.95
In 6 consecutive issues: \$14.50
In 12 consecutive issues: \$13.60
3-line minimum
34 characters per line, including spaces and punctuation
25 characters per line, including spaces and punctuation, in all caps or boldface
\$15 additional for all/any boldface or italic lettering
25% additional for toned background
*Announcements: 2 line minimum, \$13.60 per line
Classified Display rates available upon request

TO PLACE YOUR AD:

- Print or type your copy
- Determine number of lines
- Decide frequency
- Send to FAMILY COMPUTING
730 Broadway
New York, NY 10003
Attn: Classified

Or call us at (212) 505-3587 and we will help you write an ad with real FAMILY pulling power. All P.O. Box/Mail Order insertions must submit PHONE NUMBER for our records.

Ads received by the 20th of the month will appear in the issue approximately two months following receipt of the ad.
Visa/MC Welcome

BOOKS/MANUALS

START IN HOME COMPUTING
"101 Things To Do With Your Home Computer." Send \$3 to Bill Bangert
Dept. 101, 14511 Parkside Woods,
San Antonio, TX 78249-1439

THE ALL NEW 2nd EDITION
ADAM-RESOURCE-DIRECTORY
\$14.95 post paid or SASE for info.
P.O. Box 90-F, Seelyville, IN 47878

Hacker's ADAM, all new, Vol. 2, \$13
Schematics, BASIC decoded, B. Hinkle,
117 Northview Rd., Ithaca, NY 14850

WORDSTAR & MAILMERGE Instructional/
Reference Manual IN A NUTSHELL.
Fast, easy w/special tricks/shortcuts
\$8 CAPES, Box 9052, Scottsdale, AZ 85252

DISK SERVICE MANUAL (\$20); DISK DRIVE TUTORIAL (\$15); PRINTER & PLOTTER MANUAL (\$15); COPIER MANUAL (\$15); COMPUTER PHEAKING (\$15); ABSOLUTE COMPUTER SECURITY (\$15); CRYPTANALYSIS TECHNIQUES (\$15); information (\$1); COMSUMERTRONICS, 2011 Crescent Dr., Alamogordo, NM 88310.

ADAM OWNERS: "A Program A Month" SASE for info. WATT 2601 B. Marietta Ave. Kenner, La 70062, 504-464-6894

BUSINESS OPPORTUNITIES

PERSONAL COMPUTER OWNERS
CAN EARN \$1,000 TO \$5,000
MONTHLY SELLING SIMPLE SERVICES PERFORMED BY THEIR COMPUTER. WORK AT HOME - IN SPARE TIME. GET FREE LIST OF 100 BEST SERVICES TO OFFER. WRITE: C.I.L.C.K., P.O. BOX 60369, SAN DIEGO, CA 92106-8369.

BUSINESS OPPORTUNITIES continued on next page

CLASSIFIED

HUNDREDS WEEKLY! BECOME
Circular Mailer. No Quotas!
Sincerely Interested, Rush stamped
envelope to: NATIONAL MAILING,
Box 19759-FC11, San Diego, CA 92119.

Computer Owners
Earn \$500 to \$1000 per week
Dealers wanted. S & S Computer
Systems, Inc. 3700 Northfield Rd
Suite E, Beachwood, OH 44122.
216-991-9775

MAKE BIG BUCKS WITH YOUR PC!
I've got the software and the
marketing plan! Easy! Fun! Great
any age! Students welcome! Free
Info. "Hot Lists" Computerized
Mailing Lists, Box 815F Flushing NY 11362

CONSUMERS' GOODS

New for ADAM: easy VIDEO TITLES
with music. Works with SmartLOGO™
\$19/DDP post paid-Skala Enterprises
7742-17th Way N., St. Pete, FL 33702

VIDEO TITLES
NO Camera Necessary
Second V.C.R.
Character Generator
Custom and Preset Titles • Blank-Out
Commercials • Full Color Control •
\$29.95 Scrolling and Much More
POST PAID
Specify Disk / Tape and APPLE II •
ATARI • COM 64 • IBM • VIC-20
VIDEOWARE (313) 626-7208
1977 W 12 Mile Rd. Suite 180 Southfield MI 48075

**Computer Program Puts Titles
on Any Video Tape**

FOR FREE TO SWAP

FREE TI-99/4A SOFTWARE
Write for details: Alpha Company,
162 Chapel Dr., Churchville, PA 18966

FREE CATALOG TI-99/4A
Hardware, software, accessories.
Competition Computer 2629 W. National
Milwaukee, WI 53204 (414) 672-4010

ATTENTION RS COCO OWNERS
FREE Color Computer Catalog!!!
CoCoNuts, Box 21272, Woodhaven, NY 11421

EXPAND SOFTWARE LIBRARY with swapp-
ing network. NO PURCHASE OR FEES.
Send \$1 and long SASE for details.
Include PC brand & specs. Distinct
Impressions, Box 587, Duluth, MN 55801

HARDWARE

FREE List: We sell ATARI 2600, 5200 &
Coleco cartridges, also XL software.
VILLA VIDEO, Box 17131, Milw, WI 53217
Modems: our BBS (414) 265-5149, 24 Hrs

ADAM Discount hardware & soft-
ware. Send stamped addressed en-
velope for **FREE** flyer. **DATA BACKUP**
Box 335, Iona, ID 83427

SINCLAIR QL / TIMEX 2068
FREE CATALOG. MASTER CHARGE/VISA
KNIGHTED COMPUTERS
707 Highland St. Fulton, NY 13069
(315) 593-8219

ADAM compatible products
64K expansion card \$49.95
parallel interface \$59.95
UNIVERSAL INTERFACE SYSTEMS
Suite 133-20465 Douglas Cr.
Langley, British Columbia V3A 4B6

Clone Kits, Modems, Hard Drive Kits
Disk Drives, Diskettes, Printers,
Memory ICs. Distributor Pricing to
End Users & Dealers Free Shipping
For Catalog Call 800-833-2600
In Ohio 513-531-8866

ADAM, AMIGA, ATARI 520-ST OWNERS!
Let The Adam Depot be your one stop
Computer Center for all your HW/SW
needs. Cat., 25¢, specify computer.
Visa/MC THE ADAM DEPOT 419 Ridway Ave
Johnsonburg, PA 15845 (814) 965-2487

ADAM 64K \$45 US For orders or info
Hard/Software—SPECTRUM ELECTRONICS
14 Knightswood Cr. Branford, ONT
N3R 7E6 Visa/Amex 519-753-4688

CLASSIFIED

LOWEST POSSIBLE PRICES ANYWHERE!
FULL WARRANTY! Most Brands!
Computers-audio-video products!!
ELECTRIFIED DISCOUNTERS
996 ORANGE AVENUE, WEST HAVEN, CT
06516, MC/VISA **203-937-0106**

EPSON QX-16 COMPUTER SYSTEM!
NEW! Complete with 2 disk drives
and monitor. With valdocs-2, CPM &
MS DOS-\$500 of software FREE!-List
\$2,700 Sale! **\$895** ELECTRIFIED
DISCOUNTERS **203-937-0106**

OKIDATA ML-93 PRINTER!
160 CPS & NLQ With tractor!
Parallel or IBM version. List \$900
While they last! \$379 ELECTRIFIED
DISCOUNTERS **203-937-0106**

SINCLAIR QL-\$299.95-68008 W 128K
2 Drives-4 Prgs-WP/SS/DB/BG + More
CURRY COMPUTER PO 5607 Glendale AZ
85312-5607 PH: 602-9782902 **FREE CAT**

DISCOUNT SOFTWARE/HARDWARE
Apple, Commodore, TI-99, Atari, IBM-PC
30% below retail. TI ext.-BASIC \$59
Gemini nx10 \$249. Legend 808 \$155
Printer Interface: TI-\$55, Atari-\$25
Atari 1050 Disk Drive \$139, Atari
130 XE Computer \$139, Atari \$20 ST
w/color monitor \$785, TI writer \$29.
Over 500 software titles. Send \$1
for cat. Specify computer 716-688-
0469. **MULTI VIDEO SERVICES** BOX 246
E. AMHERST, NY 14051.

MISCELLANEOUS

TS2068 Floppy Disk Interface and
CPM and more. Aerco, Box 18093,
Austin, TX 78760. (512) 451-5874.

SAVE \$ S
PRINTER RIBBONS * GUARANTEED
Full Cartridges-No Shorts or Refills
*Epson MX/FX/RX 70/80-86.25 *Gemini
10/15, Okidata 82/83/92/93-83.95
Commodore 801/803-88.75 *Commodore
1525/1526, Legend 800/880, Banana,
Spirit 80-\$7.95 *Imagewriter-\$7.50
Min. order \$10. Add \$2 S&H per order
Book Keepers, 944-10th, Sidney, NE 69162

HALF PACK DISKETTES
Lifetime Warranty
5-5/4" SS/DD Diskettes... \$9ppd.
5-5/4" DS/DD Diskettes... \$10ppd.
(no minimum order)
Check or Money Order (US funds) to
EASY CHAIR SHOPPING
380 Fifth Ave., Suite #574
New York, NY 10018
NYS residents add 8 1/4% sales tax
(available in Continental US only)

Ruining your disk envelopes? Try
the only ENVELOPES with WINDOWS!
\$4.95/10 or \$1/sample. Clearview,
Box 7542, Eugene, OR 97401

For a complete Price list-Shop & Save
Call or write today. California
Supply Center. PO Box 143, Elk Grove,
CA 95624. (916) 689-3037

THE 50/50—High-tech design,
dust-free **DISKETTE FILE BOX**
w/ snap lock, carrying handle & num-
ber feet. 5 plastic dividers organize
50 DS/DD 5 1/4" DISKETTES
w/ hub rings, labels and static-free
Tyvek sleeves. Diskettes are CERTIFIED 100% ERROR FREE
and spec 50% HIGHER than ANSI standard. **LIFETIME**
GUARANTEE. Send **\$50.50** + \$3.50 sh for each
50/50. Check/MO/VISA/MC (IL res. add 8%) If credit card,
state card number and expiration date.—Signature required.
PRECISION MEDIA & SYSTEMS, INC.
2421 West Pratt Chicago IL 60645 (312) 764-8305

SOFTWARE

The Picks-86! Pro Football picking
game! Compete with friends/family.
A unique disk for only \$12. Send
SASE for more info - Epic Software
Box 1153 West Hanover, MA 02339
Apple II family with printer

ADAM SOFTWARE. All kinds for
BUSINESS. Also home finance, recipe,
educ., games, others too! NEW VOICE
SYNTHESIZER! SASE for catalog. STEVE
JACOBY, Box 11205, Clearwater FL 33516

SAVE 38% on Software!!!
Davidson's Math Blaster
Retail **\$49.95** our price **\$30.97**
Free price list. Specify Apple, IBM, C 64.
CREATIVE COMPUTER RESOURCES
Box 728, Grand Haven, MI 49417

FREE PROGRAMS!! T199/Adam/all TRS80,
Appl. IBMpc, C'dore, Timx. Send stamps!
Ezra, Box 52222N, San Diego, CA 92105

COPY CLONE XL for C64. Duplicate pro-
tected disks for archival purposes, 95%
effective, +30 utility. \$24.95 + \$2 s/h
EDUTECH, 1106 2nd St. #174,
Encinitas, CA 92024, (619) 942-3838

PLAY TV'S "WHEEL OF FORTUNE"
C64/128 Great fun for all Ages!
Snd \$14.95, M. Day 4747 Snow Dr/A
San Jose, CA 95111, Indc. D or T
Also SOFTWARE CLUB/SASE for info

TI-99/4A Software/Best Selections **Free
catalog** MICRO BIZ HAWAII
P.O. Box 1108 Pearl City, HI 96782

S3 GETS YOU COOKING
Diskette cookbook series IBM-PC
25 cookbooks or create your own!
Free catalog/demo disk \$3.
Vanilla Software, 3345F Lakeshore
Oakland, CA 94610 415-482-4756

PRO FOOTBALL ANALYST
BEAT THE POINT SPREAD!
GUARANTEED!
Only 5 minutes a week & your local
newspaper is all it takes to find
hidden overlays in the betting
line. Winning season guaranteed or
your money BACK! \$34.95 (+ 4.55 sh)

LOTTO PICKER
BE A LOTTO MILLIONAIRE!
LOTTO! PICK-4! DAILY NUMBERS!
* All U.S. & Can. Games Included!
* Improves Your Odds! * Expandable!
* Get the Edge. Order now. 29.95 + sh
RIDGE 170 B'dway, #201F, NYC 10038
Orders Only 1-800-341-1950 ext 77
MC, VISA, AMEX. IBM/C64/T199 versions

FREE SOFTWARE
IBM, C-64, C-128 & CPM computers
send SASE for info (list computer):
PUBLIC DOMAIN USERS GROUP
Box 1442-FA, Orange Park, FL 32067

FUN CHILDREN'S SOFTWARE
Over 120 low-cost programs for kids
T199/4A and C64. Free brochure.
KIDware
Box 9762, Dept. F, Moscow, ID 83843

STARFLEET I The space strategy hit
for IBM PC is now on APPLE II, C64
and ATARI ST **FREE CATALOG**
INTERSTEL, POB 57825, WEBSTER TX, 77598;
CALL or WRITE TODAY (713) 486-4163

INSTANT LETTERS with INSTA-LETTER.
Not a word processor. This easy-to-
use program contains over 35 skeleton
letters such as request, thank you, com-
plaint and more. You personalize it. For
business or home. Uses APPLE II series
with 80 cld card & printer. Rush \$49.95
to Word Weavers P.O. Box 617, Dept 113,
Kent, Wa 98032 Wa. res add 8.1% tax.
4-6 wks deliv
SATISFACTION GUARANTEED!

FREE APPLE SOFTWARE
Over 1000 Public Domain Programs on
50 diskettes. \$5 Each plus \$1
shipping per order. Send \$1 for
catalog refundable with order.
C & H ENTERPRISES
Box 29243, Memphis, TN 38127

TI-99/4A & SC FASTEXT 80
Interface Software-Control All
Facets. Req 32K, XB, \$19.95 for Disk
MCKEHNIE, POB 2784, Fairfax, VA 22031

TI-99/4A Software/Hardware bargains.
Hard to find items. **Huge selection.**
Fast service. Free catalog. **DYNET**
Box 690, Hicksville, NY 11801

IBM PC & JR SOFTWARE CLUB
Paradise Computer Works, R.D. 1
Box 273A, Newark Valley, NY 13811

C 64 AND IBM-PC SOFTWARE CHEAP!!!
Send for your catalog of game,
home management, business, utility
and educational software available
and you will also receive a disk
utility program listing free along
with details on how to make money
at home with your personal computer.
PACEWARE, INC Box 64-A
Pompano Beach, FL 33074

ADAM SOFTWARE
VIDEOTUNES-Compose and play music.
AUTOAID-improves basic. FORTH-
language interpreter/compiler.
FUTUREVISION, P.O. Box 34-FC
N. Billerica, MA 01862 Visa/MC
SEND FOR FREE ADAM CATALOG

ATTENTION IBM-PC & COMPATIBLES
5 Super Graphic Programs: \$12.95
Free Catalog, Send Stamped Envelope.
Alpha Company, 162 Chapel Dr. Dept 2
Churchville, PA 18966

Send IBM formatted diskette & postage
for 9 demo programs. *cheapware
4038 N. 9th St, St Louis MO, 63147.

MY WORD! JUST \$35
Full featured word processor for
IBM PC/jr/AT or most compatibles.
Features: merge-print, calculators,
sort, macros, color, word wrap, search/
replace, block ops, all 256 characters
100+ operations. 30 day money back
guarantee. Includes 150-page
printed manual. COD add \$3.

T.N.T. SOFTWARE
34069 Hainesville Road
Round Lake, IL 60073
CALL (312) 223-8595

* ADAM software, SASE for catalog. *
* ADAMagic, 1634 N. Thompson Dr. *
* Bay Shore, NY 11706

TANDY 1000. Programs/Newsletters
Send for Info. Soda Pop SW,
P O Box 653, Kenosha, WI 53141

SPACE PIRATES
Design ships and lead your fleet
to battle. The strategy of chess
and the fun of star battle games.
Color IBM PC, Apple II 64k. Send
\$22.50 to Fourfront Tech. Inc.,
160 Quinapoxet Lane, Worcester
MA 01606; (617) 853-3216

**** CAR OWNERS ****
Increase resale value of your car,
truck, ?? **VEHICLE RECORD SYSTEM**
tracks mileage & expenses for gas,
travel, loans, maintenance, tires,
and more. Computes MPG & Cost/Mile.
Easy to use menus. Very flexible.
MINIMUM requirements: IBM PC jr, IBM
PC or compatible, 80 cld display, 1
360 K drive, 128K Memory, DOS 2.00.
Only \$30 CK/MO to: K-Jon Softstuff
FCA, POB 1878, Lewiston, ID 83501

PENNY STOCKS
Play and Learn how to invest
in the PENNY STOCK MARKET!
BASIC Program only \$9.95
For IBM PC/ APPLE/ C 64/ ATARI
Sanyo 1100/ IBM Compatibles
Send check or money order to:
POLLARD'S SOFTWARE CREATIONS
P.O. BOX 1731
BARSTOW, CA 92311

INTRODUCING... PRO-CAL 5000! A C-64 PROGRAM WITH ALL BASIC FUNCTIONS. ADV. TRIG. QUADRATIC & GEOMETRIC EQUATIONS. 4 MEMORIES & PRINT OPT. MAKES IT ONE OF THE MOST POWERFUL CALCULATORS AVAILABLE. SUP. LTD. SEND \$16.50 - MYHRE ENT. P.O. BOX 189, COMMERCE CITY, CO 80037 @ 1986

COMMODORE: TRY BEFORE YOU BUY Top 25 best selling-games, utilities, educational, + classics & new releases hundreds of titles. Visa/MC Free Brochure. Rent-A-Disk. Frederick Bldg. #345 Huntington WV. 25701 CALL (304) 529-3232

Mail List 130 for Atari 130 XE \$25. Specify 810 or 1050 drive. Sample Disk \$5. Von Com Company POB 14585 Pittsburgh PA 15234

ADAM SOFTWARE ACCESSORIES Printshop PS Extra each \$9.95 for members and \$14.95 for non-members. Send SASE for catalog & info Visa/MC CME PO Box 339 Eastlake, CO 80614

IBM-PC And Compatibles

11 Action game programs PLUS a Word Processor PLUS a Mailing List program all in Basic on ready-to-run disk. Run'em; List'em; Change'em. Learn Basic. Requires a color graphics card. Send \$9.00 to: SCREEN ONE-F. Box 306, Lake Hiawatha, NJ 07034

* \$3.00 SOFTWARE IBM/PC/Jr * 5 DISKS assortment \$15.00 or SASE Gillette, Box 145, S. Sioux City, NE 68776

IBM PC & compatibles, TS 2068 Transcribe, compose, play, and save music with our **MUSICIAN ROYAL** software. Send \$20.00 for a disk (IBM) or cassette (TS 2068) and comprehensive manual. Or send \$3.00 for a demo and detailed description of this fascinating new program. ELECTRET SCIENTIFIC CO. P.O. Box 4132, Star City, WV 26505

Topnotch Software for IBM Pc/Ms-Dos/Pcjr. Business, educational, games, and utility disks. Send for catalog to: Morning Star Industry, P.O. Box 3095, Ann Arbor, MI. 48106

REAL PINOCHLE FOR PC. C64 4-hand, 2-deck, for #1 \$21. J. Bernard, 301 Forest, Bellevue, NE 68005

IBM & TRS-80 Model III/4/4P/4D/CC Educational, Bio-Rhythms, & Games Free Catalog: Aladdin Software Co. 1001 Colfax St, Danville, IL 61832

SOFTWARE

Educational, games, sm. business. 20% to 40% off retail. Top Apple, IBM programs. 4th year personalized service. FREE shipping, specify computer. FREE brochure. Soft Source-R Dept. D Box 2931 Joliet, IL 60435

DISCOUNT SOFTWARE: Apple/Atari Commodore/IBM/TRS/Amiga/Sinclair Catalog + \$5 Coupon send \$1 to: WMJ DATA SYSTEMS, 4 Butterfly Dr. Hauppauge, NY 11788

NEW FOR ADAM... MEGEQUEST Great graphic adventure game! #15.95 DP/\$13.95 disk (plus \$2 P&H) Send SASE for ADAM or C-64 catalog REDDY SOFTWARE, 10085 60th Street, Alto, MI 49302

ADAM & APPLE SPECIALS. GRAPHICS II: ("3D", Artmotion, more) \$39, now \$29 DESK SET: Calc-File-Mail \$39, now \$29 ADAM TIPS & TRICKS \$13: TYPETEST \$18 CASHFLOW FINANCIAL PACKAGE: Cashflow Inventory, Bus. pk. 3/1 (was \$39) \$29 BUSINESS GRAPHS PACK was \$29 now \$20 ADAM 2nd DATA DRIVE \$29 (\$20 w/order) ADAM SOFTWARE LIBRARY: 70% off. \$39 AMDEK 3" DISK DRIVE, Apple IIe, c 899 44 Stamps for Adam or Apple catalog NICKELODEON GRAPHICS 5640 W. Brown, Glendale, AZ 85302

Public Domain IBM Software 4 different packages 1) Business, 2) personal, miscellaneous, 4) game package. Buy 2 get 3rd 1/2 price; buy 3 & get fourth free. Each package \$20 Postage inc. VISA/MC/CK/MO to: CEI 13802 Little York, Houston Texas 77044. Call 713-458-6888



SSWIN WITH THOROUGHBRED, HARNESS & Dog Handicapping Software... \$29.95. enhanced... \$49.95. Pro Football handicapping system... \$39.95. For most computers. Free information. SOFTWARE EXCHANGE, Box 5382F W. Bloomfield, MI. 48033. (313) 626-7208

ATARI 8-BITers
The best PD software for your Atari 100+ disks to choose from! \$5.00 ea. Catalog with SASE. Gatorsoft, Box 1215, Gainesville, FL 32602.

Extra Digital Data Drive	\$19
64K Memory Expander	\$45
Parallel Printer Interface	\$69
ADAMLink Modem	\$75
CP/M 2.2 & Assembler (Disk, DP)	\$39
SignSHOP-prints signs, notices, posters, etc.	\$22
MultiWRITE-64Col word processor	\$36
PaintMASTER-drawing & painting program	\$22
ADAM Ribbons	\$5.50
DatapacksPre-formatted \$3.50	10/\$29
Tractor Feed Assembly	\$69

FREE CATALOG-EVERYTHING FOR ADAM ALPHA-ONE LTD
1671 East 16th St., Suite 146
Dept. FC, Brooklyn, NY 11229
(718) 336-7612 S/H\$2.50 USA, \$4.50 Can

<<< NEW FOR ADAM >>>
FLIPPY DATAPACKS: Use both 128k units. \$4.50 each. STARTER KIT: init/backpack pgms & 2 blank flippys \$25.95. **VERIBACK:** backup with read & write verify, \$19.95. Orders or FREE catalog: Practical Programs, Box 244, Kalamazoo, MI 49005-0244

Commodore-64-plus-4-128
6-Farm Aid programs- all on disk. All for \$10. ppd. SPECK PROGRAMS, PO Box 141, Pine City, MN 55063

ADAM SOFTWARE & HARDWARE
BLANK DATA PACKS PRE-FORMATTED:
E & T BRAND 1/\$3.00 10/\$27 20/\$49
LORAN BRAND 1/\$3.50 10/\$32 20/\$54
SOFTPACK 1 checkbook/mailling \$18.95
BUSINESS 1 mailing/inventory \$18.95
BACKUP 3.0 copy program. \$18.00
TURBOLOAD fast pgm. loader \$27.95
MULTIWRITE 64 col. Word P. \$37.95
SIGNSHOP banners, signs, etc. \$22.95
MEGA-AID utility package \$19.95
64K MEMORY EXPANDER \$50.00
PRINTER INTERFACE \$50.00
SHIPPING-\$2.50 U.S. \$4.50 CANADA
VISA/MC 22¢ STAMP FOR CATALOG TO:
E & T SOFTWARE P.O. BOX 821242
DALLAS TX 75382-1242 (214) 340-8913

ADAM! ADAM! ADAM! ADAM! NEW!!! MEGAUTIL
This is a massive utility designed to be the last you will ever need. Fill Buffer, Write Buffer, X-pand Directory, Disk Init, Rename, Edit (BIN, ASCII, HEX, DEC). Plus you get the CopyWriter Copy Utility as an extra. Comes with PD modules. **NO ROYALTIES DISK OR DDP \$32.95** For details call/write (804) 460-5227
MARATHON COMPUTER PRESS
PO BOX 68503, VA Beach, VA 23455

Atari 8 Bit-Full function Business DBMS any drive(s) upgrades—GL/AR/AP/Inv/Mail/WP/400 pg manual. 9000 records/disk. Miser. 1635-A Holden Orlando, FL 32809. (305) 857-6014

PC VIDEO GUIDE
Friendly software for IBM PC (and compatibles). Displays/prints-out personalized program listings. Ideal for cable, satellite, VCR. Guaranteed. \$39.95 to Mt. Vernon Media, Mt. Vernon VA 22121-0289.

APPLE PUBLIC DOMAIN SOFTWARE
CAT. \$2.00 OR 3.00 CAT. & DEMO DISK FREE DISK WHEN YOU PLACE ORDER. **B & L CONSULTANTS & SALES**, BOX 461 WABASH, IN 46992 (219) 563-7650 VISA & M.C. IBM PUBLIC DOMAIN \$1.00 CAT.

FREE IBM & APPLE SOFTWARE
Public Domain. Over 200 Disks! Games, Bus., Ed., Uty. Free Catalog, send stamp/name/address to: P.D. Club P.O. Box 6877, Hwd., FL 33081

FINALLY!
Complete color educational software catalog-1500 popular s'ware titles 122pg. for Apple, Atari, Com, Mac, IBM New educational video section-Send \$3.00 Visions-Educational Software P.O. Box 834 Southfield, MI 48037

FREE! PUBLIC DOMAIN SOFTWARE!
MS-DOS, IBM & Compatibles-Save \$\$\$ @ \$3.50 per disk! Free info: AP-JP Inc, Box 1155, W. Babylon, NY 11704

FREE CATALOG for TIMEX 2068 and SINCLAIR QL hardware & software. VARIETY SALES, 325 W. Jersey St. #2-D Elizabeth, NJ 07202 (201) 527-0535.

SQUARE ROOT—Apple II \$10 + 6 1/2 AZ sales tax - R. Dandrea 737 E. 8th St, Mesa, AZ 85203

ATTENTION TI99/4A OWNERS
See Our Ad Under "Direct Access"
99/4A National Assistance Group (305) 583-0467

FINAL LIQUIDATION!! NEW, NAMEBRAND, SURPLUS SOFTWARE, AND MANUALS, FOR MS-DOS COMPUTERS. 10% OFF WITH THIS AD. FREE CATALOG!! GIL ELECTRONICS DEPT 5, BOX 1628, SOQUEL, CA 95073

PROGRAMS, IBM & compatible, less than \$4.00/disc. FREE CATALOG!!!! PSCa, Box 1057-C, Capitola, CA 95010

GRADESEASE for teachers-Electronic gradebook (C-64/128 or IBM comp) \$19.95 + \$2 p/h to **SOFTWARE**, 11919 Barrytree Dr, Houston, TX 77070

IBM PUBLIC DOMAIN SOFTWARE \$3.00 per disk. Good quality DS/DD disk. Over 500 volumes, 24 HOUR DELIVERY. Send 2 stamps for list: Windward Public Software-FC P.O. Box 4630, Kaneohe, HI 96744

"LET'S INTEGRATE OUR CIRCUITS" T-SHIRT
\$7.50 + \$1.00 S/H Each
Colors: Off-White, Lt. Blue, or Raspberry. Sizes: S, M, L, XL. Specify color & size. One Residents add 6.5% sales tax.
C.J. SHIRTS
P.O. Box 21308, Cleveland, OH 44121

AMIGA PD SOFTWARE—GAMES, Graphics, Utilities. Over 25 disks \$5.95 ea.! Sase for List: Aware, PO Box 19474, Jacksonville, FL 32245

Get Your Free C-64/128 Software catalog. PANTHER SOFTWARE: 5425M ALBEMARLE, CHARLOTTE, NC 28212

TELECOMPUTING
New! Bulletin Board #'s
Put your MODEM to good use with the most updated NATIONWIDE BBS listing. Send \$3.75: CJ INNOVATIONS PO Box 6, Garnerville, NY 10923

USED COMPUTERS/ SOFTWARE
Now you can RENT SW for your IBM. Send \$1 for catalog to: RSD, Box 272, Bronxville, N.Y. 10708

USERS' GROUPS
AMIGA USERS' GROUP
Send \$18 for Charter membership. Box 3761, Cherry Hill, NJ 08034 (609)667-2526*VISA/MASTER-ADDS1

THE JUNIOR REPORT: THE NATIONAL NEWSLETTER
PCjr-specific articles, reviews, Public Doman, Club news from across the nation. \$18/yr PO Box 95067, Schaumburg, IL 60195

EVERY COMMODORE 64 FAMILY AND EVERY APPLE FAMILY
should belong to this club Why? For free information write: **DISK A MONTH CLUB** Box 1919, Ocean Springs, MS 39564.

AMSTRAD USERS GROUP
Bi-monthly publication, discounts & more. For info send SASE to AU/c/o ECN, Rt. 2, Box 211, Russellville, MO 65074

#1 ADAM USERS' GROUP
Receive "SPRITE CHASER" newsletter. Advanced updating, evaluations on programs, hardware, technical information direct from Coleco. Problem-solving-program exchange-discount buying service-etc. Send \$15 for charter membership to: **#1 ADAM USERS' GROUP** Box 3761-Attn: Jay Forman Cherry Hill, NJ 08034 (609)667-2526*VISA/MASTER-ADDS1

PC jr Owners
FREE CATALOG with great prices!
2nd drive: \$289
Supercal 3: \$69
IBM Modem: \$99
Join PC Jr Group today!
4620 50th St A-9, Lubbock, TX 79414 (806) 829-2121

ADAM owners — CME guarantees you immediate return on your investment Send \$22 for membership. Receive free software & continuous support Send SASE for info to: CME PO Box 339 Eastlake, CO 80614

PCjr OWNERS: Don't Panic!
Join the PEANUT gallery!
Over 2,000 members worldwide!
We're here to help you!
Write for your free info pak: P.O. Box 1587, Troy, MI 48099

ONE THOUSAND
especially for your **Tandy 1000!**
Now you can enjoy monthly support for your Grandy. Features include:
* Beginners Luck * MS-DOS
* Down To Basics * Telcom
* Basic Listings * "K"tldbits
* Product Reviews * Editorial
* Software Exchange * MORE!
\$3 for SAMPLE ISSUE. \$15 for 12 Monthly issues. Send to: **ONE THOUSAND** 2153-A Muren Blvd, Belleville, IL 62221 (618) 277-3526

WORD PROCESSORS!!!
Learn how writers, secretaries, educators and students are using their computers as word processors. Join the WordProcessing Users' Group and receive SCROLL, the official newsletter of W/PUG. It contains news, reviews, and articles written by people who use their computers to word process professionally. To receive more information, write to W/PUG, PO Box 144, Malverne, NY 11565. Ask about our FREE word processing ruler offer.

ADAM USERS!!!
Join the only ADAM USERS' GROUP recognized as the ORIGINAL Users' Group for the ADAM computer. Our nationally acclaimed newsletter, AUGment, contains the latest hardware and software information available. AUGment also has programs, news, reviews, and descriptions of our software library (available to all members). For additional information, membership application and sample page, write to AUG, PO Box P Lynbrook, NY 11563.