



TEXAS INSTRUMENTS HOME COMPUTER NEWSLETTER

PUBLISHED FOR TI-99/4A USERS

SOFTWARE: THE FUTURE IS NOW WITH TEXAS INSTRUMENTS

The potential for many new home computer applications can be seen on the horizon as the software industry continues to grow in leaps and bounds.

Out of this growth comes a rise in consumer demands for software. Three areas of software development are of major interest to consumers.

The first of these areas includes the rising demand by consumers for **more software** applications. Meeting this demand will eventually lead to a greater integration of the computer into a user's everyday life.

A second area of software interest evident among today's users is found in a demand for **software which increases the capabilities of a user's present system**. Through continued development of new technology, software manufacturers can continue to add to the capabilities of today's computers.

A third emphasis placed by consumers is for more software which enables the computer to provide the user with **more stimulation and involvement**. This includes applications that challenge the user to think and react to a more intricate level of computer-controlled situations.

To begin, let us take a look at the increasing demand for more applications. There was a time when software development meant more games.

Entertainment was targeted as the consumer's primary attraction to software. TI, however, never shared that view.

In fact, TI always has taken seriously the idea that the Home Computer would have multiple uses. As a result, TI has gone to

great lengths to develop highly useful educational and information management software at a time when most others in the market were paying more attention to games.

Although games continue to strengthen the software industry, research indicates that other applications constitute the consumer's rising demand.

This situation includes a growing demand by consumers for more practical types of applications. Household Budget Management, Home Financial Decisions, and Personal Record Keeping continue to be popular programs of this type.

Newer releases such as TI-Writer, a word processing program, and Microsoft™ Multiplan™; a computerized spread sheet program, are rising in popularity.

Although consumers will see more in the areas of home enrichment, personal finance, and home business applications, the most significant software growth is in the area of education.

TI currently offers several fine educational packages for every member of the family.

Joining the ranks later this summer is the PLATO®** Courseware educational series. This series will make over 450 programs in 44 subjects available to users. The series is designed for grades 3 through 12.

Multilingual software is another new feature that users will be seeing more of as TI responds to growing user demands. Multilingual software allows users to operate a program in one of several different languages: English,

French, Spanish, Italian or German, for example. TI currently has several packages on the market which offer users built-in multi-lingual capabilities. Among those available are Alpiner, TI-Writer, and Hunt the Wumpus.

Currently TI provides more software for its Home Computer than does any other manufacturer.

TI plans to remain in the industry's forefront by using its enormous technological strength to provide Home Computer users with still more applications in a number of different areas.

On that note we turn to the second area of software interest: the demand for software which will increase the capabilities of present systems.

At TI there is an on-going

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search for ways to increase the capabilities of the Home Computer system. By developing software which enhances the Home Computer, TI can provide its users with even greater application versatility.

The Home Computer will one day be enhanced to the point where it will do things that H.G. Wells never dreamed of.

Software with improved speech and graphic capabilities will further enhance current systems. More integrated packages are very likely to be seen in coming years. This means that data files set up by one package can be accessed and used in still more ways by other packages.

Soon the Home Computer will function very much like a book or encyclopedia. Users will have a tool for data storage which can be used as a convenient reference.

In the area of telecommunications, consumers can expect to be able to access many more information systems and services from the home.

Already the computer makes it possible for users to send and receive information from a number of different sources, such as news services and information banks via TEXNET.^{SM+}

Communicating with people in faraway places by computer already is possible.

We then come to the third area of particular interest to consumers: an interest in more stimulating and involving software.

Today's users are looking for software which will provide them with a higher level and a greater quality of involvement. Consumers are looking for more applications that require the user to think and react.

TI currently has several involvement-oriented programs in a number of different categories available for its users. A good example of such software is TI's Othello, Video Chess, Early Learning Fun, Video Graphics, TI LOGO, and Mind Challengers. Computer programming software such as Extended BASIC and

Editor/Assembler continue to provide users with the ultimate form of interactive software—programming languages.

Much of the more interactive, mind challenging software will be initially developed in the area of entertainment, but the emphasis will cross over into the area of education as applications provide users with enjoyable learning experiences.

One of the most exciting new software applications in store for the future will be made possible with the use of the Milton Bradley MBX Expansion System. This plug-in peripheral will add to the capabilities of the TI Home Computer making voice recognition possible. The MBX will enable the computer to recognize a user's voice pattern so that he or she may control the action on the screen by giving vocal commands.

As consumer software needs increase, users can expect to see TI create even more software applications which will allow users to create programs of their own design and which will provide users with enriching and satisfying experiences.

* A trademark of Microsoft, Inc.

** A trademark of Control Data Corp.

+ The Terminal Emulator II cartridge plus PES, RS 232 and phone modem are necessary to access the Source (TEXNET) and other data banks such as Compuserv and the Dow Jones Financial Service. TEXNET is a servicemark of Texas Instruments, Inc.

LEADERS AMONG TOP SELLING SOFTWARE

There are currently over 1600 applications available to the TI-99/4A user. Among the most popular applications from TI are the following listed in their respective categories.

EDUCATION

1. Early Learning Fun
2. Number Magic
3. Beginning Grammar
4. Multiplication I
5. Addition and Subtraction I

INFORMATION MANAGEMENT

1. Household Budget Management
2. Personal Record Keeping
3. Home Financial Decisions
4. TI-Writer
5. Personal Record Keeping

COMPUTER PROGRAMMING

1. Teach Yourself BASIC
2. Extended BASIC
3. Mini-Memory
4. Teach Yourself Extended BASIC (Cassette)
5. Teach Yourself Extended BASIC (Diskette)

ENTERTAINMENT

1. Parsec
2. TI Invaders
3. Munch Man
4. Alpiner
5. Hunt the Wumpus

ASSEMBLY LANGUAGE MANUALS AVAILABLE

Three manuals have been published for TI-99/4A users who want to learn Assembly Language. The books are available from the Texas Instruments Semi-Conductor Group. They are:

Microprocessors, Microcomputers and System Design—A complete guide to the TI 9900 family of compatible microprocessors, microcomputers, and minicomputers. The book is an excellent tool for application,

design, and programming activities. This book sells for \$26.95.

Fundamentals of Microcomputer Design—A learn-by-doing textbook used in colleges and in industry to teach the concepts of microcomputers. The book provides the reader with the option to concentrate study in either software or hardware, or both. This book sells for \$15.00.

ON THE ROAD: VISITING USERS GROUPS

Meeting with users groups around the country is a special part of the job of TI employee Ed Wiest. Ed is the users group coordinator at Texas Instruments.

The visits are important says Ed because they establish a closer communications link between Texas Instruments and users groups—a valuable TI resource.

Users groups are valuable to TI for a number of reasons. Most importantly, they provide support for the growing number of TI users throughout the world. Users can benefit from the knowledge and experience of fellow group members.

Secondly, users groups are an effective way of getting information to the public. Many groups participate in local computer demonstrations. They provide a wealth of information to the community.

Thirdly, users groups provide useful feedback to TI concerning products and software.

There currently are more than 100 groups in 33 states, and the numbers continue to increase at a rate of five to 10 per week. Because of the importance of the groups, TI is expanding its support to them. One avenue of support is through visits. The visits are an effective way of sharing technical information and passing along new product information.

Each month Ed travels to various parts of the country to meet with different groups. Accompanying Ed at each visit are one or two other TI employees to provide technical expertise.

A typical group meeting includes a 45-minute presentation. An additional one-and-a-half to two hours are allotted for questions and answers.

A 99/4A software slide presentation opens every group meeting. The slide show is accompanied by a 99/4A demonstration of quadraphonic sound played by an experimental music card for the



Users Group Coordinator Ed Wiest congratulating William Mackay, a member of the Johnson Space Center Users Group (JUG). Mackay was grand prize winner of the Microsoft™ Multiplan™ software package given away at the April JUG meeting in Houston, Texas.

Peripheral Expansion System.

Group members are given a demonstration of the language TI-Forth. New product information is shared, and the new Compact Computer 40 is demonstrated.

A diskette containing programs developed by TI employees is presented to each group to help build the group's software library.

As a special bonus, a drawing is held at every meeting. Five software packages are given out at the end of each meeting. The prizes include three Alpiners, a Microsoft™ Multiplan™, and a TI-Writer.

To date, six group visits have been conducted by Ed. The meetings were with the following groups: the Atlanta Users Group, the Houston Users Group (HUG), and the Johnson Space Center Users Group (JUG).

Also visited were the Capitol Area Users Group in Harrisburg Pennsylvania, and the Washington, D.C. and Baltimore Users Groups.

Plans are in store for a visit to Minneapolis/St. Paul in June. No group visits will be conducted during the months of July and August. Fall visits will be made beginning in September. Please have your group contact person write Ed at TI, P.O. Box 10508, MS 5890, Lubbock, TX 79408, if you would like to arrange a visit.

* A trademark of Microsoft, Inc.



Left to right: Tiers Ed Wiest, John Yantis and Allen Acree running a benchmark test to demonstrate the speed difference between computers. In the audience are members of the Johnson Space Center Users Group.

TMS 9900 Family Software Development Handbook—A practical applications handbook for the software developer. The price is \$8.30.

All three books are available from Texas Instruments. Requests should be sent to: Texas Instruments, P.O. Box 3640, MS 84M, Dallas, TX, 75285. Only pre-paid orders will be accepted. Include \$2 for shipping and

handling, plus any applicable state and local tax. Allow 4-6 weeks for delivery. Please note that telephone orders cannot be accepted.

Available upon request is the Texas Instruments Learning Center Bulletin. This bulletin is free of charge. It contains a list of available instructional material. Users may write the address listed above for their free copy.

NEW USERS GROUPS

Nineteen new users groups have recently been recognized by Texas Instruments. This brings the total number of users groups to 112. The 19 new groups are printed below.

Rancho Seco 99/4A HC Users Group
Rancho Seco, 11440 Hwy 104
Herald, CA 95638

Golden Gate Computer Users Group
3617 Guerneville Road
Santa Rosa, CA 95401

Bechtel Employee's Computer Users
50 Beale Street P.O. Box 3965
San Francisco, CA 94119

MAGNETIC
57 River Road
Andover, MA 01810

Central Michigan Computer 99
1970 Kibby Road
Jackson, MI 49230

New Jersey Users Group (New JUG)
Iselan NJ Public Library
Green Street, NJ 08830

Bits And Bytes Users Group
139 Vance Street
Roanoke Rapids, NC 27870

Ozark 99'er Users Group
Rt 1
Republic, MO 65738

Piedmont 99'er Users Group
316 Reynolds Drive
Statesville, NC 28677

ACCESSING SPEECH PHRASES FROM EXTENDED BASIC

The correct procedure for using the SAY subprogram is not explained properly in the Extended BASIC manual. Appendix L in the manual contains multiple word phrases that do not work when entered as shown. For example:

```
CALL SAY ("TEXAS  
INSTRUMENTS")
```

This procedure does not work because the software tries to look up the words TEXAS and INSTRUMENTS separately and does not find them.

Multiple word phrases in the list should be delimited by pound signs (shift-3). The correct statement is:

```
CALL SAY ("#TEXAS  
INSTRUMENTS#")
```

In a longer sentence, this would look like:

```
CALL SAY ("I AM A #TEXAS  
INSTRUMENTS# NINETY NINE  
FOUR A HOME COMPUTER")
```

Mid South Users Group
8067 Neshoba
Germantown, TN 38138

The Greater Randolph 99'ers
P.O. Box 721
Randolph AFB, TX 78198

Western Washington Computer Club
Grindstaff Library
Fort Lewis, WA

North Alabama 99 Computer Club
4126 Cherokee Drive
Huntsville, AL 35801

9900 Users Group
Box K
Moorestown, NJ 08057

ECO 99'er Users Group
P.O. Box 1601
E. Canton, OH 44730

Fox Cities Users Group
Box 51
Appleton, WI 54913

Lehigh Users Group
213 Eagle St.
Wescosville, PA 18106

Airport Area Computer Club
P.O. Box 710
Coraopolis, PA 15108

Philadelphia 99'er Users Group
552 Seville Street
Philadelphia, PA 19128

USERS GROUP PROGRAMMING TIPS

Here are two programming tips from members of the New Jersey Users Group.

If you've ever tried to use a solid line in a program, but the best you could get was a broken dotted line, try this:

By typing the command, CALL CHAR (95,"OOFF"), at the beginning of a program you will find that every time you type the underline character, FUNCTION-U, it will appear as a solid line while the program is running.

The number of zeros that you use controls the position of the line. You may lower the line by adding more zeros (14 zeros are the maximum number that you may add).

The thickness of the solid line can be changed by the number of Fs that you use.

-Steve Citron

Mark Hodges of the New Jersey Users Group recently found that reviewing his User's Reference Guide gave him a solution to one of his coding problems.

• The case in point: Hodges needed to find a way to branch to one

of six locations depending upon a particular combination of two variables. For reasons of memory and speed efficiency, he needed the absolute minimum number of variables and lines of code. The two variables involved were X and Y. X could be equal to either 1, 2, or 3, and Y could equal either 2 or 17.

• His problem: How to combine X and Y in such a way as to have the total equal 1, 2, 3, 4, 5, or 6.

One solution to this problem is to temporarily change Y to either 0 or 3, then Y can be added to X to achieve the desired output. This can be done with a series of IF-THEN statements of a "dummy" variable for Y. However, the number of lines and extra variables required in this solution proves to be excessive.

Upon re-reading the ON-GOTO information in the User's Reference Guide, Hodges found when the numeric expression is evaluated

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PROGRAMMING TIPS

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the result is reduced to an integer. By re-reading information about the INTeger function, Hodges discovered that the function rounds the fractional values down. This means that a positive fraction which is less than 1 will yield an integer result of 0 and a decimal number of 3, plus a fraction will yield 3. Hodges found his solution.

Dividing Y by 5 will yield 0.4 when Y = 2 and 3.4 when Y = 17. When those numbers are added to X, the result will be 1.4, 2.4, 3.4, 4.4, 5.4, or 6.4. When the computer reduces the result to an integer, the expression will evaluate to 1, 2, 3, 4, 5, or 6, respectively.

Shown here is the algorithm which Hodges used. Three alternate ones are also shown to illustrate the space and efficiency savings when using the ON-GOTO numeric expression.

Hodges' algorithm:

```
100 ON X + (Y/5) GOTO 200,
    300,400,500,600,700
```

```
200 (Code for X = 1 & Y = 2)
```

```
⋮
```

```
300 (Code for X = 2 & Y = 2)
```

```
⋮
```

```
400 (Code for X = 3 & Y = 2)
```

```
⋮
```

```
500 (Code for X = 1 & Y = 17)
```

```
⋮
```

```
600 (Code for X = 2 & Y = 17)
```

```
⋮
```

```
700 (Code for X = 3 & Y = 17)
```

MORE THIRD PARTY AUTHORS PROVIDE NEW SOI

Thirty-one companies have joined the ranks of those independent software developers currently producing software for the TI Home Computer.

For more information about the software produced by each company, write to the addresses listed below.

The codes indicate the major types of software available from each producer.

HP-Home Finance/Personal
Enrichment
E-Entertainment
ED-Educational
C-Computer Literacy
O-Other

- O AI Data Systems
2911 S. Santa Fe
Vista, CA 92083
- HP Amnion Software
116 Carl Street
San Francisco, CA 94117
- HP Arro-Soft Systems
P.O. Box 1761
Edmond, OK 73083
- E Bill Bies
217 Park Entrance Drive
Pittsburgh, PA 15228

- ED Control Data Publishing Co.
P.O. Box 261127
San Diego, CA 92126
- ED Creative Scientific Services, Inc.
E P.O. Box 4466
Overland Park, KS 66204
- HP Devere Company
E P.O. Box 672
Forked River, N.J. 08731
- E Walter J. Dollard
417 Woodland Hills
Pittsburgh, PA 15235
- HP Dynamic Data & Devices
ED P.O. Box 912
E Stafford, TX 77477
- HP Richard F. Erznosnik
2836 Melhollin Drive
Jacksonville, FL 32216
- HP J & KH Software
2820 S. Abingdon St.
Arlington, VA 22206
- ED KIDware
E P.O. Box 1664
Idaho Falls, ID 83401
- ED Kuhl Software
E 412 15th Avenue SW
Rochester, MN 55901
- ED Meca, Inc.
E P.O. Box 5425
Richmond, VA 23220
- ED Music Computer-assisted Instruction
4413 Stacey Avenue
Las Vegas, NV 89108
- HP NSY Software
ED 73-32 136th Street
E Flushing, NY 11367
- C Oak Tree Systems
O Charles Davis
3922 Valentine Rd
Whitmore Lake, MI 48189
- E Pegasus Software
1438 38th Avenue
Greeley, CO 80634
- ED Professional Microwave
c/o Dr. E. Schwatz
735 St Johns Ave #400
Highland Park, IL 60035
- HP REGENA
ED P.O. Box 1502
O Cedar City, UT 84720
- E Republic Software
C P.O. Box 23042
L'Enfant Plaza
Washington, DC 20024
- E Roach Software
P.O. Box 23241
Lexington, KY 40523-3241

ALTERNATE NO. 1

```
100 IF Y = 17 THEN 120
110 ON X GOTO 200,300,400
120 ON X GOTO 500,600,700
```

ALTERNATE NO. 2

```
100 D = 0
110 IF Y = 2 THEN 130
120 D = 3
130 ON X + D GOTO 200,300,400,
    500,600,700
```

ALTERNATE NO. 3

```
100 IF Y = 17 THEN 130
110 IF X = 1 THEN 200
120 IF X = 2 THEN 300 ELSE
    400
130 IF X = 1 THEN 500
140 IF X = 2 THEN 600 ELSE
    700
```