



# TEXAS INSTRUMENTS HOME COMPUTER NEWSLETTER

PUBLISHED FOR TI-99/4A USERS

## PERIPHERAL EXPANSION SYSTEM KEY TO VERSATILE COMPUTER USE

TI's Peripheral Expansion System (PES) is the most efficient way to expand your Home Computer system.

The system (PHP 1200) contains all card peripherals in one compact and attractive unit and eliminates the cords, cables and "freight train" effect of the older, stand-alone peripherals.

Up to eight cards can be contained within the system. Currently, there are five cards available for the system including the Expansion Interface (supplied with the PES), Memory Expansion, RS-232 Interface, Disk Controller, and P-code cards. More cards are planned for future use.

The newest and most powerful TI-99/4A applications software utilize the Peripheral Expansion System.

The PES gives the Home Computer the capability of running high-performance educational and problem-solving applications such as TI LOGO and LOGO II, Editor/Assembler, TI-Writer, Microsoft™, Multiplan™, Personal Tax Plan, TI-PILOT, and UCSD Pascal™.

Additional software packages for the PES are being developed continuously.

Recently announced titles scheduled for early summer availability include the TI-Count Series (six home business

applications), TI-FORTH (an advanced programming system), and PLATO® (a 108-package educational courseware series).

TI LOGO and LOGO II are child-appropriate programming languages developed at the Massachusetts Institute of Technology. Children learn basic programming, math and logic fundamentals by "teaching" the computer in logical steps how to do various procedures.

Editor/Assembler allows the user to program in TMS 9900 Assembly Language. Assembly language programs can be run alone or linked into TI BASIC or TI Extended BASIC programs as subroutines.

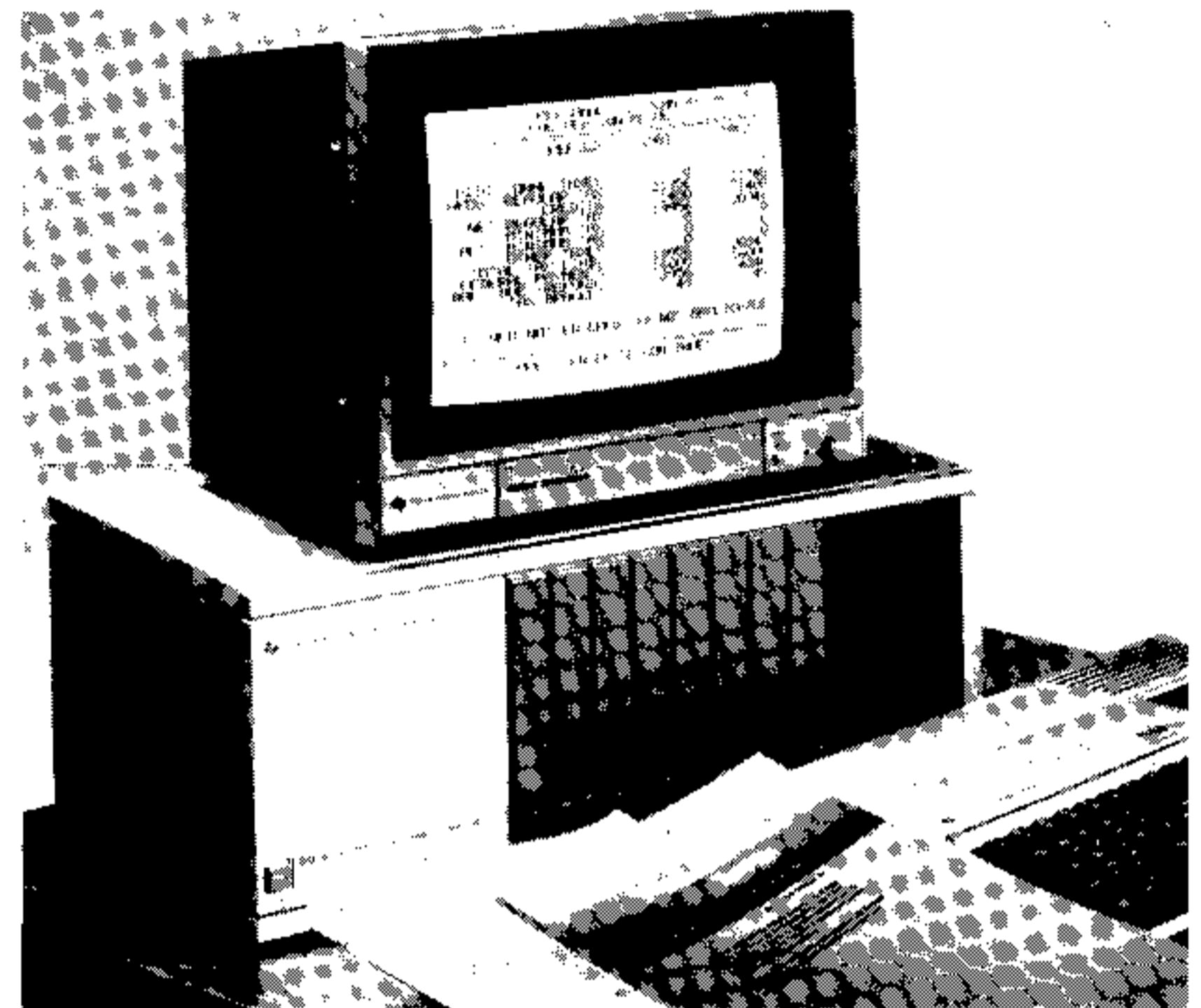
TI-Writer is a complete and easy-to-use word processing system for the Home Computer. Users can create, edit, save and print documents within minutes.

Microsoft™ Multiplan™\* is a second-generation worksheet with many advanced features. Multiplan™ can be used for any type of planning and is one of the most powerful Home Computer forecasting tools available.

Personal Tax Plan is designed to perform comprehensive and accurate calculations for tedious tax problems within seconds. Personal Tax Plan is written in UCSD Pascal™\*\* and was developed by Aardvark Software, Inc. for the TI-99/4A.

TI-PILOT is a language designed specifically for Computer Assisted Instruction (CAI). Users can write and run their own programs or access existing educational computer libraries.

UCSD Pascal™ is a high performance programming language which runs on the UCSD™ p-System, an advanced computer operating system. Because p-System use



is wide-spread, a large library of third party software programs are available.

The TI-Count series consists of six packages: General Ledger, Accounts Payable, Accounts Receivable, Payroll, Inventory, and Mail List. TI-Count is a thorough, professional and integrated accounting system which is scheduled to be available in early summer. TI-Count was developed by Pike Creek Computer, Co., Inc.

TI-FORTH is an advanced programming language currently being developed by TI and scheduled to be available by June.

PLATO®+ courseware is an integrated set of more than 450 Computer Assisted Instruction (CAI) programs for grades 3 through 12. The programs have been used and tested in public school systems for more than 20 years and are an excellent supplement to a student's regular studies. (See PLATO, page 3.)

\*A Trademark of the Microsoft Corporation.

\*\*A Trademark of the Regents of the University of California.

+ A registered trademark of Control Data Corporation.

EXPANSION SYSTEM CONFIGURATION REQUIREMENTS

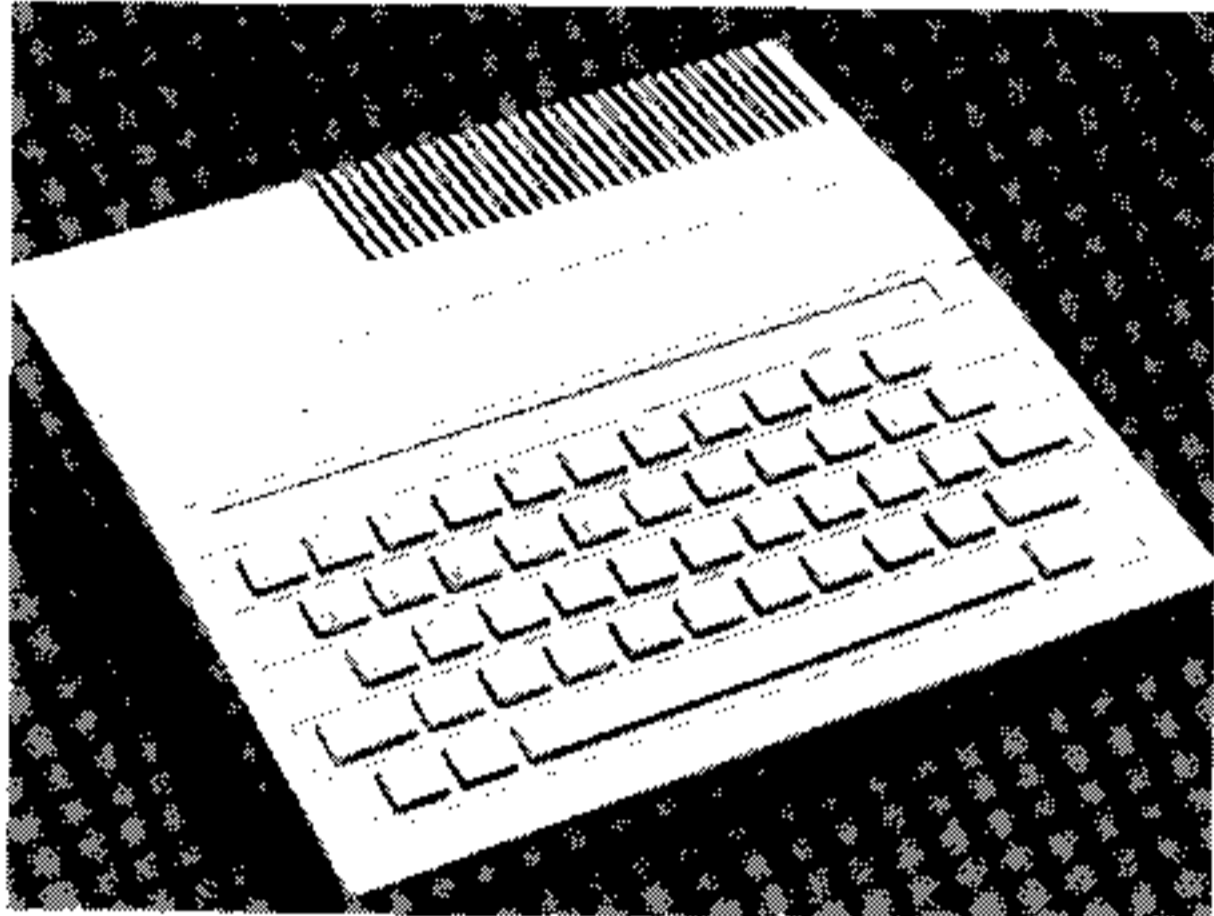
	PES	MEMORY EXPANSION	DISK CONTROLLER	DISK DRIVE	RS-232	P-CODE
TI LOGO	X	X				
EDITOR/ASSEMBLER	X	X	X	X		
TI FORTH*	X	X	X	X		
PLATO*	X	X	X	X		
TI WRITER	X	X	X	X	X	
MULTIPLAN	X	X	X	X	X	
TI COUNT*	X	X	X	X	X	
PERSONAL TAX PLAN	X	X	X	X	X	X
UCSD PASCAL	X	X	X	X	X	X

\*Scheduled to be available in the spring.

## NEW TI COMPUTERS VERSATILE, EXPANDABLE

The new TI-99/2 Basic Computer and Compact Computer 40 appeal to a variety of user needs and offer affordable expansion as well.

The **TI-99/2 Basic Computer** will be available in the spring and will be especially useful for the first-time computer buyer and student programmer.



The TI-99/2 has 4.2K of RAM and is expandable to 36.2K. The resident ROM is 24K. The suggested retail price (S.R.P.) is \$99.

The light-weight console has a typewriter keyboard with 48 moving keys, 28 character by 24 line black and white screen display and a TI-9995, 16-bit microprocessor. In addition, the computer has built-in television adapter, HEX-BUS™ Interface and BASIC programming language. The interface is compatible with all TI compact peripherals.

A single cassette cable and demonstration tape, for use with the TI Program Recorder or a compatible cassette recorder, are packaged with the 99/2.

Most pre-programmed software for the 99/2 will be in cassette form and have a suggested retail price of \$9.95.

About 20 cassettes are scheduled to be available in the first quarter of 1983 including Checkbook Manager, Purchase Decisions, Household Formulas, Date Time and General Finance. Math applications include PICO-Math-80 (\$19.95 S.R.P.), Sunrise Time, Math I and II and Statistics I and II.

Arcade-style games will not be available from TI for the 99/2. However, a number of "mind" games will be produced.

For the student programmer, two cartridges, Learn to Program and Learn to Program BASIC, will have a suggested retail price of \$19.95. The cartridges are not compatible with the 99/4A. The BASIC programs written on the 99/2 can also be

run on the TI-99/4A. However, BASIC programs written on the 99/4A are not necessarily compatible with the 99/2 BASIC because of 99/4A sprite, color, sound and length capabilities.

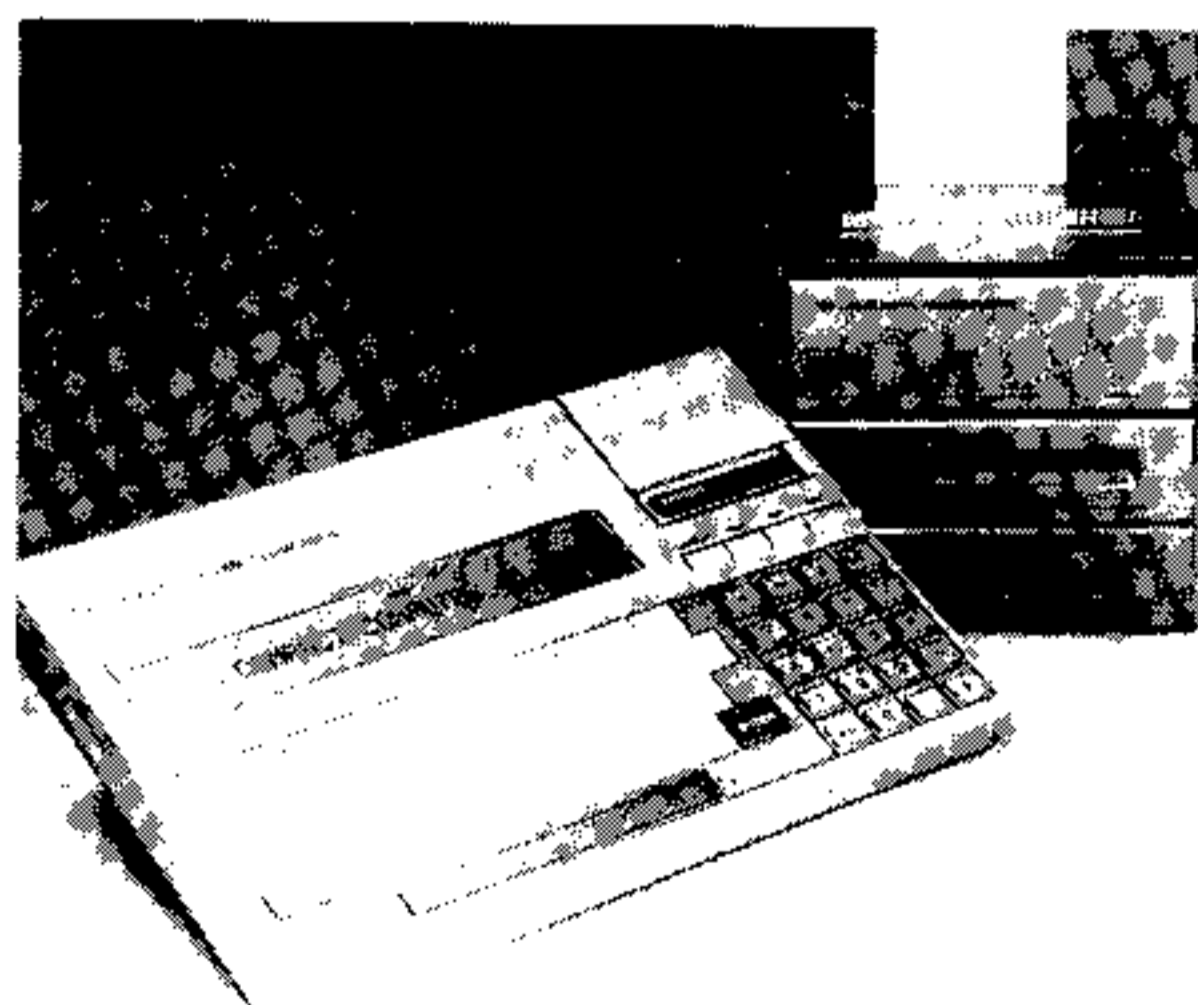
By the fourth quarter of 1983, two additional programming cartridges are scheduled to be available. The cartridges run on the 99/2 BASIC but teach the user fundamentals of programming in FORTRAN and PASCAL. These cartridges, however, will not enable execution of FORTRAN or PASCAL programs on the TI-99/2.

The **Compact Computer 40 (CC-40)**, because of its Constant Memory™, will be particularly useful to people who collect data in the field or need a computer where power is not available (cars, for example).

The CC-40 has a suggested retail price of \$249.95 and initial shipments are planned for late spring.

Users can enter data or a program and leave it in the CC-40 Constant Memory™, or, with the addition of peripherals, transfer the data to Wafertape™ or a remote terminal.

The CC-40 operates up to 200 hours on four AA alkaline batteries, has 6K of RAM, 34K ROM, typewriter-style keyboard, separate numeric keyboard and a 31-character, horizontal scrolling liquid crystal display.



Up to 10 keys can be programmed for special functions and a 16K RAM expansion cartridge is scheduled to be available late in 1983.

Initially, eight software cartridges and 14 Wafertapes™ will be available in the areas of finance, statistics and engineering. Spread sheet and word processing programs are in the planning stages.

The CC-40 has a built-in HEX-BUS™ Interface which allows use of a series of special compact peripherals. Each peripheral has its own dedicated microprocessor which frees useable memory.

The TI Printer/Plotter, RS-232 Interface and Wafertape™ Digital Tape Drive will be available in first quarter.

The **TI Printer/Plotter** uses standard 2¼ inch plain paper rolls. The user can print copies of text, numbers and four-color (red, blue, green and black) plots of graphics at a speed of up to 11 characters per second.

Ten different type sizes are available. The suggested retail price is \$199.95.

The **RS-232 Interface** allows the CC-40 to be connected to a compatible, standard 80-column printer or phone modem.

The RS-232 has a transmission rate of up to 19,200 bits/second (baud) and is powered by a standard 120 volt alternating current. The RS-232 has a suggested retail price of \$99.95.

The **TI Wafertape™ Drive** uses low-cost and convenient Wafertape™ cartridges for data storage.

Wafertape™ cartridges look like miniature cassette tapes. They are available in a variety of tape lengths to optimize response time. An unformatted 50-foot tape, for example, can hold up to 48K of data.

Tapes are controlled by the computer and do not require rewinding. If a reading error occurs, the drive automatically rereads and checks the data.

A 4K byte program can be loaded in less than 10 seconds. Files are accessed by names rather than position number by the built-in file management system. The drive is powered by four AA batteries and has a suggested retail price of \$139.95.

All TI compact peripherals can be used with the TI-99/4A with the addition of a stand-alone **HEX-BUS™ Interface** which will be available in the spring, at a suggested retail price of \$59.95.

## COMPREHENSIVE PLATO™ SERIES AVAILABLE FOR TI-99/4A

Computer-based learning programs, proven by more than 20 years use in public school systems and other institutions, are now available for the TI-99/4A.

The PLATO™ (Programmed Logic for Automated Teaching Operations) system was developed by the University of Illinois and Control Data Corporation (CDC) to be accessed by remote terminals. The actual programs are housed on CDC mainframe computers.

Now, because of an exclusive agreement between Control Data and Texas Instruments, this proven educational tool is available to TI Home Computer users for a fraction of the cost of tying into a data base, says William Turner, Consumer Products Group President.

The Basic and High School Skills curricula is the most comprehensive set of home computer educational courseware available and is an exclusive release by CDC for TI. Other PLATO™ programs are available for some microcomputers, but none are as comprehensive.

The courseware released exclusively to TI consists of an integrated set of more than 450 programs in 44 subjects for grades 3 through 12.

"Rather than work to reinvent these exceptional learning aids, Texas Instruments is working with Control Data to transfer these programs to diskette," says Turner.

Students progress at their own pace, and nationwide research shows that the students' level of knowledge advances rapidly when using PLATO™ programs.

PLATO™ courseware provides self-paced and individualized instruction for students whose needs range from advanced to remedial instruction.

The system conducts drill and practice, gives diagnostic tests (and adjusts programs according to the student's progress), introduces material, conducts tutorials, gives mastery tests and even gives additional assignments if a student is having trouble.



The Basic Skills curricula consists of Mathematics, Reading and Grammar for grades 3 through 8, and the High School Skills curricula includes Mathematics, Reading, Writing, Science and Social Studies for grades 9 through 12.

The Mathematics and Reading for both levels and the PLATO™ Interpreter Cartridge and Survey package are scheduled to be available in the spring.

The Basic Skills Mathematics subjects are Basic Number Ideas, Addition, Subtraction, Multiplication, Division, Fractions, Decimals, Ratio, Proportion and Percent, and Geometry and Measurement.

The Basic Skills Reading subjects are Making New Words, Understanding New Words, Understanding What You Read, Thinking About What You Read, and Judging What You Read.

The High School Mathematics subjects are Basic Number Ideas, Math Sentences In One Variable, Math Sentences in Two Variables, Geometry, Measurement, and Special Topics.

The High School Reading subjects are Practical Reading, General Reading, Prose Literature, Poetry, and Drama.

The PLATO™ Interpreter Cartridge and Survey package has a suggested retail

price of \$49.95 and consists of the interpreter cartridge (needed to run all programs), survey diskettes, and a parent questionnaire.

The Basic Skills survey and questionnaire allow parents or teachers to assess the student's skills and choose the appropriate program package.

Each program package consists of a set of diskettes and a short manual covering five to seven hours of instruction. Each package has a suggested retail price of \$49.95.

To operate PLATO™ courseware, users need a console and monitor (or television and adapter), Interpreter Cartridge, Peripheral Expansion System, Disk Memory System and Memory Expansion Card.

\*PLATO is a trademark of Control Data Corporation, U.S.A. PLATO Courseware is manufactured under license by Texas Instruments Incorporated.

## USERS' GROUP NEWS

Edward Wiest has been named the new Home Computer Users' Group Coordinator for TI. He started his duties on January 3rd. Ed is looking forward to tremendous growth in the number of Users' Groups in 1983.

To help update current Users' Group files following January elections, Ed requests that each Users' Group send the following information: 1) the names, addresses, and telephone numbers of at least two key people (preferably officers) 2) the number of active members in the Users' Group. Also, if the group name has changed recently, please include that change.

As a reminder, Texas Instruments does not consent to the use of its corporate name, logo, other trademarks or tradenames, abbreviations of any of the above or any other proprietary marking in the name, newsletter or in any other way by any Users' Group.

Finally, if your group publishes a newsletter, please send two copies of each issue to Ed.

Please send all Users' Group information to:  
Texas Instruments, Inc.  
Attn: Users' Group Coordinator  
P.O. Box 10508 MS 5890  
Lubbock, Texas 79408

Four new Users' Groups have joined the growing list of TI-99/4A Home Computer Users' Groups. They are:

Kentuckiana 99/4 Computer Society  
9801 Tiverton Way  
Louisville, KY 40222  
Started in October, 1982.

New England 99ers  
99 School Street  
Weston, MA 02193  
Started in January, 1983.

Tidewater Microcomputer Users' Group  
942 Bolling Ave #106  
Norfolk, VA 23508  
Started in January, 1983.

Delaware Valley Users' Group  
25 Quartz Mill Road  
Newark, DE 19711  
Started in January, 1983.

## OTHELLO CHALLENGES STRATEGY SKILLS

OTHELLO\*, a new computer strategy game for up to two players, is now available for use with your TI-99/4A Home Computer.

The objective of Othello is to end the game with the greatest number of player pieces on the grid-like game board.

After each player chooses a disc color (either black or green) the game begins. When playing against the computer the player takes his choice of color.

The key to success lies in the player's ability to outflank his or her opponent by capturing a horizontal, vertical or diagonal row of the opponent's discs. To capture a row, the player positions one disc at each end of the opponent's row.

The computer automatically changes the color of the captured discs. If the player with black discs captures a row, for example, all discs in that row would be changed to black.

The computer also automatically changes the score. Competition continues until all available positions on the grid have been filled.

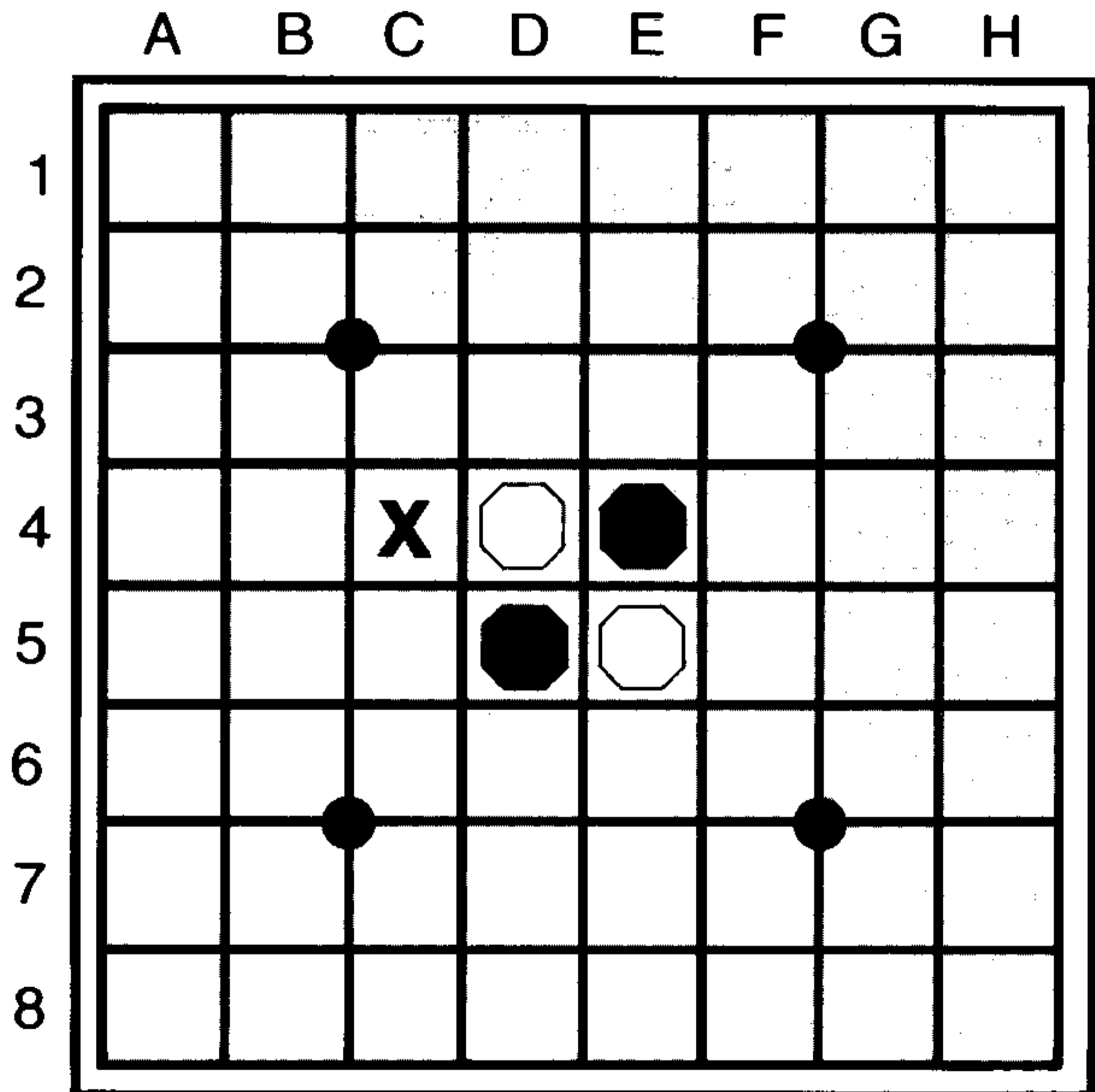
At the end of the game, the player with the most discs wins.

Two people may play Othello, or one may choose the computer as the adversary. Eight skill levels are available from beginner to advanced.

Several options, including computer advice, switching sides with the computer, and creating a game in progress, are available.

The Othello Solid State Cartridge has a suggested retail price of \$39.95 and was developed for Texas Instruments Incorporated by Gabriel Industries, a division of CBS Inc.

\*Othello is a registered trademark for CBS, Inc.



**Playing Othello** — If the player with the black discs wanted to capture Row 4, he/she would key in C 4 and press enter. D4 would change from white to

black, and the score would be Black — 4, White — 1.

## "AIDS" SERIES USEFUL TO KNOWLEDGEABLE PROGRAMMERS

Three software programs, designed to help the knowledgeable TI BASIC programmer, are available from TI.

**Programming Aids I** has a suggested retail price of \$14.95 for disk and \$9.95 for cassette tape.

The first of three aids, this software offers several BASIC routines that are not in the console BASIC. Some of the routines are in the Extended BASIC cartridge.

Seven different routines are provided on Programming Aids I.

The lower case character set is provided to enhance the TI-99/4. This aid is not useful for the 4A since lowercase characters are built-in.

Additional routines are provided for a second ASCII set and user defined characters.

A program to catalog a disk eliminates the need to load the Disk Manager cartridge.

The "display at" routine allows printing of information anywhere on the screen. The routine can be used to enhance BASIC programs but is slower than a similar function built into Extended BASIC.

The "accept at" routine allows the computer to accept information from any designated field on the screen. When added to programs which require data input, this program is useful if input is needed from the screen. It, too, is slower than the built-in Extended BASIC function.

The "screen print" routine can be used to print text from the screen on a TI thermal printer or can be modified to print on any RS-232 compatible printer.

**Programming Aids II** is available on disk for a suggested retail price of \$24.95.

The routines in Aids II are written in TI BASIC and give the experienced programmer the ability to sort information in memory or on disk. The sorts can be done in ascending or descending order and in alpha or numeric order.

Additional routines are provided to merge programs written in TI-BASIC.

**Programming Aids III** is a useful set of utility programs for the Extended BASIC programmer.

Especially useful is the "cross reference" routine which can locate all variables used, arrays, key words, functions and line number references. This reference routine makes program editing and debugging much easier.

Another utility program allows deletion of multiple lines versus the single line required in TI BASIC. Selected program lines can be resequenced instead of entire programs. Resequencing selected program lines is useful when adding or deleting program segments.

The Programming Aids III disk has a suggested retail price of \$19.95.

The Programming Aids Series most likely will be available from retailers specializing in computer hardware and software.

If you are unable to purchase the Aids software packages in your local area, you can order the programs directly from TI by calling the Consumer Software Line, 1-800-858-4075.

## PASCAL DEVELOPMENT SYSTEM ANNOUNCED

The UCSD Pascal™\* Development System is scheduled to be available from Texas Instruments in the first quarter of 1983. This Development System is a combination of hardware and software packages that are currently sold separately.

The Development System consists of a P-code card (PHP 1270), and three disk-based software packages: the UCSD Pascal Compiler (PHD 5063), the UCSD p-System\* Assembler/Linker (PHD 5064), and the UCSD p-System Editor/Filer/Utilities (PHD 5065). The disk memory system and 32K memory expansion are required to use the Development System.

This system enables the TI-99/4A user to program with the high level, block structured UCSD Pascal language. In addition, the Assembler/Linker software package allows assembly language subprograms to be written and combined with Pascal programs.

The suggested retail price of the UCSD Pascal Development System is \$499.95. You save \$50 by purchasing the Development System rather than buying the P-code card and software packages individually. A free spread sheet program is also included with the P-code card whether it is bought individually or as part of the Development System.

\*UCSD Pascal and UCSD p-System are trademarks of the Regents of the University of California.

## TI LOGO II: BEST OF OLD AND NEW

TI LOGO II offers a number of new options not available in TI LOGO.

The new LOGO II package includes a cartridge, user's manual and sample cassette and disk. The suggested retail price is \$129.95.

TI LOGO is the child-appropriate programming language developed at the Massachusetts Institute of Technology which helps children learn basic programming, math and logic fundamentals. Users learn these fundamentals by programming the computer in logical sequences and using elements of direction, degree and

speed. In essence, the user "teaches" the computer how to perform the procedures.

The new LOGO II has music capabilities of up to three simultaneous tones which can be played across a five-octave range. Music can be played in rounds, too.

Larger-sized sprite shapes can be made, up to 32 x 32 pixels.

In addition, TI LOGO II has twice as much memory available to the user as LOGO II.

Any RS-232-or HEX-BUS™ compatible peripheral can be used with the new LOGO

II. TI LOGO procedures can be printed only on a thermal printer. Neither TI LOGO nor TI LOGO II graphics can be printed.

To use TI LOGO II you need a TI-99/4A console and monitor (or television and adapter), Peripheral Expansion System and Memory Expansion Card. A storage system, either a Disk Memory System, HEX-BUS™ Interface and Wafertape™ Drive, or TI Program Recorder and Cassette Interface Cable, is recommended for storage of procedures.

## THIRD PARTY SOFTWARE DEALERS

The newest independent software companies to produce software for TI are listed below.

For more information on the software produced by each company, write to the address listed.

### Legend

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

E      Creative Expressions, Inc.  
O      6433 Winifred  
         Forth Worth, TX 76133

ED     John T. Dow  
         6360 Caton  
         Pittsburgh, PA 15217

C      Lah Associated  
         1283 McKendrie  
         San Jose, CA 95126

E      Linear Aesthetic Systems  
         P. O. Box 23  
         West Cornwall, CT 06796

ED     Lowe Software Company  
E      579 Page St.  
         Lunenburg, MA 01462

ED     Maple Leaf Micro Ware  
E      P. O. Box 13141  
         Kanata, Ontario  
         Canada K2K 1X3

E      Michigan Software  
O      P. O. Box 2091  
         Ann Arbor, MI 48106

HP     The Computer Consultants  
         13205 W. Utan Avenue  
         Lakewood, CO 80228

## HOTLINE DIRECTORY

### CONSUMER HOTLINE

The Consumer Hotline is open from 8:00 a.m. to 6:15 p.m. Monday through Thursday and from 8:00 a.m. to 3:15 p.m. on Friday. The national number is 1-800-858-4565.

### CONSUMER SOFTWARE LINE

Consumers unable to purchase software from local dealers can order software from TI by calling 1-800-858-4075 from 8:00 a.m. to 5:15 p.m. Monday through Thursday and from 8:00 a.m. to 3:15 p.m. on Friday.

### CONSUMER TECHNICAL LINE

Home Computer users can call the technical line for questions about

programming and applications. The line is open from 8:00 a.m. to 4:30 p.m. Monday through Thursday and until 3:15 p.m. on Friday. The direct number is 1-806-741-2663.

### TI COMPUTER ADVANTAGE CLUB

Consumers can call the TICAC line for class information and to register for classes. The lines are open from 8:00 a.m. to 8:30 p.m. Monday through Friday and from Noon to 4:30 p.m. Saturday and Sunday. The national number is 1-800-858-4069. Texas residents should call 1-800-692-1318.

All Hours are Central Standard Time.

# TEXAS INSTRUMENTS

The Texas Instruments Home Computer Newsletter is published monthly for TI computer users.

Editorial questions and suggestions should be sent to TI, P.O. Box 10508, MS 5882, Lubbock, TX 79408, ATTN: Editor.

Inquiries about Home Computer Users' Groups should be sent to TI, P.O. Box 10508, MS 5890, Lubbock, TX 79408, ATTN: Users' Group Coordinator.

Third party software developers should direct all correspondence to TI, P.O. Box 10508, MS 5890, Lubbock, TX 79408, ATTN: Third Party Software Manager.

Past issues of the Home Computer Newsletter are not available. However, articles from the newsletter may be reprinted after receiving permission from the Users' Group Coordinator.

©1983 Texas Instruments

Bulk Rate  
U.S. Postage  
PAID  
Lubbock, Texas  
Permit No. 476

PUBLISHED FOR TI-99/4A USERS