FAREWELL TO THE IUG NEWSLETTER

This is the last Newsletter you will receive from the International 99/4 Users-Group. No you didn't forget to pay your dues. We are simply changing our format to more of a magazine style.

On May 15th all of the International 99/4 Users-Group members will be mailed the first edition of our new publication Enthusiast '99. It will be published bi-monthly and will become one of two official publications of the IUG. The other publication, which all of our members received the first edition of last month will be the President's Letter.

Each edition of Enthusiast '99 will contain the following feature sections:

SOFTWARE
This section will contain reviews of new software, revisions and updates of existing software, and comments on future products we would like to see. It will also contain a feature article written by Guy Romano titled "Library Corner", which is designed to help our members use programs in the Software Exchange Library.

Additional features in this section will include program listings in two categories titled, basic BASIC and extending BASIC. Program listings in Enthusiast '99 will be produced straight from source code to a letter quality printer and then printed in the magazine without reduction. This should eliminate typesetting errors and should make reentering these programs a breeze for our members who wish to type them into their computer.

HARDWARE
In the Hardware section we will review new peripheral equipment from both TI and third party sources. We will compare the 99/4A with other personal computers and give you some money saving tips on disk drives, tape recorders, monitors and other devices.

Enthusiast '99
OFFICIAL PUBLICATION OF THE INTERNATIONAL 99/4 USERS GROUP

Our New Magazine

THE ASSEMBLY LINE
Bill Gronos will continue to help all of our members to better understand the workings of TI's Mini-Memory Module and the Editor/Assembler. The Assembly Line article will be expanded in Enthusiast '99 and should prove to be of great interest to all of our members.

USERS-GROUP SPOTLIGHT
Each edition of Enthusiast '99 will feature an article on one of the many local Users-Groups springing up around the country. We will take an inside look at what happens at a local Users-Group meeting and talk with some of its officers and members. The May edition of Enthusiast '99 will feature the Washington DC area Users-Group which to our knowledge was the first local TI Users-Group formed in the U.S.

• MEMBER SPOTLIGHT
Member Spotlight will highlight an individual member of the International 99/4 Users-Group and their family. We will find out first hand what these members are doing with their 99/4A and what their future plans in computing are.

RETAILERS SHOWCASE
IUG members are always looking for additional information on their computer from local sources, so each edition of Enthusiast '99 will feature an interview with a retail outlet that stocks and sells products for the Texas Instruments line of Family Computers. We will show how they train their end-users and tell what type of software products and peripheral devices they carry.

A WOMENS VIEW
Our old friend Regena will author this column. Regena's article will help women overcome the fear of

FAREWELL TO THE IUG NEWSLETTER, Con't.

personal computing and her programs will feature computing from a womans point of view. Her program Cookie File will be featured in the basic BASIC section of the May issue.

CHARLIE'S PAGE

Charlie's Page will be the editorial section of Enthusiast '99. It will give me a change to blow off a little steam from time to time as well as provide a focal point on important issues which effect personal computing.

POTPOURRI

A sort of catch all feature of tips, event schedules and other fun things.

All of this plus several other timely articles will be found in the pages of Enthusiast '99.

Enthusiast '99 will be published exclusively for our members and we would like your input as to what you would like to see in up coming editions. We also would like to have our members submit articles that they think would be of interest to others.

If you would like to do some writing for our new publication, please let us know. Send any material you think is worthy of publication to:

Enthusiast '99
P.O. Box 67
Bethany, OK 73008

(Sorry we won't be able to return your work, but if we plan to use any of it you will hear from us.)

Well, enough about Enthusiast '99 and now on to our last Newsletter. Several of the articles you will see in this last Newsletter are reprints of articles which have appeared in our Newsletters over the past two and one half years. We think that many of these are important enough to our newer members that they deserve reprinting.

POTPOURRI

ADDRESS CHANGE

The International 99/4 Users-Group is on the move once again! We have recently outgrown our second office facility in the past two and one half years and will be moving into modern new office space on April 15, 1983. Although we will retain our post office box in Bethany, OK our physical address will change to:

International 99/4 Users-Group
5400 N.W. 23rd Street
Oklahoma City, OK 73127

Our mailing address will remain:

International 99/4 Users-Group
P.O. Box 67
Bethany, OK 73008

Unfortunately this move will facilitate a change of telephone numbers and our new number will be:

(405) 948-1023

The address change will take effect April 15, 1983. We would appreciate it if you would change your records to indicate our new address and telephone number.

CONSOLE PRICE LOWERED ONCE AGAIN!

In a bold move to generate additional sales for the 99/4A FAMILY COMPUTER, Texas Instruments has announced a further price reduction for their most popular product.

Effective April 15, 1983 TI announced that they will lower the price of the 99/4A console by $100 to their distributors and dealers around the nation. Additionally from June 1, 1983 until January 31, 1984 TI will offer a consumer rebate of $50 for each console purchased during that time. This should put the "street price" of the 99/4A at an unbelievable $99.95.

In a conversation with William Turner, President of TI's Consumer

Product Division, he told the International Users-Group "This is the first time that a 16 bit computer has ever been offered at this price level." He went on to say "Texas Instruments has truly brought high technology computer products to the point where it is now available to virtually all consumers."

MEMORY STATUS

Need to know how much memory you have used in a Basic program? Try this little 2 line routine for the answer.

```
>1 A=A+8
>2 GOSUB 1
>RUN
```

The computer will run until the memory is full, at which time a MEMORY FULL IN 1 message will appear. At this point type in > PRINT A and the number that appears will be the amount of memory remaining for programming.

TI MATH

For those of you who own the new TI 99/4A personal computer, we think you may be interested in an article we noticed in the April 1982 issue of Microcomputing. Staff writer Walter Koetke asked readers to perform this simple program on their micros.

```
10 FOR C = 1 to 100
20 IF SQR (C) < > INT(SQR(C))
THEN 40
30 PRINT C
40 NEXT C
```

The program ran on a 99/4A produced 10 percent squares between 1 and 100. TRS-80 Model III, Apple, and PET personal computers produced only 6 perfect squares. Microsoft Basic, which drives most CP/M microprocessors, found only nine of the answers, and only

POTPOURRI

Basic-Plus, used on a $100,000= PDP11/70 microcomputer, calculated all 10 correctly.

Although this feature is not used all that often, it is certainly nice to know that it is there in case you need it.

MICRONOVA OFFERS HOME COMPUTER DIRECTORY FOR THE TI 99/4A

A new directory for the TI 99/4A Family Computer is being offered by Micronova of Northampton,MA. This directory offers 99/4 owners a wealth of information on various subjects concerning personal com-puting with the 99/4A.

Although there are a few mistakes in address and phone number listings due to a recent move by Texas Instruments in Lubbock, TX most of the information contained in the directory is concise and to the point.

The manual offers sections on system options, third party software listings, User-Groups, peripherals, multi-level marketing and much more.

I was so impressed with this manual during my review that I immediately placed an order to supply each of our employees a copy.

Suggested retail price for the home computer directory is $5.95 and Users-Group members should check our current price list for membership costs.

PRICE LIST COVER SHEET

Enclosed with this newsletter is a new front cover for our current price list. We have added several new items and made a few price changes. Simply discard the front of your January 30, 1983 Users-Group price list and use this in its place. Thank You for your co-operation in this matter.

SOFTWARE

THIRD PARTY SOFTWARE PRODUCERS UPSET OVER GROM CONTROL

After cutting most of the profit margins out of the TI 99/4A console in order to grab a large market share of the under $500 personal computer market, TI is determined to protect future profits on software products for it's machine. The protection scheme calls for a change of architecture in the 99/4A which will not allow cartridges to work unless they contain a GROM chip.

TI, which will not license its GROM technology, is insisting that those third party suppliers who want to produce their software products, in cartridge form for the 99/4A, must give all rights to make, sell and distribute them to TI. TI will in turn pay the third party author a royalty fee for each cartridge TI sells.

Although publishing policies like

this are well accepted in the book and record business, this is not the way it has been done in the computer industry, and for that reason some of the more popular manufacturers of software products for other computers are refusing to offer their products for the 99/4A. Software companies like CBS, DataSoft, Imagic, Spin-naker Software and Activision all are having second thoughts about producing programs for TI because of its publishing policies.

Additionally one of the countries largest educational publishing companies who is currently having their products produced by TI, is complaining that TI is unable to deliver their products to the market place in a timely fashion. "It's a constant battle," a company spokesman told the IUG, "TI's production delays have cost us dearly." He went on to say, "Software tends to grow cold and unless new products can be brought

to the market place on time, consumers will grow tired of their computers and stop using them."

In a copywritten story in the March 4th edition of the Wall Street Journal, Mr. William Turner, president of the consumer group at TI said, "We intend to earn our money from the author, not just take it away from them." He also stated, "Any author who examines the cost of distributing software will conclude that I'm offering the best deal in town." This would not seem to be quite accurate if TI in fact cannot deliver announced products on time and are unwilling to hire enough in-house programmers to produce products that consumers will buy.

Mike Browthers, president of Fun-ware, a Richardson, Texas company who is producing cartridges under an earlier TI contract which supplies GROM to third party producers,

SOFTWARE

says, "We have not had any problem getting our product into distribution with out the help of TI and would like to design more products for the 99/4A if the proper deal can be struck."

Until recently many third party producers could not afford to develop products for the 99/4A due to its low installed customer base. As the installed base increased, however, and more third party producers became interested, TI changed its contractual agreements and suppliers felt that the substantional loss of profits to them was more than they could stand.

Where does this leave us the owners of the 99/4A? No new game Modules released during the entire first half of this year? Soured by TI policies, third party producers turning their efforts to other computers? Continued delays of announced products? (Only 10 of 43 items TI scheduled for release in the 1st quarter of 1983 have been delivered to dealers.) We hope not!

In several conversations with TI we were able to find out that they are working very hard to find quality software products for the 99/4A. Working with companies such as Milton Bradley, Walt Disney Productions and others, several new products are planned for release later this year. Likewise cassette and diskette based software, which are not bound by the same legal restraints as cartridge products may surface from several third party suppliers in the near future and provide exciting new products.

PROGRAMMING CONTEST OFFERS CASH PRIZES

The International 99/4 Users-Group is proud to announce a new programming contest for its members.

All prizes to winning authors will be in the form of cash awards and several new rules have been adopted for this contest.

RULES

Programs can be submitted on any subject.

All programs must be submitted either on cassette tape or diskette. (Hardcopy listings will not be accepted). All media submitted will be returned after our review is complete if proper identification is provided by the submitting member.

Programs submitted must be written in TI BASIC, TI Extended BASIC, or 9900 Source Code which will operate on the TI 99/4 or 99/4A computer.
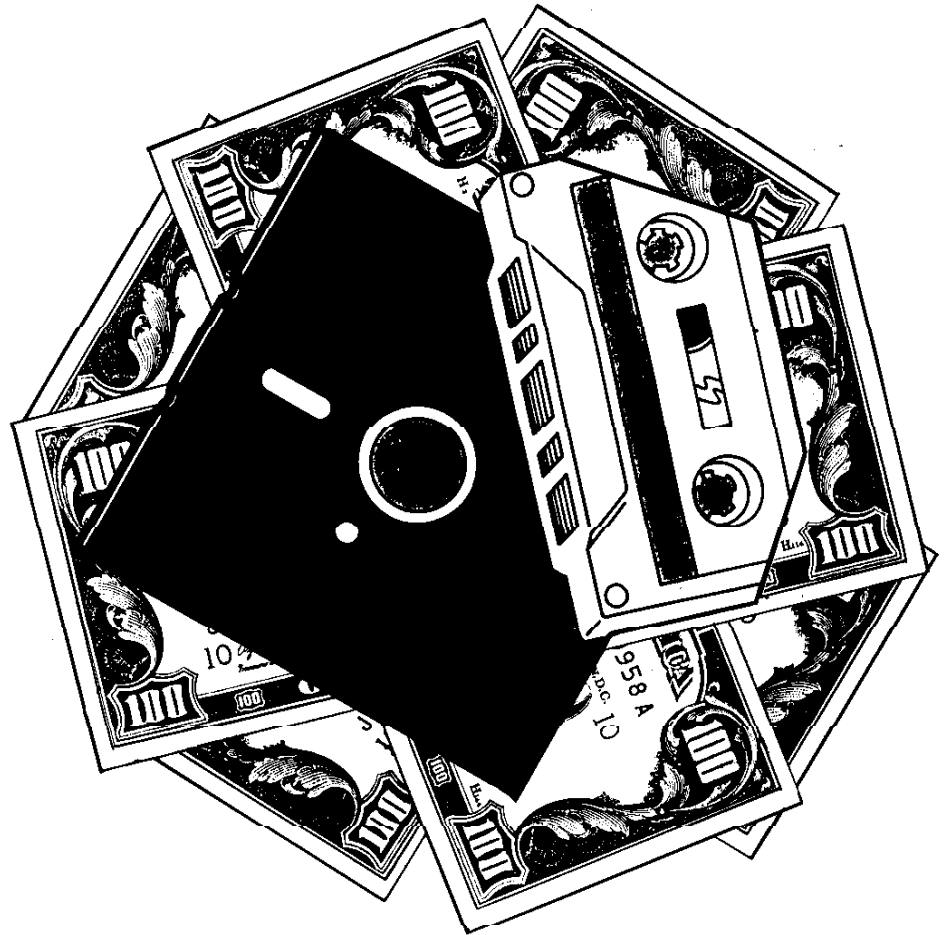
Winning entries become the sole property of the International 99/4 Users-Group and all entries may be added to the Owner-Written & Translated Software Library for redistribution to our members.

The following information must be in REM statements at the beginning of each program submitted:

IUG CASH CONTEST
Author's Name
City, State and Zip Code
Date Submitted

All entries must be postmarked by

July 1, 1983 and received by July 20, 1983.

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All entries must be addressed to:

IUG CASH CONTEST
P.O. Box 67
Bethany, OK 73008

There will be no exchange offered on contest entries for the Cash Contest.

All entries will be judged on originality, use of computer features, and user friendliness.

PRIZES

First Prize:
$500 in cash will be awarded for the program judged best in each of the three catagories: TI BASIC, TI Extended BASIC, and 9900 Source Code.

Second Prize:
$250 in cash will be awarded for second place finishers in each category.

Third Prize:
$50 in cash will be awarded to third place finishers in each category.

Programs submitted to any other publication or Exchange cannot be accepted and will be returned to the author or translator.

Contest winners will be notified by mail no later than August 1, 1983 and all prizes will be awarded prior to August 30, 1983. Winning announcements will be made in our August '83 President's Letter.

GOOD LUCK!

DLM SERIES COMBINES EDUCATION WITH ARCADE GAMES

Five new Solid State Software packages from Developmental Learning Materials are now available for the TI 99/4A. These packages which include Alligator Mix PHM 3114, Alien Addition PHM 3115, Demolition Division PHM 3116, Dragon Mix PHM 3117, and Minus Mission PHM 3118 pro-

vide fun for players of all ages while practicing basic math skills. All of the DLM game series are innovative and combine fast action, color graphics, and an arcade game format with learning that creates persistance and involvement found in arcade game players.

These games are based on a theory of combining proven educational techniques with a highly motivating format that challenges the player to learn at the same time he is challenging the computer. Each game in the DLM series has options which allow the user to control the speed at which the game is played, the numbers that appear in each problem, the time length of each game, and the mode - whether controlled by joystick or keyboard - in which the game can be played. These options maximize fun and learning by providing:

Success and Learning

Rather than preventing errors, success in these games is reflected by improvement. Starting players at a point advanced to their skills and moving them back or ahead to provide success, maximizes learning and creates a challenge. Poor performance is not viewed as a failure but as a challenge to improve.

Individual Needs

By selecting the appropriate numbers in these educational modules it will help the player want to learn. They will find needed repetitious drill as fun and stimulating as other types of learning.

High Rate of Learning

Most players must employ their best strategy under exciting circumstances and make rapid responses while being given immediate feedback. This type of educational challenge when mixed with arcade style action provides a very healthy learning environment.

Evidence of Improvement

Players have an unlimited ceiling performance, immediate feedback on performance, and a set pattern of learning that builds a strong framework for success.

We here at the Users-Group have had the opportunity to look at all five of the modules which are currently available and are very impressed with the overall quality from both an educational and entertainment standpoint. Currently we are in the process of writing detailed reviews for several of these products which will be seen in future additions of Enthusiast '99.

NEW MODULES AVAILABLE

HENHOUSE

Two new Arcade modules are now available from Funware. Henhouse, which is a complex game, involves a farmer protecting his hen house from poachers and wolves offers hours of excitement for all 99/4 owners. Although the game gets off to a slow start, the pace of action increases to almost a frenzy level as the game progresses.

The object of the game includes the collection of eggs to take to market prior to the poacher or the wolf playing havoc in the hen house. During the loll in action between wolves and poachers, the farmer leisurely hunts crows who are flying above his farm. Excellent graphics and sound makes Henhouse a great game for the entire family. Henhouse can be played from the keyboard of either a 99/4 or a 99/4A or joysticks may be used.

Members of the Users-Group staff who tested Henhouse were thrilled with this game and we highly recommend it to all of our members.

SOFTWARE

RABBIT TRAIL

Rabbit Trail is a "climbing" game in the mold of Donkey Kong. The object is for you, the rabbit, to collect all the carrots on each screen without being caught by a weasel, a hawk, a car, or a trap. A bonus timer counts down as you play each screen. When a screen is completed by collecting all the carrots, you receive the bonus points left on the timer. If the bonus timer reaches zero, the rabbit dies as if it had been caught by a weasel.

The space bar can be hit at any time to pause the game, with play resuming once another key is depressed. The joystick is recommended for use on this game, with the fire button being used to make the rabbit leap.

Rabbit Trail has 7 different screens. After completing screen # 7, the game returns to screen # 1, with a higher degree of difficulty than the previous time through. This will continue through any number of screens conquered by the player. Up to this point in time, the most we have seen is 12 screens. "Bonus bunnies" are awarded at 5000; 10,000; 20,000; 40,000; and every 40,000 points thereafter. A high score is also kept and displayed at the end of each game.

It seemed almost unfair to test Rabbit Trail during the Easter season. I personally killed enough bunnies during my testing of this Module to provide pelts for around 10 million full length coats.

We at International 99/4 Users-Group believe Rabbit Trail is one of the finest video games available for any home computer. We are certain our members will agree.

WARNING!

Do not sit down to play this game if your time is limited! It is one of the most addictive games we have seen.

Suggested Retail Price for Hen House is $39.95, Rabbit Trail is $42.95. Please check your Users-Group price list for member cost.

WHAT IS PASCAL?

This is a question we here at Users-Group hear almost every day. Pascal is a high level programming language (software) that was developed in the late sixties by Professor Niklaur Wirth at the Swiss Federal Technical Institute. He wanted to create a language suitable for teaching the concepts of disciplined, structured programming.

Over the past decade further refinements in the Pascal language have been made in both this country and in Europe. One of the foremost versions of Pascal was adopted for use by TI on its Home Computer, version 4.0 from the University of California San Diego.

Pascal is not hard to learn, but don't be mislead; the average basic programmer must change the entire way he thinks about programming in order to master it. There is a lot of disk shuttling also due to the programming tools (Editor, Filer, Compiler, Assembler and Linker) which are needed to write a Pascal program.

Pascal is not extremely fast, only 3 to 5 times faster than console basic, but the transportability to other systems with little or no changes in code makes it a highly desirable language.

To run Pascal on the 99/4 or 99/4A, you must have a 32K Memory Expansion, and either the p-Code or old style p-Code box peripheral as well as a cassette recorder or disk system. To write programs on the TI equipment you must have a disk system, 32K Memory Expansion and p-Code card or box as well as the p-Code software pro-

gramming tools mentioned above.

DISK MANAGER II

Reprinted from November 15, 1982 IUG Newsletter

TI was kind enough to give us an advance copy of their soon to be released Disk Manager II Command Module for use at TI-Fest. Our test of the new module shows that it will indeed initialize both sides of a dual sided disk (718 sectors) when using the Tandon dual sided disk drive. Although the Disk Manager II does have a prompt for double density it is inoperative which leads us to believe that some day there may just be a Disk Controller Card II.

As of the writing of this newsletter no decision has been made by TI on what type of exchange or sale arrangement will be made for those of you who wish to own this Module.

UPDATE:
For those of you who received the Disk Manager I when you purchased a Disk Controller Card, you may obtain the new Disk Manager II by writing Texas Instruments Customer Service at:

P.O. Box 53
Lubbock, TX 79408

You will need to enclose a check in the amount of $9.95 made payable to Texas Instruments as well as the original invoice and either the LTA or ATA number which is stamped on your Disk Controller Card. Please do not return the Disk Manager Module which you received with your Disk Controller Card. Reports from our members indicate that delivery time from Texas Instruments on the Disk Manager II is taking approximately 8 to 12 weeks.

MUNCH MAN TEST MODE

For those of you who currently

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have the new Munch Man command module, or for those of you who are planning to purchase one, here's a little trick we are sure that you will enjoy.

In the design of the Munch Man command module, TI has included a Test Mode. The Test Mode allows the user access to any screen in the three levels of play. The Test Mode also allows the user to receive additional men for extended play.

To access the Test Mode, you have three seconds from the time the Munch Man screen appears to type *#*. The first prompt will ask you which round you would like to play in, RND (0-2). Choose the round you prefer and remember 2 is the highest level. The next prompt will ask you which screen you would like to play in, SCN (0-19). Enter the screen you prefer to play. The final prompt will ask you for the number of Munch Men you wish to play with, MM (1-9). Choose from one to nine.

You are now ready to play Munch Man as you would in the regular mode. PLAY AT YOUR OWN RISK.

UPDATE:

This feature can also be used on the new Alpiner Module.

BACK-UP COPIES

Whether you use cassette tape or floppy disk as a storage for your programs one of the most important things to remember is to always have a back-up copy.

Even with the best equipment and supplies some day your tape recorder will "eat" one of your valued tapes and your data will be lost forever, unless you have a back-up copy. The same holds true with those of you who use floppy disk. Disk are very sensitive to temperature changes and wear with use. They also should

never be stored near your monitor or other electrical equipment.

Another helpful hint is that heads of your cassette recorder and disk drives should be cleaned on a regular basis. There are several good cleaning solutions for this purpose. Cassette tape recorder heads should also be demagnetized regularly.

NEW ITEMS BECOME AVAILABLE

During the first quarter of 1983, Texas Instruments has released the following items which are currently available from the 99/4 Users-Group.

PHM 3088 Computer Math Games VI

PHM 3114 Alligator Mix

PHM 3115 Alien Addition

PHM 3116 Demolition Division

PHM 3117 Dragon Mix

PHM 3118 Minus Mission

PHD 5077 Personal Tax Plan

PHA 2612 TI 99/4A Single Cassette Cable

Please change your price list to indicate that these items are now available.

SOFTWARE CATALOG

Enclosed in this newsletter you will find our new Owner-Written & Translated Software Catalog. Over 200 new programs have been added to this edition and many of our new programs are excellent in overall quality.

Please read the instructions at the beginning of this catalog as we have changed the format of this publication.
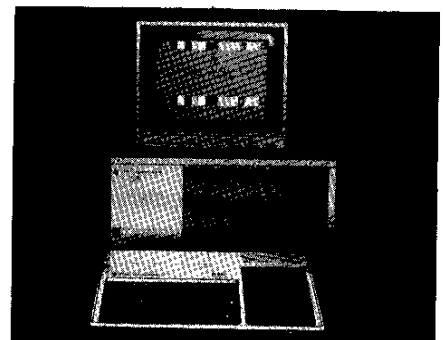
We hope to update the Owner-Written & Translated Software Catalog on a quarterly basis with the first update and revision being mailed in July of this year. We would appreciate any comments which you may have as to how we can improve this publication and make it easier for our members to use.

HARDWARE

WHAT TO BUY NEXT?

Here is a question that we at the Users-Group get quite often. "What should I buy next for my 99/4?" It normally comes from a person who has just purchased their 99/4 or 99/4A and plan to use it in the home as an educational tool and game machine. Bewildered by the many add-on peripherals which are now available this is not any easy decision for the owner.

First we think that any 99/4 owner must decide on just what he or she wants the machine to perform for them. You must understand

The 99/4A Home Computer

that the computer is simply a hunk of pot metal and plastic with a

few inexpensive chips and printed circuits in it and will do nothing until you decide on what you want it to do.

Software is the key!

Whether it is produced by Texas Instruments, Third Party sources or part of our Owner-Written Library, software is the only thing that will make this shiny new box work for you. Now that you know the KEY there are a few other important facts you need to know. Software comes in different forms! Modules, Cassette Tapes, and Disks. Hold on, we're not through yet! Software comes in different styles! Basic, Extended Basic, Assembly Language and Pascal. Oh! One more thing! Software comes in different sizes! That's right! 0 to 16K for Basic Programs and 16 to 32K for most others. (You need the expansion Ram to get to the really good stuff). CONFUSED? It seems, that somewhere along the line someone has forgotten to tell the buying public that just because their new TI Invaders and other Command Modules run fast and look good doesn't mean that you can do this type of programming at home with a console and TV set. Leave it up to TI though, need more speed, $99.95 for an Extended Basic. Still want more speed, $99.95 Editor/Assembler. (You will also need a disk system and expansion Ram —$1200—if you intend to write your own).

Oh yes! The question was "What Next". If I were buying a 99/4A today I think that my first peripheral purchase would be the Speech Synthesizer and the Terminal Emulator II. Full Text-To-Voice speech adds a totally new dimension to the 99/4 at a very affordable price. With these two optional peripherals your own programs seem to come to life

and our guess is that many of the new educational software products will require these options. Next would be an Extended Basic Command Module. (If you can find one). The reason being that you will be able to run some of the Assembly Language with it and it makes converting other computer companies Basic Languages much simpler. Also the increase in speed when using sprites is dramatic.

Now! Ready to spend some big bucks? Next step is a Disk System. By this time you have found that tape for 99/4's should be sold in plaid containers and be used only to stick notes on the monitor. Gee it's a whole new world! 90K of storage that you can access with lightening speed. If you're serious about personal computing you can't live without a Disk System.

If by this time there is any money left over it's time to consider the 32K Ram Expansion. A must for LOGO, Editor/Assembler and a whole list of coming attractions. Don't forget that if you want printed material a dot matrix printer sells for about $800 not counting the TI RS232 which you need to make it work. And so on and so on.

In all seriousness we urge you to plan your additional peripheral purchases wisely. Ask other users what they are doing with their computers and what has been most helpful to them. Look for Software products that will not bore you easily and that will be useful to you in the months and years to come. Remember this about computer products, that what is State-of-the-Art today may not be State-of-the-Art tomorrow. If your local dealer of TI cannot answer specific questions regarding their hardware and software products for you, please feel free to ask us. We may not have the

answer right then, but I personally guarantee that we will do our best to get an answer for you.

TAPE PROBLEMS?

Unable to load a cassette tape purchased from us or other sources? This is not an unusual problem if the tape player you are using is not one that is recommended either by Texas Instruments or us here at the International Users-Group.

We check all tapes manually on both G.E. and Panasonic tape players before they leave our office but we still receive some complaints that they will not load once received by the customer. When we master a tape here in our office we use near maximum tone and volume control settings. When trying to load one of our tapes we suggest that you set your cassette recorder's tone and volume controls to the maximum levels and work down from there a little at a time, being sure to move both the tone and volume controls in equal proporations.

Some helpful hints are, that if you continually get an "Error Detected in Data", your tone and volume settings are too high. If you get a "No Data Found", your tone and volume settings are too low.

The 99/4 and 99/4A are very precise in the type of signal they like to hear from recording equipment and you may need to shop several different models of tape players before you find one that will load all of the tapes from Texas Instruments, The Users-Group, and Third Party sources. We highly suggest that once you have successfully loaded any program that you make a back-up copy on a new tape and log the tape counter setting for each pro-

gram. We have found that in most cases programs that are loaded from your machine to your tape equipment are much more reliable.

If you are not successful in loading programs from us please let us know. We are always willing to help in any way we can.

Some of the best recorders that we have tested are the Panasonic model RQ2785, GE 3-5154A, J.C. Penney # 681-3246, and the Craig J103.

DUAL-SIDED DISK DRIVES NOW AVAILABLE

As we reported in a previous newsletter, the new Disk Controller Card (PHP1240) is capable of controlling a 5 ¼ double-sided, single density disk drive. Although the Disk Manager command module, which will initialize both sides of the disk, is still not available, we here at the Users-Group thought that it would be interesting to put a dual-sided drive in our newly acquired Expansion Box.

After installing a Tandon TM100-2 bare drive in the box, we were pleasantly surprised to find that we were able to initialize our single-sided disks with the current Disk Manager module, which is packed with the Controller Card.

Further investigation on our part revealed that through not yet available p-Code software, we were actually able to initialize and use both sides of a double-sided disk.

Those of you who are planning or who have already purchased the Peripheral Expansion Box should seriously consider a dual-sided drive for your P.E.B., as the cost differences compared to the amount of storage space available is quite significant.

The Tandon TM100-2, which we

are currently using plugged directly into the Disk Controller Card, is secured in place by the screws provided by TI, which are also packed with the Disk Controller Card.

ADDITIONAL PERIPHERALS EXPLAINED

Each week members of the International Users-Group ask for descriptions and uses of various peripherals available for the 99/4A Home Computer. The following article should be of help to anyone who is contemplating additional peripheral purchases.

We have taken each individual component of the Peripheral Expansion System and given some details which we hope will be beneficial to our members.

PERIPHERAL EXPANSION SYSTEM

The TI Peripheral Expansion System allows you to add accessories to your computer system in a single, convenient location by inserting them in the peripheral system itself. The package includes the Peripheral Expansion System and the Peripheral Expansion Card with a connecting cable, which combine to serve as an interface between the computer console and the accessories in the unit.

With the Peripheral Expansion System attached to your TI Home Computer, you can:

1. Increase the capabilities of your computer system with a variety of accessories in the form of slide-in cards (sold separately).

2. Install a TI Disk Memory Drive (sold separately) in the compartment designed for this purpose.

3. Connect the unit to the computer via cable to provide flexibility in the placement

of your equipment.

The result is a simplified method for expanding your computer system, which centralizes most of your equipment in one place and reduces the space requirements necessary for setting up the system.

By simply removing the top of the unit and sliding the accessory cards into the slots provided, the Peripheral Expansion System can hold up to seven computer accessories, such as the Disk Drive Controller Card, an RS-232 Interface Card, a Memory Expansion Card, and the TI p-Code Peripheral Card, in addition to the Peripheral Expansion Card.

Power Requirements

Voltage: 115 VAC
Frequency: 60 Hz
Power: 150 Watts

Physical Characteristics

Height: 7.0"
Width: 17.5"
Depth 11.0"
Weight: 18 lbs.

RS-232 CARD

The Texas Instruments RS-232 Interface Card is a communications adapter that enables you to connect a wide range of accessory devices to your TI Home Computer. You can list programs on a printer, send and receive data from a terminal, exchange TI BASIC programs directly between TI Home Computers, draw Bar Graphs on a color plotter, and much more. By adding the Telephone Coupler (Modem) and the Terminal Emulator II Solid State Software Command Module, your Home Computer can communicate with other computers and terminals over ordinary telephone lines. You can down load programs from data-

bases such as the Source, trade stocks using Dow Jones, or communicate with loved ones miles away using electronic mail services.

With an optional cable, two RS 232 ports (serial) are available for independent usage. You can access an office computer or time-sharing network from your own home, using your TI Home Computer as a remote terminal to send and receive data. And you can write TI BASIC language programs which use EIA RS-232C compatible devices, including printers, plotters, video display terminals, and other computers. The RS-232 Interface Card has a parallel I/O feature which handles both input and output data in an 8-bit format. The parallel I/O port interfaces directly with printers that accept data in a parallel format which saves you the expense of an RS-232 Interface on the printer.

Functional Capabilities

All functions are programmable from a BASIC program.

Software Programmable Hardware Functions:

Baud rates: 110, 300, 600, 1200, 2400, 4800, or 9600.
Number of data bits: 7 or 8.
Parity: none, odd or even.
Number of stop bits: 1 or 2.

Software Programmable Software Funtions:

Carriage return: Automatically added to the end of all output records unless disabled. If disabled forces Nulls and Linefeed below to be disabled also.
Nulls: Normally disabled but if enabled will automatically add 6 null characters between the carriage return and the linefeed characters.
Linefeed: Automatically added at end of record for D/V.
Echo: Automatically echoes all received data on a particular port back to the device connected to that port. Also enables the remote terminal device to edit the data record before the console receives it.
Parity: Normally disabled but if enabled will check parity errors and generate an error code if any are found.
Data bits: 7 or 8.

BASIC LANGUAGE INTERFACE

The RS-232 Interface contains all the software necessary to interface with the TI Home Computer File Management System and is controlled from TI BASIC, The OPEN, CLOSE, INPUT, PRINT, OLD, and SAVE statements can be used to input and output data through the two ports of the RS-232. The INPUT and PRINT statements can input and output data to a terminal.

The LIST command can produce a printed copy of a TI BASIC program, The OLD and SAVE commands can transfer a copy of a TI BASIC program from one TI Home Computer to another.

Peripheral Connection:

One serial port and one parallel port (Electronic Industries Association RS-232C standard). Connection is by means of cables using EIA RS-232C standard 25-pin male connectors.

Seven signals are used:

SERIAL DATA IN
SERIAL DATA OUT
CLEAR TO SEND
DATA SET READY
DATA CARRIER DETECT
DATA TERMINAL READY
SIGNAL GROUND

EIA Data: .

Data is serialized and shifted to EIA (RS-232C) levels with baud rate selectable under program control.

Protocol.

ASCII.

Power Requirements:

Voltage: 115 vac.
Frequency: 60 Hz
Power: 20W

Physical Characteristics:

Length: 25.9 cm (10.2 inches)
Width: 17.0 cm (6.7 inches)
Height: 7.1 cm (2.8 inches)
Weight: 1.0 kg (2.2 lbs.)

MEMORY EXPANSION CARD

The Texas Instruments Memory Expansion Card increases the memory capabilities of the TI Home Computer. The card adds 32K bytes of Random Access Memory (RAM) to the 16K bytes of RAM available with the computer. This expanded memory is designed for use with TI Extended BASIC, Editor/Assembler, TI LOGO, TI-Writer, Multiplan, and other Command Modules designed to utilize the additional memory, as well as the UCSD p-System.

To utilize the Memory Expansion Card, the TI Extended BASIC Command Module or another specialized Command Module MUST be inserted in the computer console. The TI BASIC computer langauge which is built into the computer and most software packages cannot make use of the memory card.

DISK MEMORY SYSTEM

The Texas Instruments Disk Memory System is a combination of computer hardware and software that allows you to store and retrieve data quickly and accurately on 5 ¼ inch single-sided or double-sided diskettes (sold separately). The most important use of the disk system is storage and retrieval of information via TI BASIC programs.

SAVE PROGRAMS: Each single-

sided diskette holds over 737,000 bits of information while a double-sided diskette holds over 1,474,000 bits of information. As an example, you can store about 100 BASIC programs, each 50 lines long, on a single-sided diskette.

STORE AND RETRIEVE DATA: You can store data that is accumulated when your programs are run. One single-sided diskette can hold about 90,000 characters and a double-sided diskette can hold twice as many characters.

UPDATE DATA: You can, through a BASIC program, update the information in your files so that they contain the latest, most accurate data.

DISK CONTROLLER CARD

The Disk Controller Card tells a disk drive where to position the magnetic head in order to read or write information properly. The controller also puts an index on the disk, making the data that has been written easy to locate. It can control up to three Disk Memory Drives.

DISK MEMORY DRIVE

The disk drive reads information from and writes information on the diskette. It can rapidly locate any position or file on the diskette as directed by the Disk Drive Controller. The disk drive spins the diskette at a constant speed and controls the movement of the magnetic head. There is a special compartment in the Peripheral Expansion System for easy install-ation of one Disk Memory Drive.

DISK MANAGER
COMMAND MODULE

The Disk Manager Solid State Software Command Module helps

you maintain the information on your diskettes. Naming and re-naming diskettes, renaming files, deleting files, copying files, and copying diskettes all can easily be performed with the Disk Mana-ger Module plugged into the com-puter console. This Module does not have to be in the GROM slot while operating BASIC or Ex-tended BASIC programs.

The Texas Instruments disk system represents a major advance over other systems. Because the con-trol software needed for the disk system is in permanent ROM, (Read Only Memory) in the Disk Manager Command Module, and in the controller, the disk system uses a relatively small amount of working space in the computer's available memory (RAM).

P-CODE CARD

The Texas Instrument's p-Code Card allows the computer to access the UCSD p-System and a variety of programming languages, includ-ing UCSD Pascal, BASIC, and Pilot. The p-Code Card is designed to work with the TI Home Computer, a Color Monitor (or the TV adapter attached to a television set). the TI Peripheral Expansion System, a Memory Expansion Card, a Disk Memory System with up to three disk drives, and a diskette or cassette tape that contains source programs, object programs, raw data, and/or document text. A printer can also be attached to your system to increase its capabilities and applicability.

The p-Code Card allows your com-puter to execute programs written in several high-level languages. With the p-Code Card, the UCSD p-System's high-level languages such as Pascal and BASIC, are com-

piled to an intermediate language called pseudo-code or p-code. The

p-Code Card interprets the p-code instructions, which are then exe-cuted by the computer.

The simplest configuration for running the UCSD p-System re-quires the TI Home Computer TV Adapter attached to a tele-vision set, the TI Peripheral Ex-pansion System, a Memory Ex-pansion Card, the p-Code Card, and either a cassette recorder or the Disk Drive Controller Card with a Disk Memory Drive. With this equipment you can either develop programs of your own or run existing programs.
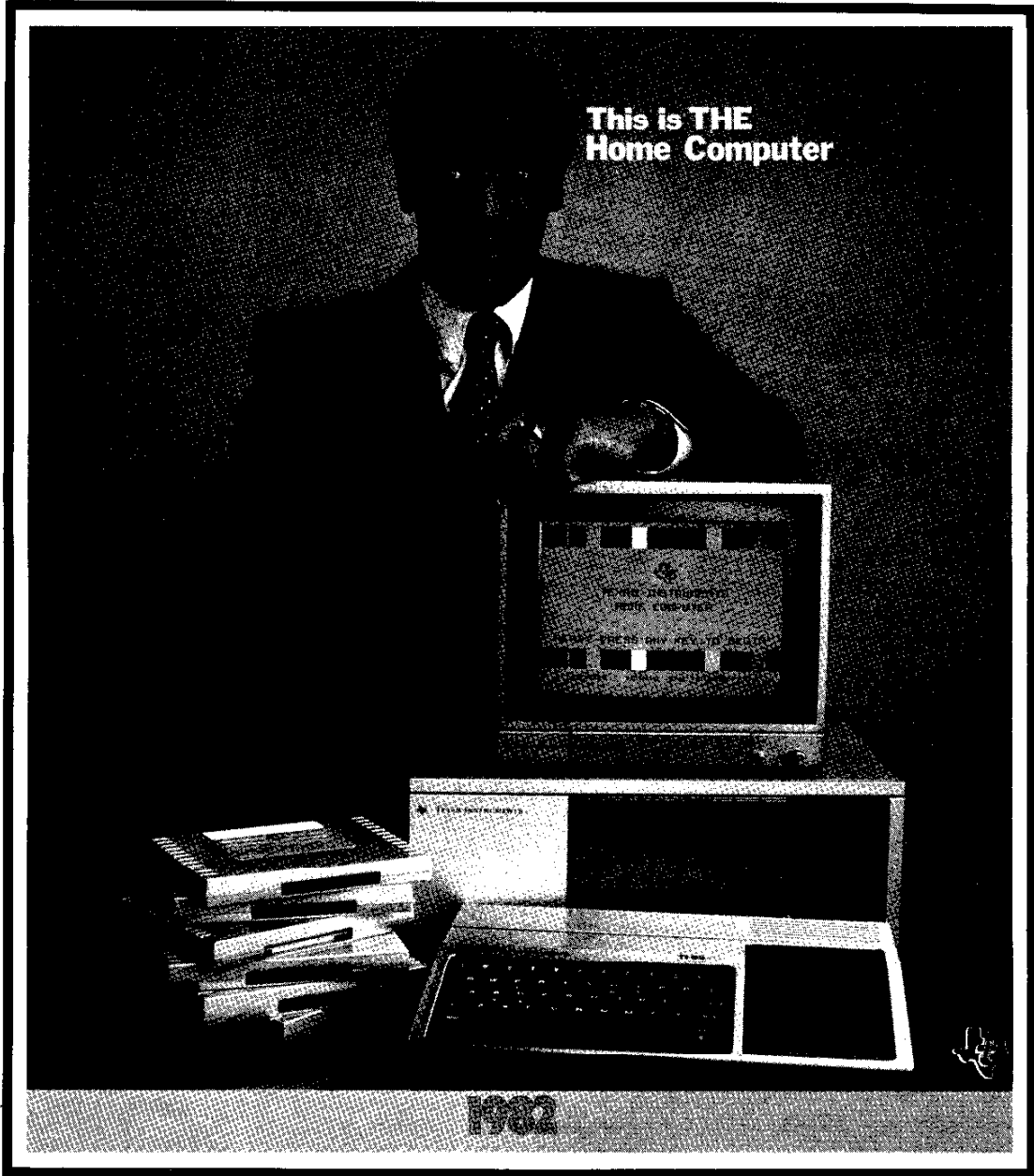
Editor, Filer, Compiler, Assembler, Linker, and Utilities capabilities are available on TI Diskettes (sold separately).

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This is THE
Home Computer