



PITTSBURGH
P.U.G.
USERS GROUP

PERIPHERAL

VOLUME 2

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NUMBER 6

001 Death Notices

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TEXAS INSTRUMENTS HOME COMPUTER DIVISION

TI-99/4A

On Friday Oct. 28, 1983 at Dallas Texas, 3:00 Central time the 99/4A home computer died, brother of the late 99/2 and 99/4, age 3 years old, cause of death miss management; survived by 1 million grandchildren and 100 thousand greatgrand children. Friends received at Nov. 20th Allegheny County Community College South Campus 4:00 to 9:00. services at 7:00.

NEXT MEETING

The next regular meeting of the Pittsburgh Users Group will begin at 4 p.m. Sunday Nov. 20, at the Community College of Allegheny County's South Campus.

See Jonathan's Corner for class times. The Group's library will be open at 6:30 to 7:00 for giving out programs and accepting returns.

We are asking members who have printers to call 653-3636 who can bring theirs to the meeting for a printer demonstration to the members thinking about buying a printer for their system.

We will have a lot to talk about at this meeting in regards to the Groups future, so I hope we have a large turnout.

LAST MEETING

WE had a demonstration of the PLATO courseware by Elaine Mast, it was interesting but expensive at that time, but should be cheap now.

The PASCAL DEVELOPMENT SYSTEM was also demonstrated by Dick Beis, the same nice but expensive was true also but not now.

We had a sneak preview of Bill Bies's new ZAXXON game ARCTURS. It's taken Bill months of programming to get it this far, but well worth the wait. The program is in assembly language and takes up a full disk. Another fine addition to his other games ASTIROIDS and ARTHROPOD.

COMPUTER EDUCATION

Don Heiber would like to start a sub-group "EDUCATIONAL COMPUTER USE" for our P.U.G. It might be a useful form for professional educators in our club. Also parents interested in setting up an effective home curriculum for their children might find such a group useful. Call Don at 653-6963 for more information. The group plans to meet at 6:30 to 7:00.

Fantastic Sale!

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SHOP AND SAVE NOW FOR THOSE ITEMS THAT WILL MAKE SOMEONE VERY HAPPY CHRISTMAS MORNING!!! THIS DEALER WILL CONTINUE TO SUPPORT THE TI HOME COMPUTER WITH ALL THE THIRD PARTY SOFTWARE AND HARDWARE, SO NOW YOU JUST HAVE TO MAKE ONE STOP OR CALL FOR THE LARGEST SELECTION OF SOFTWARE.....HARDWARE



| | | |
|---------------------------|-----------------|---------------------------|
| CUBIT | ATARISOFT | PHONE MODEMS |
| ARTHROPOD | PAC MAN | RS 232 CARDS |
| ASTIROIDS | DONKEY KONG | WICO JOYSTICKS |
| ARCTURUS | DIGDUG | FLIP N FILE DISK HOLDERS |
| SPACE STATION 1 | DEFENDER | ELEPHANT DISKS |
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Jonathan's Corner

Notes on BASIC class:

Most home computers use BASIC as the general purpose language for user-written programs. Each computer has its own dialect of BASIC, making it hard to interchange programs of different computers. The TI follows this trend, for it has "TI BASIC" pre-programmed into the console. There is a common ground of similar commands, but extra features such as graphics and music differ greatly from computer to computer. The flexibility of these features determines how powerful a dialect of BASIC is. TI BASIC, compared with the BASIC of other computers, is not very powerful. It does have some unique commands, but moving graphics, called sprites, positioning text anywhere in the screen, and accepting input anywhere on the screen cannot be done. These are just a few areas where TI BASIC lacks power. TI BASIC is considered to be inadequate for advanced programming because of these weaknesses. Fortunately, there is a way to upgrade this version of BASIC. This is done through "TI Extended BASIC." Extended BASIC is a plug-in module that instantly puts the TI up to par with most other dialects of BASIC.

TI Extended BASIC has over forty new or expanded commands than BASIC. It can handle multiple-statement lines. These allow many commands to be placed in one line, using two colons as a separator. An sample use of this feature would be "FOR DELAY=1 TO 100 :: NEXT DELAY". This would allow a delay to be inserted into a program with only one line. Extended BASIC also has sprite capability. It can move up to twenty-eight objects at one time, while other commands are being executed. This is why most arcade-style games are written only for Extended BASIC.

Extended BASIC also has the "MERGE" command. This allows a commonly used subprogram to be stored on disk, and then be merged with another program in memory. Also, one program can be loaded and run from another. This allows programs of virtually endless size to be written, for many programs can be strung together as one.

Extended BASIC also features comprehensive program control of errors, warnings, and breakpoints. If an error happens while running a program, a special message can be printed telling what kind of error it was, while not stopping the program itself. There is a similar command for warnings. The <CLEAR> or <BREAK> key, <FCTN 4>, can also be disabled in a program.

Print can be placed anywhere on the screen, and information can be accepted anywhere, too. On top of all these features, TI Extended BASIC gives support for loading and running TMS9900 Assembly Language programs if the Memory Expansion is attached to the computer.

TI Extended BASIC is an inexpensive and powerful tool for expanding the TI home computer, and if any serious applications are required, Extended BASIC is necessary.

The BASIC class will be held before each regular business meeting. It is a free class, and no previous experience in necessary. The time distribution is as follows:

4:00 to 4:30 -- Review. If you missed a class or need review, this is your chance!

4:30 to 5:30 -- Part 1. The material needed is the blue "Beginners BASIC" book that came with your computer.

5:30 to 5:45 -- Break. There will also be Question and Answer during this time.

5:45 to 6:30 -- Part 2. Second half of lecture-type class.

6:30 to 7:00 -- Break. More Question and Answer until general meeting.

The class will be held in the main meeting room.

If you have any questions concerning the TI or anything else, you can call me at (412)731-4895. My address is:

Jonathan Zittrain
136 Thornberry Dr.
Pittsburgh, PA 15235

Good luck,

Jonathan Zittrain

TI EDITOR/ASSEMBLER BOOK....\$5.00
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TI CASSETTE PROGRAM PHT6013 GRAPHING
PACKAGE...\$6.00 BOB TRAUTMAN 761-9380

NEW TI P BOX..\$50.00 TI DISK CONTROLLER
CARD..\$90.00 FRANK SHIPKOWSKI 445-3655

SPEECH SYNTHESIZER \$50.00 TIPPI 882-5818

CUBIT

Cubit as the name implies is a takeoff of the arcade game Quebert - and a very good one I might add. The object is to jump a little fellow called Cubit around the blocks of a pyramid, changing their color to the required color. Also at the same time you must avoid a bouncing ball, a menacing fellow called Cubit Cruncher and keep from fall off the edge.

There are five levels of play with five screens in each level, each a little more difficult than the one before. It can be played by either one or two players with each able to select individually his starting level (1 to 3).

Cubit is available form "ARTIOS" Oklahoma City, Ok, 73107 in Assembly version on cassette for the Mini Memory for 19.95 or the Assembler/Editor version and an Extended Basic version on disc for 23.95. See "ARTIOS"ad in the latest Enthusiast Magazine.

In my opinion this is one of the best games available today for the 99/4A computer.

Bob Proski

FLIPPING YOUR PRINTERS RIBBON

Here's a little tip for those people with printers. When your print-outs start getting too light and you are ready to buy a new printer ribbon, wait a minute. If you look at the ribbon you will notice that only half of it has been used. In most cases the printer ribbon can be flipped over and work as good as new. The cartridge casing opens easily enough, but the flipping process can be a bit cumbersome considering that about 50 feet of ribbon must be removed from the cartridge, flipped, and then rewound. I successfully flipped and rewound my ribbon in about 15 minutes with only a minimal amount of ink gracing my fingertips. Try it! You have nothing at risk (except for an old printer ribbon), and everything to gain (a new ribbon minus its cost).

Walt Dollard

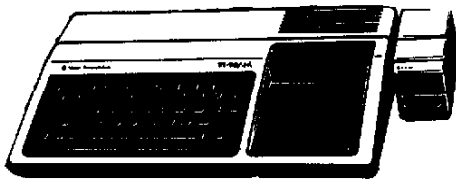
BIT-MAP MODE BUG

The TI-99/4a Computer has a special Graphics Mode in which up to 16 different colors can appear at once in a single screen character. This Graphics Mode referred to as Bit-Map Mode is only available to programmers using assembly language. However there is an error in the section of the Editor/Assembler Manual which describes how to prepare the VDP Write-only Registers so that Bit-Map Mode can be used. The addendum that comes with the manual clears up the problem somewhat, but not entirely. To clear up the problem completely set the VDP Write-only Registers as follows:

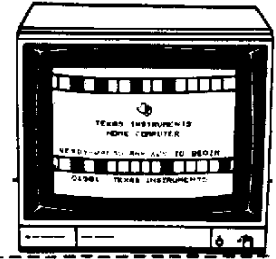
Register 2 to >06 (SIT begins at >1800).
Register 3 to >FF (CT begins at >2000).
Register 4 to >03 (PDT begins at >0000 and this is no mistake!).

Remember to set Register 0 to >02 for Bit-Map Mode and predefine all values in the SIT according to the manual. Contact me if you need further help.

Walt Dollard



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| MODEL | NAME | RETAIL | COST |
|----------|--|----------|----------|
| FD 55B | TEAC SLIM LINE DRIVE, DS/DD (FREE BOX OF ELEPHANT DISKETTES WITH ABOVE PURCHASE) exp 12/1/83 | \$450.00 | \$275.00 |
| PP 2500 | PRINTER PAPER 2500 SHEETS | \$ 30.00 | \$ 24.95 |
| PHM 3026 | EXTENDED BASIC | \$ 99.95 | \$ 74.95 |

HARD DISK SYSTEM FOR TI 99/4A

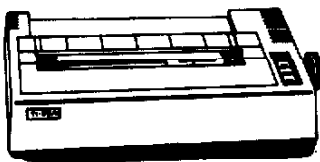
| | | |
|-------------|----------------|----------------|
| MYARC 5 MEG | LIST \$2599.00 | COST \$2176.00 |
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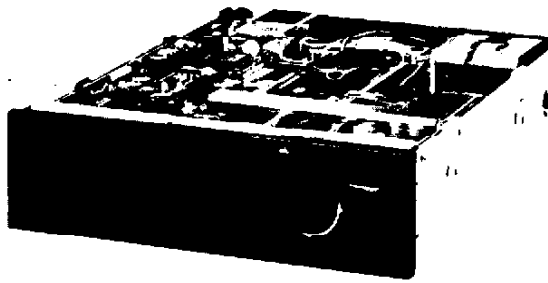
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Four Slim 5-1/4" Floppy Disk Drives to Choose From

FD-55A
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Single Sided

FD-55B
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Double Sided



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Single Sided

FD-55F
96 tpi 1 MB
Double Sided

FD-55 Series

Slim, Half-Height Drive

We've made the height of the drive only 41 mm, half the height of conventional models. Now two drives can fit in the space previously required for one, making it easy to multiply your data storage capacity.

Low Heat Generation

To make it possible to mount two drives in the same space previously taken up by one it was necessary to greatly reduce heat generation. TEAC's new motor and plunger system greatly reduces power consumption to a low 5 watts for exceptionally cool operation.

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The brushless DC direct-drive motor used in FD-55 series drives is so reliable (lifetime is over 10,000 hours) that it can be left running continuously as long as power is on. This means that there is no motor start-up time. The electrical noise of conventional drives' motor brushes has been eliminated.

Full Compatibility with FD-50 Series

The FD-55A is fully compatible with the FD-50A, the FD-55B is fully compatible with the FD-50B, etc.; in this way, the FD-55 series is fully compatible with the FD-50 series formats. It's thus possible to replace an FD-50 series disk drive with two FD-55 series disk drives, thus doubling storage capacity.

High-Speed Access, High-Accuracy Positioning

A highly accurate band positioner is used in the mechanism to position the heads. Track-to-track access time is a fast 3 milliseconds (FD-55E/F), enabling high-speed data access.

Interchangeable Front Panel

You can choose the front panel color in order to match the color and design of all units to an existing system. When updating your current system with an FD-55 series unit,

you can match the color and design to suit your needs.

Choose 1 of 4 Types

Choose one of two track densities and either single or double sided format, a total of 4 types. Using the MFM recording method, the FD-55A has a data storage capacity of 250K bytes, the FD-55B and FD-55E have capacities of 500K bytes, and the FD-55F has a capacity of 1 megabyte. TEAC has the perfect drive to match any application.

SPECIFICATIONS

Recording Method:

FM (single density), MFM (double density)

Disk Rotational Speed: 300 rpm

Motor Starting Time: 400 ms

Head Load Time: 50 ms

Index: 1

MTBF: more than 8,000 hours

Error Rates

Soft Errors: 1 per 10⁹ bits (up to 2 retries)

Hard Errors: 1 per 10¹² bits

Seek Errors: 1 per 10⁶ seeks

Temperature

Operating: 4—46°C

Transportation: -40—62°C

Storage: -22—47°C

Relative Humidity

Operating: 20—80% (noncondensing)

Non-Operating: 1—95% (noncondensing)

Power Requirements

DC +12 V ±5% 0.3 A typ., 0.7 A max.

DC +5 V ±5% 0.55 A typ., 0.7 A max.

Dimensions

(W × H × D): 146 × 41 × 203 mm
(5-3/4" × 1-5/8" × 8")

Weight: less than 1.5 kg (3 lbs. 5 oz.)

| | | FD-55A | | FD-55B | | FD-55E | | FD-55F | | | |
|--------------------------------------|-----------------------------------|----------------------------|--------|-------------|--------|--------|--------|-------------|--------|-------|-------|
| | | FM | MFM | FM | MFM | FM | MFM | FM | MFM | | |
| Capacity (K bytes) | Unformatted | Transfer Rate (K bits/sec) | | 125 | 250 | 125 | 250 | 125 | 250 | 125 | 250 |
| | | Per Track | | 3.125 | 6.25 | 3.125 | 6.25 | 3.125 | 6.25 | 3.125 | 6.25 |
| | Per Disk | | 126 | 250 | 250 | 500 | 250 | 500 | 500 | 1,000 | |
| | Formatted (16 sectors / track) | Per Sector | | 0.128 | 0.256 | 0.128 | 0.256 | 0.128 | 0.256 | 0.128 | 0.256 |
| Per Track | | 2.048 | 4.096 | 2.048 | 4.096 | 2.048 | 4.096 | 2.048 | 4.096 | | |
| Per Disk | | 90.0 | 180.84 | 180.0 | 327.68 | 180.84 | 327.68 | 327.68 | 655.36 | | |
| Inside Track Recording Density (bpi) | | 2768 | 5536 | 2938 | 5876 | 2788 | 5576 | 2961 | 5922 | | |
| Inside Track Flux Density (frpl) | | 5536 | | 5876 | | 5576 | | 5922 | | | |
| Surface | | 1 | | 2 | | 1 | | 2 | | | |
| Track Density (tpi) | | 48 | | 80 | | 80 | | 96 | | | |
| Tracks/Disk | | 40 | | 80 | | 80 | | 160 | | | |
| Track Radius (mm) | | Outside 57.150 | | side 57.150 | | 57.150 | | side 57.150 | | | |
| | | Inside 36.513 | | side 36.513 | | 36.248 | | side 36.248 | | | |
| Average Access Time (ms) | | 93 | | | | 94 | | | | | |
| Track Access Time (ms) | | 6 | | | | 3 | | | | | |
| Settling Time (ms) | | 15 | | | | 15 | | | | | |

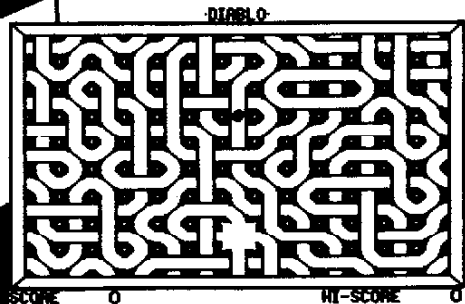
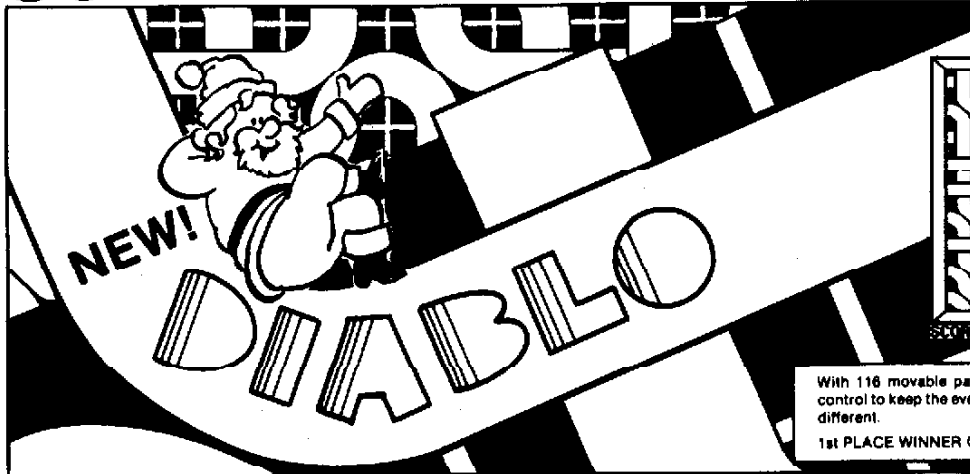
Features and specifications are subject to change without notice.

TEAC

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SOFTWARE FOR THE 99/4(A)

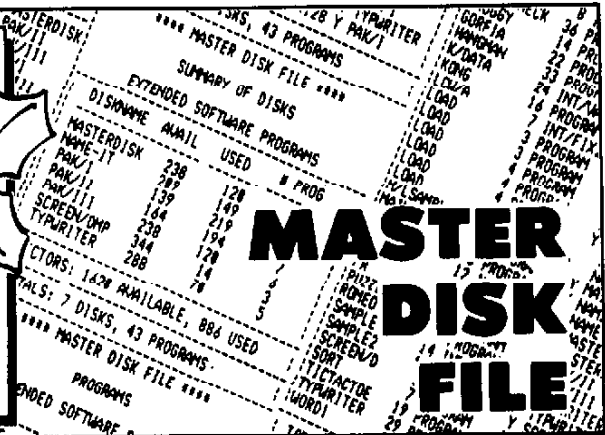
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MASTER DISK FILE uses a large portion of the 90K bytes available on a single sided disk as virtual memory to create and store a perpetual file of disks, programs and applicable data. Data can be added, removed or updated. The file may then be accessed for viewing on the screen or for printing several types of lists on a printer.
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 Maximum of 120 disks or 1100 programs may be filed.
 Does not require memory expansion.
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 Look-up time from a cold start: under one minute; from a running program: 15 to 25 seconds!
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 Supports any printer: serial or parallel.
 Diskette (only) \$15.00
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KONG — must fight his way past barrels, ladders & trap doors to save Roxanne from Igor's bomb. Six different screens. Joystick req. \$15.00
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 Any Input/Output storage of text — disk, cassette, cassette input/disk output, or vice versa.
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 Comes with a 20 page instruction booklet.
 Cassette \$32.00 Diskette \$35.00
SCREEN/DUMP — Print the screen to a dot-addressable, 8-bit printer. Does not require extra memory! Disk version is simple to use. Cassette version requires mid programming knowledge \$12.00

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 Records: 250 records per diskette consisting of up to nine 28-character items per record.
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 NOTE: Should you decide to upgrade to the TI-WRITER module, TYPWRITER and NAME-IT data can be converted for use by that module. NAME-IT alone, will generate 250 TI-WRITER form letter records.
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| | | | |
|---|---------|-----------|------|
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| GAMES PAK/III (Kong, Bouncer, Romeo) | \$26.95 | (C or D) | \$ |
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| | \$35.00 | (D price) | \$ |
| NAME-IT (data base/mail list) | \$32.00 | (C price) | \$ |
| | \$35.00 | (D price) | \$ |
| SCREEN/DUMP (printer required) | \$12.00 | (C or D) | \$ |
| MASTER DISK FILE | \$15.00 | (D only) | \$ |
| INDIVIDUAL GAMES | \$19.95 | (C or D) | \$ |
| <input type="checkbox"/> Froggy <input type="checkbox"/> Extended Baseball <input type="checkbox"/> Gorfia Pestulitis <input type="checkbox"/> Extended Hangman <input type="checkbox"/> Bouncer <input type="checkbox"/> Kong <input type="checkbox"/> Tic-Tac-Toe <input type="checkbox"/> Artillery <input type="checkbox"/> De-Cypher <input type="checkbox"/> Puzzle 15 <input type="checkbox"/> Romeo <input type="checkbox"/> Flip Checkers Total Individual Games | | (C or D) | \$ |

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Dealer and programmer inquiries welcome.

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Learn to fly with the Dow-4 Gazelle, a realistic IFR simulation of a typical 4-place private plane. It is not a game. A manual with 30 pages of text plus 7 figures helps the novice learn to fly. Experienced pilots will enjoy flying the ILS approach. Response time under 1 sec average. Display shows full panel (10 dials and 11 lights) and indicates position of runway for landing. Realistic sound effects. See reviews in Jan 83 99'er and Jun 83 AOPA Pilot. Requires joystick. Cassette. \$30.

EDITOR/ASSEMBLER

The Dow E/A turns your TI into an assembly language machine. For use with TI's Mini Memory Module. Fast and convenient. Allows use of entire RAM. Manual includes sample program with detailed explanations. See review in Aug 83 99'er. Cassette. \$25.

For additional information, write or call 412-521-9385. To order, send check or MO U.S. funds:

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