



THE PUG PERIPHERAL



THE MONTHLY NEWSLETTER OF THE
PITTSBURGH USERS GROUP
JUNE, 1989

FRONT PAGE NEWS BY GARY TAYLOR

I WOULD LIKE TO THANK MIKE SEALY FOR STEPPING UP TO THE PODIUM LAST MONTH TO CONDUCT THE MEETING WHILE I WAS OUT OF TOWN. I TRIED TO GET HIM TO DO A MAGIC TRICK FOR YOU BUT I COULD TELL THAT I WAS PUSHING MY LUCK WHEN I MENTIONED IT TO HIM.

THERE WILL BE SEVERAL DEMONSTRATION THIS MONTH CONSISTING OF PROGRAMS THAT WERE PICKED UP AT THE LAST COUPLE OF FAIRES. IN LAST MONTHS NEWSLETTER I WROTE ABOUT THE PROGRAMS I PICKED UP AT THE OTTAWA FAIRE AND MIKE SHOWED YOU A LARGE POSTER THAT I MADE FROM THE "GIANT ARTIST POSTER" PROGRAM I PURCHASED THERE. THIS PROGRAM WILL BE USED AS THE BINGO PRIZE THIS MONTH. OBVIOUSLY, THE WINNER MUST BE PRESENT TO GET IN ON THE OPPORTUNITY TO GET THIS NIFTY PROGRAM. I WILL BE DEMONSTRATING THE "JIFFY CARD" PROGRAM THIS MONTH. THE LIMA USER GROUP CONFERENCE YIELDED MANY NEW PROGRAMS FROM THE LIBRARY OF THE LIMA USER'S GROUP. SUSAN WILL BE WRITING MORE ABOUT THESE PROGRAMS ELSEWHERE IN THIS NEWSLETTER. YOU CAN EXPECT A LOT OF \$1 DISKS AT THIS MONTHS MEETING BECAUSE OF ALL THE NEW STUFF WE HAVE PICKED UP RECENTLY.

AS FAR AS A CLASS THIS MONTH. I HAVE NO IDEA WHAT TO PRESENT. I WILL BE THERE WITH SOME NEW AND OLD PROGRAMS. MAYBE A HELP SESSION OR ANYTHING ELSE YOU WANT TO DISCUSS. BE PREPARED TO OFFER SUGGESTIONS AT THE MEETING ON TOPICS TO BE COVERED IN FUTURE CLASSES. I HAVE SOME IDEAS THAT WE CAN TALK ABOUT LIKE; AN AUCTION?, A SWAP MEET?, COMMUNICATIONS?, SUPER CART?, RAM DISKS?, PROGRAMMING?, HOME SECURITY?, MORE GRAPHIC?, HARDWARE PROJECTS?. WELL YOU GET THE PICTURE. THERE IS PLENTY TO DISCOVER AND LEARN ABOUT THE COMPUTER. WE JUST NEED A

LITTLE INPUT TO PUSH US IN THE RIGHT DIRECTION. MOST OF LAST YEAR AND PART OF THIS YEAR AS BEEN DEVOTED TO GRAPHICS AND IT WAS ALL STARTED BY A BRIEF NOTE INCLUDED WITH A MEMBERSHIP RENEWAL REQUESTING MORE ON GRAPHICS.

THE MONTH OF MAY BRINGS AN END TO THE CURRENT TI FAIRE SEASON. THE NEXT FAIRE THAT I KNOW OF WILL BE THE CENTRAL PA USER GROUP FAIRE TO BE HELD AT THE CARLISLE FAIRGROUND NEAR HARRISBURG, PA ON OCTOBER 15. THE PUG WILL BE PARTICIPATING IN THIS FAIRE AND WE WILL BE LOOKING FOR HELP IN THE FALL TO SETUP AND MAN THE TABLES. I HAVE BEEN ASSISTING THE CPUG BY HELPING TO COORDINATE THE PARTICIPATION OF OTHER USER GROUPS FROM PENNSYLVANIA AND NEARBY STATES. I HAVE HAD A POSITIVE RESPONSE FROM SEVERAL USER GROUPS INCLUDING THE WEST PENN 99'ERS, READING-BERKS 99'ERS, AND NITTANY LIONS USERS OF TI. THERE ARE 11 USER GROUPS IN PENNSYLVANIA THAT I KNOW ABOUT AND HOPE WE CAN ALL MEET IN CARLISLE THIS YEAR FOR A GREAT FAIRE. I INVITE ALL USER GROUPS IN OUR AREA TO JOIN IN SUPPORTING THE CARLISLE FAIR BY SPONSORING A TABLE. YOU CAN WRITE ME FOR A REGISTRATION FORM AT THE ADDRESS OF THE PUG OR YOU CAN WRITE DIRECTLY TO THE CENTRAL PA 99/4A USER GROUP AT PO BOX 14126, HARRISBURG, PA 17104-0126, ATTN. BARRY LONG

JOHN GUION, THE CO-DEVELOPER OF THE P-GRAM CARD MARKETED BY BUD MILLS SERVICES, HAS PRODUCED A FINE DOCUMENT CALLED "CONSOLE DEBUGGING HELP". THIS IS A 16 PAGE GUIDE TO HELP IDENTIFY HARDWARE PROBLEMS THAT OCCUR WITHIN THE TI-99/4A CONSOLE. HE OFFERS DETAILED INFORMATION ON SEVEN DIFFERENT PROBLEM AREAS FROM "CONSOLE WILL NOT POWER UP" TO "VIDEO



DONT FORGET THE CLUB PICNIC
JULY 16, 1989
MARK YOUR CALENDAR

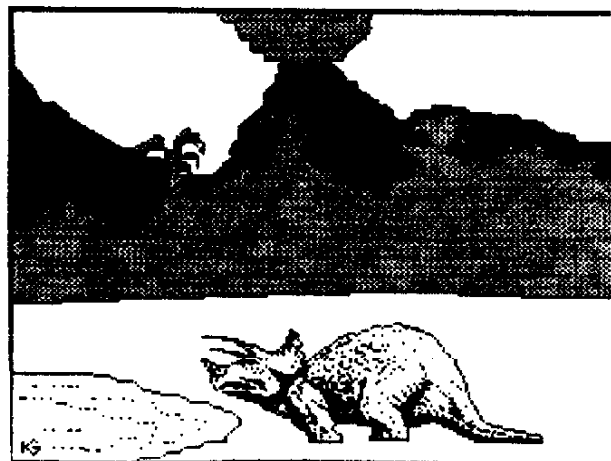


OUTPUT DIFFICULTY". THE FACT THAT OUR COMPUTERS ARE GETTING OLDER AND PROFESSIONAL HARDWARE HELP IS GETTING MORE DIFFICULT TO OBTAIN, THIS GUIDE IS A BLESSING FOR ALL OF US WHO WANT OR NEED HELP IN FIXING OUR OWN COMPUTERS. I WILL HAVE SEVERAL COPIES OF THE COMPLETE GUIDE AT THE JUNE MEETING. THIS IS AN IMPORTANT DOCUMENT THAT SHOULD BE IN THE HANDS OF ALL TI USERS. ACCORDINGLY, WE WILL PUBLISH IT IN OUR NEWSLETTER BY BREAKING IT INTO A SEVEN PART SERIES.

UPDATE ON TI-TAX. I RECEIVED A LETTER FROM WILLIAM G. CHAVANNE, THE AUTHOR OF THE TI-TAX MULTIPLAN TEMPLATES. DUE TO LAST MINUTE CHANGES IN THE TAX LAWS THAT OCCUR EACH YEAR HIS TEMPLATES ARE UPDATED WITH THE FINAL CHANGES BY JANUARY 15 AND THEN MADE AVAILABLE TO THE TI COMMUNITY BY JANUARY 31. WE ARE NOW ON HIS MAILING LIST AND SHOULD RECEIVE HIS TEMPLATES BY THAT TIME NEXT YEAR SO THAT MORE OF US CAN TAKE ADVANTAGE OF THIS FINE PRODUCT. PERHAPS A CLASS CAN BE HELD IN FEBRUARY TO PROVIDE ASSISTANCE IN GETTING STARTED WITH THEM.

I WILL BE STARTING A GENEVE ARTICLE NEXT MONTH. I KNOW THAT I HAVE SAID THIS BEFORE BUT THERE WERE FEW GENEVE OWNERS IN OUR CLUB AND I DID NOT WANT TO BORE YOU WITH INFORMATION THAT YOU COULD NOT USE. PLUS, I DID NOT WANT TO TAKE UP THE VALUABLE SPACE IN THE NEWSLETTER. WHAT HAS MADE ME CHANGE MY MIND? SEVERAL THINGS. FIRST THERE ARE MORE GENEVE OWNERS IN OUR CLUB LOOKING FOR INFORMATION ABOUT THE LATEST SOFTWARE AND HARDWARE. SECOND, THERE ARE EXCITING NEW PROGRAMS THAT ARE BEING MADE AVAILABLE AT A FASTER RATE NOW BY SOME PRETTY GOOD PROGRAMMERS. THIRD, YOU SHOULD BE MADE AWARE OF THE THINGS THAT CAN BE DONE WITH THE GENEVE AS AN ALTERNATIVE TO OTHER COMPUTING SOLUTIONS. LOOK FOR MY ARTICLE NEXT MONTH WHERE I WILL TELL YOU WHY I BOUGHT ONE AND WHY I WOULD RECOMMEND IT. THE CLUB PICNIC WILL BE HELD NEXT MONTH AT DORMONT PARK IN LIEU OF A MONTHLY MEETING. THERE WILL BE MORE INFORMATION IN THE JULY NEWSLETTER ANOUT IT INCLUDING A MAP. THE PICNIC WILL BE HELD IN CONJUCTION WITH A LIBRARY SWAP.

I TALKED WITH ERIC ZENO TODAY 6-4-89 TO GET THE LATEST UPDATE ON THE ZENO BOARD. HE HAS BEEN SWAMPED WITH REQUESTS FOR INFORMATION BY OVER 220 RESPONDENTS. HE IS NOT GOING TO BE ABLE TO RESPOND TO ALL THESE REQUEST FOR INFORMATION RIGHT AWAY BUT ASSURES ME THAT HE IS DEVELOPING AN INFORMATION PACKAGE THAT WILL BE MAILED OUT AS SOON AS THE PROTOTYPE BOARDS ARE AVAILABLE. THE PACKAGE WILL INCLUDE 4 PAGES OF FOOT NOTES, A 1 PAGE PARTS LIST, AND 4 PAGES OF CAD SCHEMATICS. THE MASTER ART WORK HAS BEEN SENT TO A MAUFACTURER FOR FILM DEVELOPMENT AND IS EXPECTED TO BE COMPLETED NEXT WEEK. THE FILM WILL THEN BE USED FOR REQUESTING PRICE QUOTATIONS FROM SEVERAL CIRCUIT BOARD MANUFACTURERS. THIS WILL DETERMINE THE FINAL PRICE OF THE BOARD. ERIC FEELS THAT EVERYTHING IS COMING ALONG NICELY AND HE SHOULD HAVE THE BOARD INHAND BY AUGUST. I MIGHT ADD THAT ERIC IS A YOUNG FELLOW WHO IS FINANCING THIS PROJECT ON HIS OWN. AT THE PRICE HE IS EXPECTING TO SELL THE BOARD HE IS HOPING TO BREAK EVEN. THIS IS A LABOR OF LOVE AND NOT A MONEY MAKING PROPOSITION FOR HIM.



HIGH RES GRAPHICS AND THE 99/4A

By Anne Dhein

PART

2

The Comparison Chart

Section One: The Preliminaries

Part one of this article defines a drawing package as a program or group of programs that will allow the user to create graphics by turning on (or off) the smallest addressable unit of the screen - a single pixel. All of the currently available drawing programs for the 99/4A allow individual pixels to be placed anywhere on the screen and removed as desired, to create very detailed pictures. Drawings can be saved on disk (or in some cases tape) and later be reloaded for editing or printing.

As you know, all the 99/4A paint packages do much more than just this business. But the features present in a particular package, and how they are implemented vary widely. Section one of part two provides a chart to allow a feature-for-feature comparison of ten main drawing packages for the 99/4A.

The chart lists the name of each drawing package (in capitals) across the top. The drawing packages are on the chart roughly in reverse order of how they were introduced on the market - that is, the later ones are listed first. You can quickly tell whether a program has a particular function or characteristic by locating that function in the first column and then checking across the row to the column in which the program is listed. Over the next few issues, detailed information will be given for each of these functions.

If you are planning to purchase graphics software the first thing to ask yourself is, "What do I want to do with the program?" Looking at the chart, Program Focus refers to the primary purpose of a package. Three main uses for paint programs are for entertainment (E); as a production tool for producing letterheads, newsletters, flyers, etc. (T); or as a programming utility (U). Some of the programs do all three; others concentrate on just one aspect.

Morton Graphics, for example, is strictly a programming utility, and Paint 'N Print is pure entertainment. TI Artist is the best general purpose program by far, but nothing can beat Graphs for enhancing an artist's creativity. Joy Paint also excels in this area, and although lacking in color has production capabilities not found in Graphs. Draw 'N Plot can be used quite comfortably as a simple drawing board, but its real merit lies in its ability to interface with your own programs.

System Requirements

Before you purchase any program, check to make sure that you have all the hardware necessary to run that particular software. Two of the programs - Paint 'N Print and Super Sketch - can be used with only a console. Morton Graphics Package can also be run on just the console, using Extended Basic. The others require a disk system and 32K memory

expansion.

Paint 'N Print, Super Sketch and three of the disk programs also each have an additional disk, sold separately, but which adds substantially to the program's capabilities. These disks are listed in lower case on the chart, under the main Program. The functions they support are starred (*). When Paint 'N Print and Super Sketch are used with their supplemental disks, they also need the expanded system. A cassette version of Extended Graphics is available for Paint 'N Print, but it still requires a 32K memory expansion unit. Paint 'N Print, by the way, won't work properly on my system with the widget. Plug Paint 'N Print directly into the console and it works fine.

A few programs may not work with the Myarc and/or CorComp peripherals. Joy Paint, TI Artist and Graphs, along with most new software do work with any of the three controllers. The version of BitMac that I have does not work with a Myarc disk controller, but works with CorComp's. TI Artist works beautifully with the Myarc RAM disk but Joy Paint does not. Since most software companies are working constantly to keep their products updated to work with the newer hardware, peripheral compatibility is not covered on the chart. If you happen to have any of the newer peripherals, consideration to this should be given when buying software.

Printer compatibility is covered further down the chart but should be mentioned here as something to watch out for when buying software. It is very disappointing to get a new drawing package home, only to find the screen dump won't work with your printer!

Loading Requirements - With the exception of the Morton Graphics Package which is programmed in (and requires) Extended Basic, the software listed here is written in assembly language; therefore a module which can access assembly language is necessary. The three "loader" modules are Extended Basic, Editor/Assembler and High Memory. TI Writer's Option 3 can also be used instead of Editor/Assembler's Option 3. Some software can use any loader; other packages require a particular module which is listed on the chart.

Ease of Use and Method of Operation

Just as people are different, so, too, does each program seem to have its own "personality", or flavor. This rating should be looked upon as subjective and is given here only to provide one person's idea of how easy the program is for an average user to learn and to use comfortably on a day-to-day basis. The Morton Graphics package rates the lowest because it is slow and takes some patience. It is meant for Basic programmers.

Super Sketch is on the other end of the scale. It is so

easy to use that a child who doesn't read well could comfortably use it with a minimum of instruction and supervision. Joy Paint, even though it does a lot more, is also very easy to use. Main drawing functions such as draw, erase, fill, using circles and lines, lettering, paintbrush, etc., are all easily selectable from the drawing board by a representative picture (known as an "icon"). More complex features and file management are immediately selectable by menu.

The other programs fall somewhere in the middle. Draw A Bit and Master Painter require the memorization of a number of function keys to use them properly, or else you had better have a list handy. The manuals for these two are also hard to read. Bitrac requires some key memorization combined with the use of icons, but Bitrac's manual is much better.

Draw 'N Plot uses a simple menu and a few function keys. It doesn't have as many features as the others, but what it has is easy enough to use. The instructions are adequate, especially if you are a programmer.

Paint 'N Print is easy to use on a regular basis but there are a number of keys that need to be memorized which makes it harder to get started.

TI Artist and Graphx are not perfect, but both are comfortable to use on a regular basis, and very easy to begin using. TI Artist makes extensive use of icons for users who prefer them but also allows the faster method of pressing function keys for the various commands for those who want to memorize them. TI Artist does require switching between two main programs and several auxiliary ones which can get tiresome even though it is all done within the main program. Graphx, like Bitrac, uses some function keys but provides an identifying strip for the top of the keyboard which makes them quite easy to follow. Graphx also uses menu selection for the less used features. Of all the paint programs Graphx has the best manual, which can be used as a tutor as well as a reference.

A final word on two more items which are not covered on our check list: availability and price. Most of the programs listed on the chart are readily available and can be purchased at any number of places, including Rhein's. Prices given are those charged at Rhein's, and may vary from place to place: Joypaint, \$39.95; Joy Paint's Pal, \$9.95; Bitrac, \$19.95; TI Artist, \$19.95; Artist Extras, \$6.95; Graphx, \$9.95; Draw 'N Plot, \$14.95; Norton Graphics Package, \$7.95.

Paint 'N Print, produced by Navarone Industries, is also readily available. I occasionally see Master Painter 99 by Amerisoft still advertised, and I believe you can still get Draw-A-Bit and Print-A-Bit from Data Force in Illinois. Since these addresses are easily obtainable from your user's group officers (or from me), I won't repeat them here.

Super Sketch, alas, is no longer made. It is included in the chart because there are still a lot of them in use, and you just never know when one might pop up for sale. Super Sketch is unique in that it has been the only pad and pencil type software released for the 99/4A.

FROM THE LIBRARIAN...



Well, you who come to the meetings KNOW how much there is to gain by a trip to the librarian's table out front! BUT... those of you who haven't been out to see me, I would like to know why! I am therefore asking for YOUR input! What type of programs would you like to see in the library? We (meaning the officers) try very hard to provide you (the members) with any programs we come across which we think would be interesting to you. Most of the time, this means everything we can get our little hands on! BUT sometimes there are choices to be made. An example of this is at the computer fairs where we can only get so many disks of programs. Someone has to decide what to get and what to leave. I as the librarian would like to know ... How have we been doing?

Mind you, I am asking for suggestions to improve the service! I come to praise Caesar, NOT to bury him!

Anyway, we have a few new things for you for the month of June.

Beacon Destroyer is a new game, based on Invaders. The aliens are birds, and the area you can move in grows smaller as the game progresses. You can put up a force field, but when it is up, you cannot move. The alien birds are much more active than in Invaders, at times more like Centipede. In the second level, rocks bounce across the screen, and you must avoid them as well. My game playing family has not progressed any farther, so you will just have to get this game and find out for yourself what comes next!

Another new program is Experimental plane. This is an Editor Assembler game, which you can play with an Extended Basic EA loader (such as the one on the Perfect Push disk). When loaded, the program asks you for wind speed, and other variables, and then puts you in the cockpit of the plane. Happy landings!

Citadel is our third game offering this time, and it apologizes at the beginning for how long it takes to load. It is not a game for impatient people!

There will be a new disk in the education section - Geography. All you map people, check this one out!

Songs will have three new disks: Two contain the music of Stephen Foster, and the third is The Phantom of the Opera Medley and Soundbook disk written by Andy Fruen.

Who knows, there may be more, but to meet the newsletter deadline I can only say what I have so far! Come on over and look for surprises from the librarian, and please take the time to let US know what type of things YOU want. Write to me at the PO Box number on the newsletter.

See you at the meeting...

TI 99/4A DRAWING PACKAGES - COMPARISON CHART

| FUNCTION | JOYPAINT: JoyPaint: Pal | DITMAC | TIARTIST Artist Extras | GRAPHX | DRAM 'N PLOT | PAINT 'N PRINT + disk | SUPER SKETCH: Sketch | MASTER PRINTER: | DRAM A BIT Prot-Bit: | MORTON GRAPHIC PACK |
|------------------------------|-------------------------------|----------------------------|------------------------------|-----------------------------|------------------------|-----------------------------|----------------------------|--------------------|----------------------------|---------------------------|
| Program Focus | E,T | E,T | T,E,U | E,T | U,T,E | E | E,T | E | E,U | U |
| Requirements | Any | 1B EA MM | Any | 1B EA MM | 1B | StdA100 | StdA100 | 1B EX MM | 1B | 1B |
| Ease of Use | 6 | 3 | 5 | 5 | 4 | 4 | 6 | 2 | 2 | 1 |
| Method of Operation | Icons, Menus | Icons, FcnKeys | Menus Icons | Menus Keys | Menu Keys | Keys | Menus | Icons Fnc Keys | Menu Fnc Keys | Menu/Keys |
| Joystick Control | Required | Required | Optional | Required | Optional | Required | No | No | Optional | No |
| Cursor Speed Cat. | No | 5 speeds | 2 speeds | 3 speeds | 2 speeds | No | No | No | No | |
| Brush Styles | 7 | 9 | 8 | 1 | 1 | 32 | 9 | 4 | 1-pixel | 3 |
| Automatic Draw Functions | Lines, rectangles, ellipses | Lines, Circles, Rectngls | Line, Ray, Circles, Rectngls | Lines, Ellipses | Lines | Line, Ray, Circles, Squares | Line, Ray, Rectngls | Lines, Rays | Lines, Rays, Arc | Lines, Parabola, ellipses |
| Fill | AutoFill, 24 Patrn | Manual Color | AutoFill, Col/Pat | SemiAuto, Color | SemiAuto, Solid | SemiAuto, Color | AutoFill, Col/Pat | No | Manual | No |
| Shade, Depth | AirBrush | Life | Yes | No | No | Yes | Yes | No | No | No |
| Reflections | No | No | Yes | No | No | Yes | No | No | No | No |
| Move, Copy | Yes | Yes | Yes | Yes | No | Yes | No | No | No | No |
| Flip, Hor/vert | Yes | H only | Yes | No | No | Yes | No | No | No | No |
| Rotate | 90 deg. | 90 deg. | Slides | No | No | Not | No | No | No | No |
| Invert | Swappbits | Yes | Yes | No | No | Yes | No | No | No | No |
| Magnify, Reduce | Yes | Yes | Magnify | No | No | No | No | No | No | No |
| Text handling | Yes | Yes | Yes | Yes | Yes | Yes | No | No | No | No |
| Special fonts | Yes | No | Yes | Yes | No | Yes | No | No | No | No |
| "Zoom" Mode | Fatpixel | No | Yes | Yes | No | Magnify | No | No | No | No |
| Scratchpad Mem ("Clipboard") | Cut and Paste | Store B. input | Instance, Slides | Clipboard | No | Yes | No | Symbols, Store | Palette | No |
| Use of Color | No | Full Use | Full Use | Full Use | Limited | 20 colors | Full Use | Full Use | Full Use | No |
| Slide Show | No | Yes | Not | Not | Yes | No | No | No | Yes | No |
| Undo | Yes | No | No | No | No | No | No | No | No | No |
| Spec. Features: | Larger Wrt Spce, Pat Edt | CoProcr, CrsrHrt, Pic. Scr | Instance, customize | Animate, fra Clph, GridTool | 9 Addl Commands for 1B | PatrnEd, Rainbow Colors | Touch Tablet | | Redraw, Connect-Sets | Cassette version too! |
| Printer | Epson Axion | Epson, TI 850/5 | Most Printers | Epson | Epson | TI Most Printers | Epson | Epson | Epson | TI Most Printers |
| Screen Dump | 2 sizes, 2 dnt | Small 80, Med. 90 | High Ch Size, Mem | 2 Sizes, 2 dnt | 1 Med | 1 Large, No dnt | 1 Large, No dnt | 1 large, No dnt | 2 sizes, 2 dnt | No |
| Disk Catalog | Yes | No | Yes | No | No | No | No | No | No | No |
| File Convrs Ftr | Yes | No | Yes | Not | Not | Not | Not | No | Not | -- |
| F/Portability | Not at Present | Limited | Easily | Prog Skl, in Assoc | Prog Skl, in 1B | No | No | No | Prog Skl, in Assoc | Easily to 1B |
| Addl Support | Some | No | Lots | Lots | Some | No | No | No | No | No |

* Starred features are found on the companion disk listed under the main package

†† See chart notes

DISK DRIVES #9

by John F. Willforth (PUG June, '89)

Last month I left you up in the air (ran out of space) right in the middle of aligning your drive. The last thing I asked you to do is check for 3 volts on the AC scale using the NULL circuit shown in Fig. 1 in last month's article. You should experiment by adjusting very slowly in and out on both sides of the 3 v. peak. Make SURE that you're at the PEAK reading especially after tightening your adjustment down.

Test the drive using a diagnostic for disks such as DMI, DMII, or any other disk exerciser writing and reading from the entire disk in a random fashion. To really test the drive, load and run as many varied programs as you have. After you are satisfied, close it up.

If you have neither an Alignment Disk or the Disk Exerciser described earlier then you may want to use the "seat-of-the-pants" alignment procedure, and do not forget that if you fail, you may as well buy a replacement drive.

To do the "seat-of-the-pants" alignment, you will need only the tools that will allow the actual adjustment (screw driver, allen wrench, etc) and the two disks that I asked you to have made up last month (one initialized, the other Extended Basic bootable, with a lot of runnable files).

We can get drives into "near" perfect alignment with just a little patience and a steady hand. A little practice is also needed. You may have adjusted the engine on your lawn mower or car to run a little smoother without any high cost equipment or tools. You did it by FEEL. You can do a USEABLE alignment by FEEL.

If your problem is so severe that it is impossible to read a disk, and you are sure that it is an alignment type problem, insert the initialized disk you made, and do a "READ ONLY" (non-destructive) test of the disk, DMII is good for this. See how the drive acts noting if and where errors occur, then insert the disk containing the program files and boot up the "LOAD" (XBasic) file. If the drive is badly aligned, you will probably get a disk error. Loosen the adjusting mechanism slightly and move the adjusting mechanism a little. I'm vague about the adjusting mechanism, because there are so many different types. By the way it would have been a good idea to mark your old adjustment before you loosened it! It doesn't matter which way you start to make your adjustment, so long as you keep in mind at all times what you did last. You may keep a log of activity. Experiment. listen and watch, see if you can get a FEEL for the drive. Who knows, you may become an Expert. When it seems to be able to load the LOAD program successfully, then go on to try loading the rest of the varied length programs on the disk. If OK then try some of your other disks. Check from a variety of sources. If not successful try again. Try as many times as you wish, but remember, you may be able to pick up a better drive at such a low cost, you may be wasting your time.

Below is an adapter diagram for you to interface a 3 1/2" floppy to your 5 1/4" disk controller or the Disk Exerciser I described in articles 2&3.

| | 5 1/4" INTERFACE | | 3 1/4" INTERFACE |
|----------------|------------------------------|----|---------------------------|
| MOTOR ON | 16 >-----TO DRIVE-----< | 01 | MOTOR ON (SOME UNITS) |
| DRIVE SELECT 0 | 10 >-----TO DRIVE-----< | 02 | DRIVE SELECT 0 |
| DRIVE SELECT 1 | 12 >-----TO DRIVE-----< | 04 | DRIVE SELECT 1 |
| STEP DIRECTION | 18 >-----TO DRIVE-----< | 06 | STEP DIRECTION |
| STEP HEAD(S) | 20 >-----TO DRIVE-----< | 08 | STEP HEAD(S) |
| WRITE DATA | 22 >-----TO DRIVE-----< | 10 | WRITE DATA |
| WRITE GATE | 24 >-----TO DRIVE-----< | 12 | WRITE GATE |
| HEAD LOAD | 02 >-----TO DRIVE-----< | 14 | HEAD LOAD |
| DRIVE SELECT 2 | 14 >----*NOT USED HERE*----< | 16 | RESERVED |
| SECTOR INDEX | 08 >-----FROM DRIVE-----< | 18 | SECTOR INDEX |
| T00 SENSOR | 26 >-----FROM DRIVE-----< | 20 | T00 SENSOR |
| WRITE PROTECT | 28 >-----FROM DRIVE-----< | 22 | WRITE PROTECT |
| READ DATA | 30 >-----FROM DRIVE-----< | 24 | READ DATA |
| READY | 34 >-----FROM DRIVE-----< | 26 | READY |
| DRIVE SELECT 3 | 06 >----* \ | | ALL ODD PINS (EXCEPT PIN |
| SIDE SELECT | 32 >----* >NOT USED HERE | | 1 ON 3 1/2" DRIVE) ARE AT |
| | 24 >----* | | LOGIC GROUND |

POTPURRI

PROGRAMS ON DISK

In the April 1989 issue, Micropendium announced that it will start providing disks of the programs that appear in the magazine. The cost will be \$4 per issue and include media, mailer and postage. It will be on DSSD disks, unless the user specifies SSSD. Readers may pay \$40 in advance to receive 12 monthly disks. Readers who want to order disks may send checks, money orders or credit card information (Visa or Mastercard, card number and expiration date) and the issues you want to receive.

Sounds like a good deal if you hate to type in those long programs.

STAR MICRONICS SUPPORT

The toll free number for Star Micronics Technical Support Services has been changed. The new number is 1-900-860-9104.

If you want the new Eproe for the TI994A, you now need to send your Eproe to them and they will reprogram it and return it to you. They were previously sending the new Eproes out and asking the recipients to return them within 30 days, but most people did not return them so the policy has been changed.

They also have a new address:
 STAR MICRONICS AMERICA INC.
 National Support Services Headquarters
 9600 Jarameno Rd.
 Irvine, CA 92718

ARCHIVER V3.03

Barry Boone has again revised Archiver. The new version changes screen colors when functions are completed and has the ability to list files to a printer and to designate any floppy or RAMdisk from I to Z. A version is in the works to give full support to hard disk users. (From VAST newsletter)

A copy of the new version will be placed in our library this month.

TENEX

According to Micropendium, 4/89, Roger Dooley of TENEX COMPUTER EXPRESS, states that the company intends to remain in the TI market. While they did drop some of the slower moving products, they are still searching for new products for the TI.



FROM THE MAILBOX



From the Paris 99'er News comes this TI-Base tip. Several TI-Base commands require lots of typing. If you misspell a word, you have to retype the entire command. To avoid retyping long commands, you can put them in command files and execute the command file in place of the command.

To create a command file assuming TI-Base is loaded:

```
MODIFY COMMAND B1
B1
CATALOG DBK1
```

Press FCTN/8

Now when you want to catalog DBK1, type .DO B1 where B1 is the filename of the command file and is short for drive one.

More helpful command files include:

```
B2
CATALOG DSK2
```

```
BSTA
DISPLAY STATUS
```

```
BSTR
DISPLAY STRUCTURE
```

```
BSTRL
DISPLAY STRUCTURE LOCAL
```

Editors note: I have been using this hint as I usually type DISPALY for DISPLAY, so it really saves me a lot of typing. Thanks Jerry Keisler.

From the CPUG newsletter:

FINDING THE START WORD E/A

This comes from SFTI User Group by Herbert Schlesinger

When the name of an E/A program is not known, one way to find the START word is as follows:

Using the E/A environment, load the program into memory. Go back to the TI Color Bar Screen and enter E/A Basic. Then type in and run the following program:

```
10 FOR I=16128 TO 16383
20 CALL PEEK(I,A)
30 PRINT CHR$(A);
40 NEXT I RUN
```

Among the words, symbols and garbage you should find the word which will start the E/A program.

THE KIDDIE CORNER
by Sue Harper
Pittsburgh User's Group

For kids of all ages - a series of articles on how to get started making your own programs.

At the end of last month's article are three questions. Here are the answers:

1. Write a program that will print your name 19 times.

```
10 CALL CLEAR
20 FOR D=1 TO 19
30 PRINT "YOUR NAME"
40 NEXT D
```

2. Write a program that will count UP from one to seven and back down again.

```
10 CALL CLEAR
20 FOR T=1 TO 7
30 PRINT T
40 NEXT T
50 FOR Y=7 TO 1 STEP -1
60 PRINT Y
70 NEXT Y
```

3. Write a program that will print the words I LOVE THE SUMMERTIME and change the colors of the letters to these colors IN ORDER: Dark red, light blue, dark blue, light green, medium green, black, and stop.

```
10 CALL CLEAR
20 PRINT "I LOVE THE SUMMERTIME"
30 FOR Z=7 TO 2 STEP -1
40 CALL COLOR(5,Z,1)
50 CALL COLOR(6,Z,1)
60 CALL COLOR(7,Z,1)
70 NEXT Z
```

I'll admit, the last was pretty tricky, and I meant to say the color of the background, not the color of the letters, which would have made line 40 CALL SCREEN(Z), and eliminated lines 50 and 60.

This month, I would like to give you a game which uses sound and computer generated numbers to make up a guessing game. As kids, we called this I'm thinking of a number. The computer will "think" of a number, and the user guesses what that number is. If the guess is too high, the computer will give off high pitched beeps. If the guess is too low, the computer will give low sounds. If the guess is correct, the computer will play a ten note song, beginning low and rising in pitch. At that time, the computer will ask, do you want to play again? If the answer is yes, it will go back to the beginning, choose another number, and play. If the user chooses not to play, the program will end.

After these few months of looking at pieces of program language, see how many of the commands in this program you can follow. Then see what you can do to be creative yourself. If

you have any questions or suggestions for what you would like to have explained here, write to the PUG, and we will try to please!

```
10 CALL CLEAR
20 RANDOMIZE
30 LET C=INT(RND)+50
40 IF C>57 THEN 30
50 IF C<48 THEN 30
60 CALL KEY(0,K,S)
70 IF S=0 THEN 60
80 CALL MCHAR(20,6,K)
90 IF K>C THEN 190
100 IF K<C THEN 230
110 FOR SONG=220 TO 1200 STEP 90
120 CALL SOUND(250,SONG,15)
130 NEXT SONG
140 PRINT"DO YOU WANT TO PLAY AGAIN? TYPE 1 FOR YES OR 2 FOR NO"
150 CALL KEY(0,K,S)
160 IF S=0 THEN 150
170 IF K=49 THEN 10
180 STOP
190 FOR HIGH=1 TO 10
200 CALL SOUND(250,1500,15)
210 NEXT HIGH
220 BOTO 60
230 FOR LOW=1 TO 10
240 CALL SOUND(250,220,15)
250 NEXT LOW
260 BOTO 60
```

See you next month!!!!!!

BOUQUETS TO MARK CAPARELLI....



After listening to my sad tale of woe regarding the time I spent hunting parking places at Pitt for the newsletter printing (I should have had background music), Mark graciously offered to take over that job. THANK YOU, THANK YOU THANK YOU MARK.

(I don't think my offer to give 3/4 of my PUG salary had anything to do with it either.)

Seriously, that is what makes a club successful, members offering to do just one job, so that the burden does not fall on the few officers.

Want a job??? Just ask, we'll find something for you to do.

PROGRAM REVIEW

by Sue Harper

Pittsburgh User's Group

Recently, Jim Peterson of Tigercub Software sent our club a very nice letter, some disks for the library, and a disk of copyrighted software. While we cannot offer this software in the library, we are going to review some of the programs included on that disk in our newsletter. Jim has been a supporter of the TI community for years, and these programs show his hard work. THANKS JIM!!!

The letter with the disks indicated that he has been reading our newsletter, and he, too, is interested in the educational abilities of the TI. Having been a teacher of computer skills for two years using the TI, I can attest to the abilities of the machine, and to the availability of support software. Unfortunately, if you do not have a disk drive, software can be difficult. If you don't have at least a cassette loader, you might want to get one!!!

This month, let me tell you about one of the programs on the copyrighted disk Jim sent us. It is a program called Math Homework Helper, and is named ATC-130 on the disk. The program was copyrighted by Tigercub Software in 1984.

This program has a number of good options and features. First of all, it is written in BASIC, which means that it will run on a bare console without extra memory, cartridges, or other "additives." It makes some use of color, sound, and graphics, but the main thrust of the program is to help a student practice addition, subtraction, and multiplication. The student can choose to enter his or her own problem, or have the computer choose the question. If you ask the computer to choose the question, it will then ask you how many digits you want in the numbers used. You can choose from two to nine.

The only problems I find with this program up to this point is that the computer will not allow you to choose a one digit problem (for instance 4-3), you cannot use zero in the problem, (although it may appear in the answer), the program will not allow irrational, negative numbers or decimals (although this is explained if you try to enter one, it is not made clear in the beginning), and there is no way out of the program except FCTN-4 or turning the computer off. These problems are small however. Single digit problems can be added under the Student choose the problem option, and the other limitations just have to be accepted.

The great feature of this program is the way it does math. The problem is properly laid out, with a smiley face graphic beside it. An example of a problem:

```

-----
| . |   527
| . |   +329
| . |   ----
| \ / |   ?
-----

```

Those of you who are teachers, or have tried to teach math to children using most other computer math tutors will notice that the question mark appears at the correct place for a normal person to begin the answer! Most computer programs ask for the largest number first, which in our example would

be in the hundreds place. This program asks for the ones place first.

Also, the computer does not check only the final answer, but each digit as it is entered, and it will not accept an incorrect digit! In other words, in the example program, if the user tried to enter any number other than six, the computer will give the "raspberries", and the smile on the face will decrease. The computer will NEVER give the answer, but patiently allows an infinite number of attempts to guess each digit in the answer before going on to the next number. No matter how long it takes to get the answer, the student receives the message "Good" and the request for how many numbers in the next problem.

This program is very good, and the use of string segments to check the answer at each stage is well thought out. The computer generated questions are randomly chosen, and not from a set data bank, which gives much versatility to the program. Alien Addition and other graphic fancy games will hold a child's attention longer, but this program will truly prepare a student for the type of problems faced in school on a regular basis. It is a good drill program.

You can order this and many other programs direct from Tigercub Software. A partial catalog listing is in the library. Look for disk EDUCFS4022. Also check out Education disks 4019 through 4023, which are other offerings from the Tigercub.

Let's show our support for those who support us! THANKS AGAIN, JIM! More reviews next time. . .



WELCOME

The PUG would like to convey our continued welcome to Mark Caparelli and Jim Peters who have recently renewed their memberships

THOUGHT FOR THE DAY:
A COMPUTER PROGRAM DOES
WHAT YOU TELL IT TO DO
NOT WHAT YOU WANT IT TO DO!

F-TIDBIT #2 : ADDING INVERSE VIDEO

One feature which can enhance a program by making on-screen prompts and other information stand out, is 'inverse video' where the text/screen colors are reversed. With Forth this is easily accomplished. Michal Jaegermann of the Edmonton, Alberta, Canada, Users Society provided the basis for the routine shown below. Unfortunately, unless you have all of his many enhancements at your disposal, it is not directly transferrable. The following, however, can be used instead.

```

0 ( INVERSE VIDEO )
1 33 CLOAD RANDOMIZE
2 BASE->R HEX
3 900 PAD 300 VHDR PAD 000 300 VNBW
4 : INVERT 1000 D00 DO FF I V XOR LOOP ; INVERT
5
6 : (^) COUNT OVER + SWAP DO I C0 80 OR EMITS LOOP ;
7 : (IV) BEGIN KEY DUP IF > WHILE 80 OR EMITS REPEAT
8   DROP DROP ;
9 : IVLIT 22 STATE @
10   IF COMPILE BLIT WORD HERE C0 1+ -CELLS ALLOT
11   ELSE WORD HERE THEN ; IMMEDIATE
12 : IV" (COMPILE) IVLIT STATE @
13   IF COMPILE (^) ELSE (IV) THEN ; IMMEDIATE
14
15 R->BASE

```

Line 1: Insures that the SYSTEM CALLS are booted which allows VHDR and VNBW to be used.

Line 2: VPD reads and writes are always easier in HEX.

Line 3: Read ASCII 32-127 to PAD and write them from PAD to the high order (ASCII 160-255) area in PDT. If you have put a charset on screen 19 (see F-TIDBIT #1) replace this line with : 13 BLOCK 100 + D00 300 VNBW.

Line 4: INVERT performs a XOR on the high order charset to turn off-pixels on, and on-pixels off.

Line 6: (^) converts a string to inverse video.

Line 7: (IV) accepts input from keyboard for inverse video.

Line 9: IVLIT is MLITERAL adapted for IV purposes, delimiter is ASCII 34 (^) instead of BL (ASCII 32).

Line 12: IV" (used in place of .") will display or compile text following it in inverse video until delimited by ".

Usage IV" <ENTER> - keyboard input is displayed in inverse video until the ENTER key is pressed.

or : TEST IV" This is a test" ; will display 'This is a test' in inverse video when TEST is invoked.

EDF/Lutz Winkler



RECAP MEETING MINUTES OF PITTSBURGH USER GROUP MAY 21, 1989

Meeting called to order by V. Pres. Sealy at 6:15 P.M.

News Editor Bucher gave her report. She cited the excessive amount of time that it took her to take the Newsletter to Pitt for printing, to find a parking place and to go through the same thing to pick up the printing. She requested help in taking care of that matter. Member Mark Caprelli, who attends Pitt, offered to take over delivering the Newsletter to Pitt for printing and to pick up the printed newsletters. He received an ovation from the membership.

Librarian Herper gave her Report. She reported that the Library has 21 additional discs. Also, the Star Trek song disc has a "bug" in it. There will be 6 new discs in the library next month.

Synop Kelly reported that the Bulletin Board has handled 1580 messages and 1800 callers. He has opened-up disc "B" for downloads. He informed us also that uploads should be compressed and in upper case. The last upload was Piano by Ray Wallis.

V. Pres. Sealy gave his Report:

Mike Sealy reported on the Lina Fair. He rated it very high-lots of classes, nice atmosphere, hosts very helpful. He brought back several copies of Deacon Destroyer and Experimental Airplane and sold them to the members for \$1.

OLD BUSINESS:

1. Herb Reich gave a report on the status of the Un-used TI Computers Collection Program. He informed the membership regretfully that no progress had been made by Scout Hrabovsky due to conflict of work and school; that school would soon be over and that, hopefully, the program would get rolling then.
2. The annual PUG picnic is being planned for July 16 at Dormont Park. V.P. Sealy asked for a show of hands of those who plan to attend. 21 members raised their hand.
3. 3 members sent in money for the TI Tax program.
4. Scott Coleman reported on the Ottawa Faire which took place on April 28, 1989. Several PUG members were present. He picked-up software which will get into the Library eventually.

NEW BUSINESS:

1. Great Lakes Software is offering a 50% discount on software. Mickey Schmitt passed around a catalogue. She offered to place one group order.
2. John Wilforth showed the Membership a monochrome monitor that is selling for \$20.00. It has no sound but audio can be added. He also had miscellaneous items that came from a housecleaning at the Computer Bug which were for sale--HBI system & 2 boxes for disc drives.
3. Scott Coleman announced that he had pieces of systems from an acquaintance for sale--P-box, consoles, etc.

The Bingo prize---Joy Sticks and Balloon Wars was won by Michelle Sealy.

Demonstrations:

1. John Wilforth--Deacon Destroyer
2. Marty Kroll--Hot Bug, a do-bugger for assembly programs. It is Fairware and will be in the Library.

Respectfully Submitted, Herbert H. Reich, Recording Secy.

The Lighter Side

(Reprinted from the *QB Monitor*, newsletter of the QB 99'ers, Bayside, NY. Credited to the Cedar Valley 99'er U.G. Newsletter.)

We can all relate to the following from Sister Pat Taylor:

IT'S LATER THAN YOU THINK...

- ▣ If you remember ages ago when boot referred to footwear, not a program coming on a computer.....
- ▣ Or the days when a bulletin board was simple school equipment and not electronically sent messages.....
- ▣ Or times when we spoke of animation in reference to a person's enlivened spirit, not a screen imitating life.....
- ▣ Or those eons ago when conversations were political or religious, not binary or ASCII.....
- ▣ Or utilities were electric bills, not terrific helpers to aid a floundering computer novice.....
- ▣ Or when default referred to a failure to meet an obligation instead of a comfortable choice made for you.....
- ▣ Or another century when alpha and omega were companions in speech instead of alpha and lock.....
- ▣ Or a time in the past when dip referred to a condiment and switches were a tool for chastisement.....
- ▣ When strings were musical instruments, not a sequence of characters.....
- ▣ When terminals were bus and train depots, not input/output devices.....
- ▣ When a buffer shined one's floors, and was not a temporary storage device.....
- ▣ When bugs were insects, not errors in a computer program.....
- ▣ Or when monitors watched school halls and lavatories instead of you watching a screen performance.....
- ▣ When emulation was striving to excel, not computer imitating computer....
- ▣ Or a bus was transportation, not a circuit.....
- ▣ When call meant to phone, not to branch to a sub-routine.....
- ▣ When a dump took care of waste material, and was not a lovely print-out.....
- ▣ When address was where you lived, not an operand portion of a computer instruction.....
- ▣ When memory belonged to people, not computers.....

Those belonged to another day, another year, and even at times, another century!!! Is it later than we thought or is it simply a question of the past not quite yet converted to the future!!! Can it be only a year ago when computerese first overwhelmed me!!!

TI STILL CARES...

TI-CARE FORUM

(Reprinted from *The SNUGLETier*, newsletter of the Southern Nevada Users' Group. Credited to the *Net99er News* of the Hurst (Texas) Computer Users' Group. No author stated.)

As part of a continuing effort to enhance support services, TI-CARE has introduced an on-line bulletin board that gives customers technical assistance and the latest news about TI-CARE and TI.

The board, called the "TI-CARE Forum," is a multi-line system which permits simultaneous access by multiple users. It is available 24 hours a day, seven days a week, and can be accessed using almost any Bell 212a compatible modem at baud rates of 300, 1200 and 2400.

Any user who dials up the forum can peruse general information about TI, its products and services; view product demonstrations; and read important announcements.

Users who have purchased TI-CARE Support Services for specific software or hardware products may access technical information for those products. The technical material includes direct responses to the user's questions and answers to technical questions asked by others. It also allows the user to download files from the Forum to a remote system. The Forum has been designed for ease of use with on-line help and menu driven functions. Special features help maximize the user's time. For example, there are separate file areas for each product. Also, a key search can be run in background mode while the user performs another task.

TI-CARE expects users to enjoy the Forum's advantages of immediate access to information, instead of waiting for assistance over the phone. In addition, the Forum allows customers to obtain selected TI owned software product updates electronically, saving the mail time of conventional distribution.

There is no connection charge or users fees for access to general information on the Forum; the only cost is the phone call. The technical assistance is available through subscription to TI-CARE Support Services.

For more information, you may dial directly into general information section of the Forum at (512) 250-6112 - modem. Or if you would like to discuss the forum, please call (800) 847-5757 - voice.

TI-CARE "Forum" - (512) 250-6112

THE PUG MEETS
ON THE 3RD SUNDAY OF THE MONTH
AT COMMUNITY COLLEGE OF ALLEGHENY COUNTY
OFF ROUTE 885 NEAR CENTURY III MALL

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| 18 | MEETING | | | | | |
| 25 | | | | | | |
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CLASSES BEGIN AT 3 PM
GENERAL MEETING BEGINS PROMPTLY AT 6PM

| | | |
|--------------|-----------------|--------------|
| PUG OFFICERS | | |
| Pres: | Gary Taylor | 412-341-6874 |
| V Pres: | Mike Sealy | 614-282-5627 |
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| Rec Sec: | Herb Reich | 412-531-9023 |
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| SCHEDULE | |
| 3-4:30 | Questions and Answers with Gary.....Rm. 482 |
| 4:30-6 | TI Base Sig with Audrey & Lynn.....Rm. 482 |
| 4:30-6 | Hardware Class with John Wilforth.....Rm. 475 |
| 6:00-? | General Meeting |
| SEE YOU THERE | |



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