THE PUG PERIPHERAL

THE MONTHLY NEWSLETTER OF THE
PITTSBURGH USERS GROUP

OCTOBER/NOVEMBER 1992

Club News By Gary Taylor

NOTICE! This months meeting is on NOVEMBER 1, 1992. This is the only time this year that the meeting date is on the 1st Sunday of the month instead of the 2nd Sunday. So take note as we hope that no one is left waiting at the door on the 2nd Sunday of November.

The meeting date is the day after the Chicago faire. I hope to have all the latest news about the TI and maybe a few new programs to demonstrate too. Since I will be traveling from Chicago to Pittsburgh on the day of the meeting you might expect me to be a bit late. But others will be there to open the doors and set up the copy system.

At our September meeting we decided to combine the October and November newsletters. That is why you did not get a newsletter last month.

At the October meeting we had to fill out the request for the meeting room. A discussion ensued about summer meetings and we collectively decided that we would not have meetings during June, July, or August next year. Audrey will produce one newsletter however. It will be sent out in August to remind everyone that we are still in business.

The Chicago Faire is being held on Saturday, October 31, 1992 at the Holiday Inn in Elk Grove Village, ILL. Their address is:

Holiday Inn
1000 Busse Road (RT 83)
Elk Grove Village, Il 60007
(708) 437-6010

Several new items have been introduced for the TI by Western Horizon Technologie. I hope these items will be on display and for sale at the faire. They have announced a new SCSI disk controller. This device can support hard disks, streamer tapes and CD ROM drives. A whole new world of data storage will be opened to the TI user when this is available. Bud Mills will be marketing it for around $170.

The 4/A MEMEX card has also been announced. One card can expand your program memory space to 16 megabytes. The card is being introduced for $175 and includes 1 megabyte of memory.

One item that is shipping now is the DIGI-PORT. It sells for $40. It is both hardware and software and allows you to play the diditized sounds created by Macs Amiga or IBM PC's.

Our monitor was sent out to be fixed this month. It was just getting so that you couldn't rely on the monitor to work during demonstrations. We are expecting it to cost around $75. After 5 years of hauling it back and forth to meetings each month, I guess it is understandable that it might need repair for loose circuits.

I will begin a new series of classes in December to investigate the many programs available to perform screen dumps to your printer. I had hoped to do this in Novemeber but I will not be able to get back from Chicago to present the material in time. After this series is done, (I expect it to take two sessions) I will begin a series on dumping cartridges to disk. There are several program out to do this but I have never tried to do it except for the program called CART-DUMP that came with my Geneve.

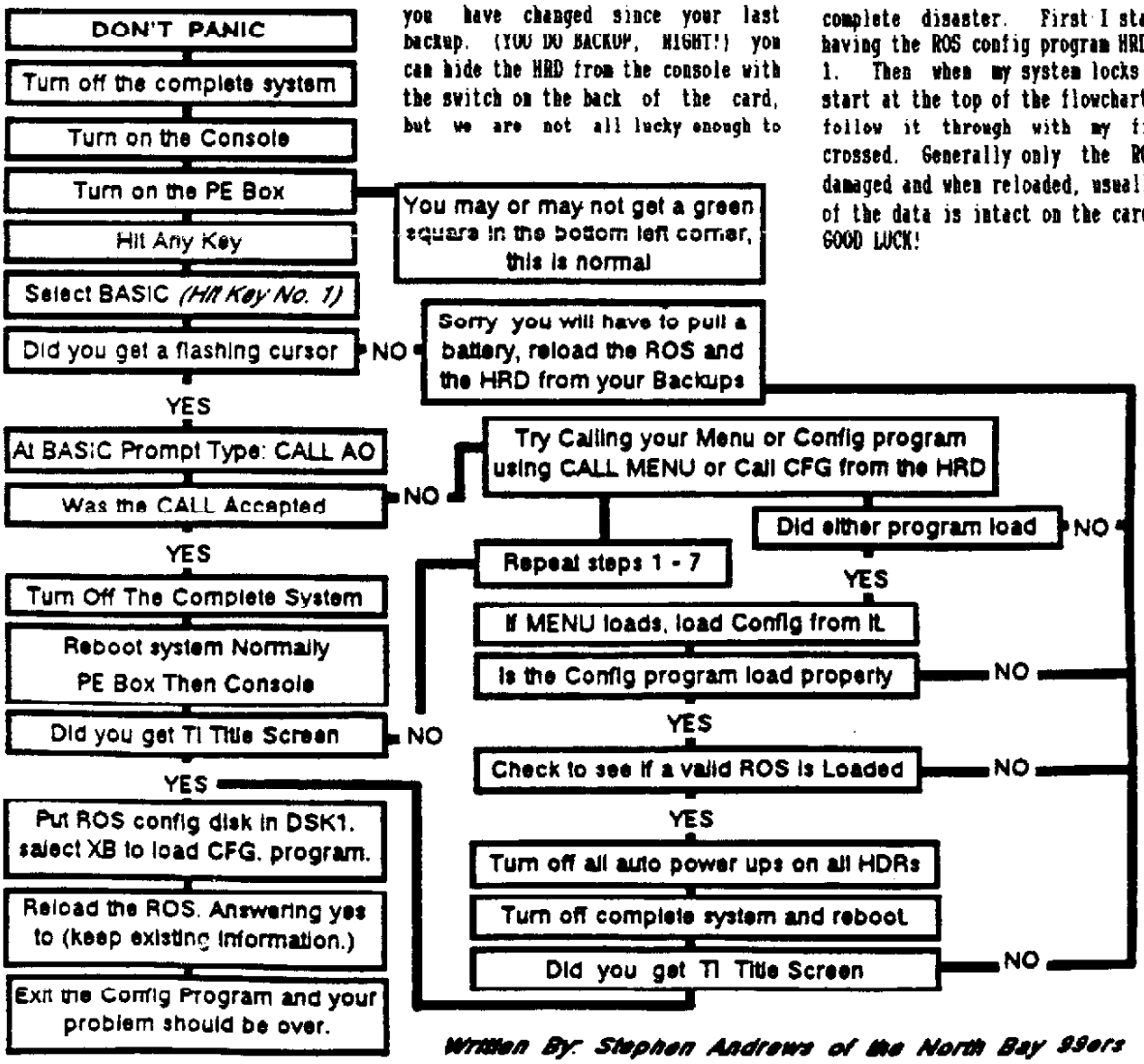
Mike Maksimik is nearly finished with version 3.0 of his MIDI-MASTER program. There is the possibility that it will be completed by the time of the Chicago faire. Hopefully I will be able to bring it back with me from Chicago to demonstrate.

The club now has a second system set up at each meeting for the expressed purpose of copying disks from our library. This is a free service to members. Any disk in our library may be copied for free. You must supply your own disk, label, and sleeve. Of course we have all of these for sale at each meeting.

Horizon RAM Disk Lockups

(Don't dump that data yet!)

Certain coincidences this morning have made me decide to write an article, or sort of a quick reference guide for users of Horizon Ram Disks (HRD) of all types. This morning started with a call from our newsletter editor asking questions about a new HRD test program from OPA and problems he was having with one of his HRDs. We discussed the problem, determined that it was most likely the hardware and decided on a course of action. We said our goodbyes and I went to my system to work on something only to find that my own system would not boot. This is where the real story beins. Anyone with a HRD, with any of the new Ram Operating Systems (ROS) installed in memory, as opposed to some of the Eprom that are available has had this problem. (Come on be honest.) At this point you have a lot of options. You can shut everything off and walk away, but that will not solve anything. You can put the batteries on your HRD(s) and start over, but that means you have lost everything you have changed since your last backup. (YOU DO BACKUP, RIGHT!) you can hide the HRD from the console with the switch on the back of the card, but we are not all lucky enough to have that option because of the old cards which do not have the switch. You could take out the card, put it in the closet and you will never have the problem again. (No, No, that just wouldn't do). These are all options. but not very good ones so let's discuss the alternatives. I am the club librarian and when trying out many new programs, or reviewing older ones, I often have conflicts with the ROS on my cards that make the system appear to be messed up. If however, I remember some simple rules, I can often recover from what would seem a complete disaster. First I start by having the ROS config program HRD No. 1. Then when my system locks up, I start at the top of the flowchart and follow it through with my fingers crossed. Generally only the ROS is damaged and when reloaded, usually all of the data is intact on the cards. GOOD LUCK!



Written By: Stephen Andrews of the North Bay 99ers

TI-Base -By- Inscebot, Inc.
P.O.Box 291610. Ft.Orange. FL 32129
Version 3.01 Tutorial 25.1.1 By *Martin A. Smoley*
NorthCoast 99'ers User Group - Dec. 21, 1991

This is a re-hash of the tutorial information I did around April, May and June of 1990, which I added to and updated. If you read my tutorials word for word, some of the information will be familiar. It is a very, very useful part of TIB.

The INSTALL Memory Area or TI-Base Macros

```
filename \MC
MODIFY COMMAND

filename \DS
DISPLAY STRUCTURE

filename \DST
DISPLAY STATUS

filename \IC
INSTALL CATALOG

filename \RES
SET DATDISK=DSK6.
SET PRGDISK=DSK5.
SET PRINTER=PIO.CR.LF
SET PAGE=000
SET HEADING ON
SET TALK ON
SET SPACES=01
SET RECNUM ON
SET LSPACE=256
CLEAR LOCAL
SET CURSOR=02
SET CRLF ON
CLEAR
DISPLAY STATUS
INSTALL CATALOG

filename \DSPA
PRINT (Drft),(E)
DISPLAY STRUCTURE
SNAP
PRINT (Drft),(f)
PRINT ALL

filename \D1
SET DATDISK=DSK1.

filename \D6
SET DATDISK=DSK6.

filename \D7
SET DATDISK=DSK7.

filename \D8
SET DATDISK=DSK8.

filename \D9
SET DATDISK=DSK9.
```

Macro Instructions have got to be one of the big new features in TI-Base. A Macro, or Macro Instruction, is roughly the ability to execute a large command, or a large group of commands, with a single keystroke or a very short key input. TI-Base Version 3.0 or later has that capability. It's a little repetitive to set up a large number of Macros, but once you've done it the rewards are great. Dennis has set up a usable area in VDP RAM, which is handled by the phrase INSTALL, for TIBs use. You should think of the word INSTALL more as the name of the area and not as a command. The things which you can do to the INSTALL area are CLEAR, ADD, REMOVE, CATALOG, LOAD and SAVE. You must create a command file on disk for each Macro Phrase you want to use. For example, I entered MODIFY COMMAND DSK1.\MC. This created the CF named "\MC" on disk drive #1. When the Edit screen appeared I entered two words "MODIFY COMMAND" and I pressed ‹FCTN 8› to save the CF. I did not enter any comments or place RETURN at the end of the CF. Then, at the dot prompt I entered INSTALL ADD DSK1.\MC. TIB retrieved the CF named "\MC" from DSK1 and placed its contents (MODIFY COMMAND) in the INSTALL area under the name "\MC". This allows me to execute that command by simply typing \MC at the dot prompt. This may not seem like much at first, but here's the big picture. TIB can execute many individual commands from VDP by their names and a Macro can be as large as a Command File. I created each of the Command Files you see on this page under their individual filenames and used the ADD directive to place them all in VDP at the same time. After that I entered INSTALL SAVE DSK6.INST2. TIB SAVEd the complete INSTALL group to DSK6.INST2, with the suffix "/I". Next, I added the line "INSTALL LOAD DSK6.INST2. to my SETUP CF. This tells TIB to automatically LOAD all the commands when TIB is powered up. I haven't tried it yet, but I think that you should be able to stack up your ADD commands in a CF to make it easier to modify the overall INSTALL package. The number and size of Macros placed in VDP are only limited by space, which is currently 2546 Bytes. With everything you see to the left loaded into INSTALL I still have 1879 Bytes left. "Not Bad!" This Macro package means a lot to non-ramdisk users, because the execution is very fast compared to disk access. You could load several large CFs, which you use often, into INSTALL and execute them when needed. I wanted to demonstrate this idea, so I loaded the complete CF named 1LBL91 from Tutorial 24.1.2 (Sept. 14, 1991) into INSTALL. I already had the CF on DSK7 of my RAM Disk. I merely typed INSTALL ADD DSK7.1LBL91 at the Dot prompt (Dp) and pressed ENTER (‹E›). This would be a good test because 1LBL91 contained a wide variety of TIB commands, including RETURNs and COMMENT lines. After TIB ADDed 1LBL91 to the INSTALL area I typed \IC ‹E›. This runs the INSTALL CATALOG Macro you see to the upper left. This told me that the 1LBL91 CF used 1471 Bytes of INSTALL memory space and that I still had 405 Bytes remaining to use. "That's great!" At that moment I had placed twelve Macros in INSTALL, the eleven on the left of this page and 1LBL91. INSTALL contained the twelve Macro names and one hundred and three lines of commands and comments, and I still had 405 Bytes left. Next I typed 1LBL91 at the Dp and ‹E›. 1LBL91 ran just fine. It opened the Database (Db), set my printer, asked me for the record number, found the name I wanted, printed some labels (using my special printer control commands), reset my printer and TIB commands and RETURNed me to the Dp. "And I think it's a little faster than my RAM Disk. I love it." If you manage this space well, the speed advantages over regular disk drives will be enormous.

FROM THE LIBRARIAN . .

by Sue Harper

It must be fall, we're back again!!!!!!

It has been a busy summer for most all of us I suppose, I know it has for me. And I am glad to be back to sharing information about the computer with the audience at large.

We have many new programs in the library, and I wish I could just list them all here, but that would take pages and pages! Using DISKODEX the listing of what is in the library takes more than ten disks! And besides, by next month the list would be outdated anyway! So, what I want to write about here is the NEW IMPROVED LIBRARY SYSTEM!!!

For many reasons, the PUG has decided to change our policies regarding getting disks from the library. The new system has been in place for the last two months, and reviews look good. What we are doing is simple - The club provides the library and a system to copy disks on. You buy disks from the club or bring your own and copy what you want. No more, "Sorry, I just sold the last copy of that." And, I have more time to do other things here!

However, for members that cannot make it to the meetings, the system will remain the same. For $2.00 a disk plus postage I will be glad to make a copy of any disk you want and mail it to you. My phone number is on the back of the newsletter. PLEASE do not call the bulletin board and leave a message for me - my modem isn't feeling well, and I never really have had the time to get the hang of TELCO and other packages like that. If you wish, call the bulletin board and leave a message for the SYSOP, who will pass word on to me when he can. But, since I have an answering machine, calling me at home, human to human is the surest way to get what you are looking for.

As a final note, for all the club members who have a DISKODEX listing of the library, I hope to bring to the November meeting an up to date list of what is in the library. Any of you who have the old listing, bring your disks in and we will just trade, or give me the appropriate number of blanks, or whatever!! We're flexible!!!!

And, as a final, final note: There was a listing of all the disks in the library typed up very nicely in a black binder. A member borrowed it last year, and it has not been seen again. If you have the book, please return it. Other members would like the opportunity to check out what is available.

See you at the meeting. . .

THE WIDGET

The Widget or Cartridge selector is a device for keeping three cartridges or Modules ready for use at the flip of a switch. This little jewel has the un-nerving habit of locking up the console when it is switched too fast, and without waiting for a few seconds or so. WELL, I have found that by holding FCTN =, the quit key on our 99/4/A, that this does not happen while switching the widget. This seems to act as an interrupt allowing you to choose a new cartridge and carry on in the new cartridge without having to turn the console off or pressing the reset on the widget.
I have been using this combination for some time now and have only had one or two failures.
-NOTE- You MUST hold down BOTH the FCTN and the +/= key while switching for this to work. Takes about 3 thumbs and a couple of fingers (or vice-versa) to accomplish this but it works!
Paul Herman.....PUNN

"Rapid pulse, sweating, shallow breathing. . . . According to the computer, you've got gallstones."

```
100 REM ECHO TI BASIC
110 REM FROM PROGRAMS FOR TH
E HOME COMPUTER
120 REM COPYRIGHT (C) 1983 B
Y STEVE DAVIS
130 RANDOMIZE
140 DEF A=INT((90-65+1)*RND)
+65
150 DEF P=10*A+110
160 DEF R=INT((22-3+1)*RND)+
3
170 DEF C=INT((26-5+1)*RND)+
5
180 H=40000
190 CALL CLEAR
200 FOR I=3 TO 21
210 PRINT TAB(I);"ECHO"
220 CALL SOUND(-50,300,V)
230 CALL SOUND(-50,250,V)
240 V=V+1
250 NEXT I
260 FOR DELAY=1 TO 150
270 NEXT DELAY
280 INPUT "INSTRUCTIONS? (Y/
N):":Y$
290 IF Y$<>"Y" THEN 340
300 PRINT :"THE COMPUTER WIL
L FLASH A":"SERIES OF LETTER
S ON THE":"SCREEN. YOU MUST
'ECHO' THEM"
310 PRINT :"BACK IN ORDER BY
 PRESSING":"THE KEYS FOR THO
SE LETTERS":"AS QUICKLY AS P
OSSIBLE."
320 PRINT :"DIFFICULTY INCRE
ASES THE":"LONGER YOU PLAY.
THE FASTER":"YOU RESPOND, TH
E BETTER YOUR"
330 PRINT :"SCORE. GAME IS O
VER WHEN YOU":"MAKE 3 MISTAK
ES." ::
340 PRINT "ENTER LEVEL OF DI
FFICULTY:":"1 - LOW":"2 - HI
GH"
350 INPUT L
360 PRINT :"PRESS ANY KEY TO
 START"
370 CALL KEY(0,KEY,STATUS)
380 IF STATUS=0 THEN 370
390 CALL CLEAR
400 I=1
410 A$=""
420 FOR I=1 TO I*L
430 Z=A
440 CALL HCHAR(R,C,Z)
450 CALL SOUND(500/L,P,0)
460 CALL SOUND(1,H,30)
470 CALL CLEAR
480 A$=A$&CHR$(Z)
490 NEXT I
500 FOR P=1 TO LEN(A$)
510 CALL KEY(0,KEY,STATUS)
520 T=T+1
530 IF STATUS=0 THEN 510
540 PRINT CHR$(KEY)
550 IF KEY=ASC(SEG$(A$,P,1))
THEN 600
560 PRINT "NO, IT WAS ";A$
570 M=M+1
580 IF M>=3 THEN 680
590 GO TO 630
600 NEXT P
610 PRINT "THAT'S RIGHT"
620 I=I+1
630 FOR DELAY=1 TO 400
640 NEXT DELAY
650 CALL CLEAR
660 GOTO 410
670 CALL SOUND(100,110,0)
680 PRINT :"GAME OVER. AT LE
VEL";L;"."
690 PRINT :"OUT OF";I+2;"SER
IES.":"YOU GOT";I-1;"RIGHT"
700 PRINT :"YOU USED";T;"TIM
E UNITS"
710 PRINT :"SCORE LEVELS:":"
OVER 400 = SUPERIOR":" 150-4
00 = AVERAGE":" UNDER 150 =
SLOW"
720 S=(1000/T)*(I+2)*10
730 PRINT :"YOUR SCORE IS";I
NT(S+1)
740 M=0
750 I=0
760 T=0
770 PRINT :"PLAY AGAIN? (Y/N
):"
780 INPUT Y$
790 IF Y$="Y" THEN 340
800 END
```

ECHO

This TI BASIC game challenges your visual recognition and memory skills. A series of letters is flashed at various locations on the screen. You must "echo" them back to the computer in the proper order. But don't waste time! The faster you respond, the better your score. It might sound simple, but you may think differently after you select the high level of difficulty. If you make three mistakes, the game ends. As your score increases, you may want to adjust the average scores displayed in line 710.

COMMAND LAND

by Sue Harper
Pittsburgh Users Group

Well, fellow TI users, as it is, we all like to be liked, and I have heard that my previous column, The Kiddie Corner was well received in many places. Thank you, I appreciate being appreciated! Anyway, I was thinking that there are many commands in BASIC and in EXTENDED BASIC that not many people use. mostly because they are either unfamiliar with the command, or unaware of the command. So, to once again challenge the minds of the TI community, I offer a series of articles which will take commands, functions and statements and explain how to use them.

First, to review what commands, statements and functions are:

A command can be used only outside a program. It is a word or a combination of words and symbols that tell the computer to do something specific. An example is BYE. You cannot use this word in a program. Type the word in without a line number, and the computer will return to the title screen. By the way, just in case you are interested, if you type in BYE followed by any other letters or symbols, as long as you leave one space after BYE, the computer only reads BYE and ignores the rest. To test this, type in BYE BYE MR COMPUTER. You will not receive an error message, just a title screen.

Next we have functions. These are used to give back to the user, or the program a numeric value. One of the most popular functions is RND, which in a program will generate a number between zero and one. The number generated appears to be random, but it is not. Run the following program and record the results ten times:

```
10 CALL CLEAR
20 FOR NUMBER=1 TO 5
30 PRINT RND
40 NEXT NUMBER
50 END
```

As you can see, although the numbers are not really random, they work hard not to repeat themselves in the same run, but each run is identical. Adding another line (25 RANDOMIZE) will give you different numbers on each run, but they are still not REALLY random.

Statements are used in programs, and thus are always preceded by a line number. The numbers tell the computer what order to do things in. Look at the short RND program - notice what happens first, second, third, fourth, and so on. Also note that the RANDOMIZE statement had to be placed before the PRINT RND statement, but could have been before 10 CALL CLEAR, or 20 FOR NUMBER=1 TO 5.

Some words can be used in more than one way. A good example is PRINT, which can be a command or a statement. Used as a command, it has no line number and is executed immediately. Used as a statement, it has a line number, and will not do anything until the command RUN is typed in, and the line number assigned comes up.

Well, this is enough to get you thinking. Next time, I will try to talk about many of the different things you can do with PRINT - it's not as dull as you think!

Keep programming!!!

BASIC TIPS

HOW TO SPEED UP EXTENDED BASIC
While XB offers faster execution speed for some applications compared to console basic, XB can be speeded up even further by disabling sprite graphics (naturally this works only if the program does not use sprite graphics). The program statement is: CALL INIT::CALL LOAD(-31878,0). There are several different releases or versions of Extended Basic and the speed-up effect will be more pronounced with some versions than with others. 32K memory is required.

HOW TO DISABLE THE "FUNCTION-QUIT" HARDWARE RESET: TI Basic and Extended Basic has two ways to exit, one by typing in "BYE" which will properly close all files, or by pressing "Function=(QUIT)". The latter method really should not be used at all since files will not be closed and unpredictable things can happen if function quit is pressed while files are open. Unfortunately, many of us had the nasty experience of accidentally hitting "Function Quit" with the result that everything in memory was lost and files were scrambled. If you have Extended Basic and 32K memory, the following will disable "Function Quit": CALL INIT::CALL LOAD(-31806,16). This can be typed in as a direct command, or could be the first line of an extended basic program.

Converting MACPICS to TI Graphic Files
A review of Asgard's Pix Pro

by Frank A. Smith
Pittsburgh User's Group

When I spotted some MacPaint files on the club's BBS, I decided to use them to try out that part of Asgard's Pix Pro program known as the MacPaint converter. The following article is a step by step guide for those who may wish to try their hand at this program. It may help others to avoid some of the headaches I encountered along the way.

First of all, lets get an overall idea of what we're faced with in converting these files. The standard TI screen is 194X256 pixels in size. Page-Pro pics can be as large as 480X792. But, MacPaint pictures can be as large as 576X720 pixels total. It is obvious that many of the larger MAC pictures can't be converted to use on the normal TI screen. Fortunately, the MACPICS on the BBS were in groups of thirty smaller pictures which could be converted to ARTIST instances.

After unarching the MAC files, I loaded the MCPIX program from the Pix Pro disk and began the conversion. I learned that the master disk can't contain a write protect tab during this time. Apparently the MCPIX program must mark the end of the MAC file or errors are going to occur. Converting MAC to Page Pro format allows one to get the greatest part of the MAC picture converted. Stay away from converting MAC to PIX as this results in only half of a large MAC file being converted.

When I loaded the first of the MAC files into Page Pro, my first thoughts were, "MCPIX doesn't work!!". I was confronted with screen after screen of broken up graphics. Fortunately, I'm persistent, and loaded every file from the disk. When I got to the last file, a large picture of a tiger, I was delighted to see a small corner of what turned out to be a perfect tiger picture. Here's what happened! When you convert MAC to Page Pro the disk directory records all the filenames but all of the files on the disk are overwritten by the last file converted. This proved to be a very handy feature. Remember how large MAC files are—even wider than Page Pro can handle. When I got the files converted to separate disks, I found that, of the 30 pictures per file, there was only room for about 1/4 of the last row of six pictures on a Page Pro screen. I decided to try using the file overwrite feature to my advantage. I went back to MCPIX and converted every file three times to the same copy disk giving each file a different name. This resulted in the last file converted being a MAC file which fit on a Page Pro screen except for the last row of pictures. The other files were that same MAC file but the pictures had been shifted from right to left. Using this method, I was able to extract all of the MAC pictures from the five files.

Once the MAC has been converted and loaded into Page Pro, it's a simple matter of clipping each picture and saving to Page Pro picture files. WRONG!! I found that you

must have a write protect tab on your master disk at this time. If you don't, the file from which you are clipping pictures is scrambled during the saving of the clipped picture. Eventually, I managed to get 145 Page Pro picture files clipped from the five MAC files and proceded with the final step of conversion.

MCPIX is only one part of the Pix Pro disk. The main program allows conversion of Page Pro pictures to TI-Artist Picture format, GRAPHX, TI-Artist Instance format, Picasso, Pix, or Pix 128 files. You can also convert any of these formats to any of the others. When you boot the program, you are asked which file you wish to load. Simply type in the filename of the picture. There isn't any need to type any extensions such as "_I" for an Artist Instance. Pix Pro will automatically figure out what kind of picture you are trying to load.

If you can't remember the filenames of your pictures, simply press ENTER when the prompt "DSK1." is displayed. Pix Pro will display a listing of the contents of the disk in that drive. Pressing any key will return you to the "Load File?" prompt.

After loading a picture, Pix Pro automatically displays it on the screen. At this point, there are many things you can do with it before resaving it.

If this is a color picture such as GRAPHX or TI-Artist, you may want to change the foreground or background colors. By pressing the "F" or "B" keys - Pix Pro will go through a list of foreground and background colors accordingly.

If you want to save only a portion of the picture, you can "clip" that portion. By pressing "C" a little arrow will appear in the top left corner. Move it around with the arrow keys until you have it positioned in the top left portion of the part you wish to save. Press the ENTER key and the arrow changes into a little box. Using the arrow keys causes the corners to split apart and surround the area to be clipped. When you press ENTER again, all of the picture except your "clipped" portion disappears from the screen.

While you are viewing a picture file, you may find that the picture is too big to be displayed on one screen. Pix Pro is prepared for just such a situation. You can use the arrow keys to move left, right, up, and down to scroll the picture onto the screen. This allows you to "clip" that portion of the picture which you want to save.

Pressing any other key will take you to the save menu. You then have the option of saving the picture in any of the previously mentioned formats, or displaying another picture by simply pressing ENTER.

Let's get back to the MAC files. Using the Pix Pro program, it was simply a matter of converting each Page Pro file to a TI-Artist Instance. I now have three DSSD disks packed with Artist Instances.

Pix Pro is a product of Asgard Software and can be obtained by sending $14.95 plus $3.00 to cover shipping in the U.S./Canada - $7.00 for Airmail to:

Asgard Software
P.O.Box 10306
Rockville, MD 20849

Page Pro Page Composer Released

Asgard Software is pleased to announce *Page Pro Page Composer*, a new graphics utility for owners of *Page Pro 99*.

Page Composer is designed to allow you to prepare and print multi-page documents with *Page Pro 99*. With *Page Composer*, for the first time it's easy to generate newsletters and reports. *Page Composer* also allows you to create pages that you can create with no other utility for the TI-99/4A or the Geneve, and does things that no other program can do, including:

- Create documents containing up to 999 pages
- Pages can be oriented either landscape (sideways) or portrait (normal)
- Pages can be a variety of different printer resolutions - the 60 dots/inch mode of *Page Pro 99*, 80 dots/inch and 120 dots/inch - allowing you to create 60, 80 and 120 column pages
- You can place up to 30 pictures of any size on each page, and because of the increased printer resolution, you can use even the largest Macintosh and PC pictures
- Pictures can be "opaque" or "transparent" - you can merge pictures together
- When printing your document, you can print any range of pages and up to 999 copies

Using the powerful features of this program, you can easily create half-page "booklet-style" newsletters on landscape pages - ready to be copied. In fact, you can easily put two full-size *Page Pro 99* pages on a single *Page Composer* page! The possibilities are endless.

Not only is *Page Composer* powerful, it's also easy-to-use. It features a unique "graphical user interface" where you select program functions by selecting a picture that represents the function, move your screen window around a page by selecting arrows and "scroll bars", enter information by selecting "buttons" in pop-up windows, and so on. In fact, the program is designed so that the only time you have to touch the keyboard is when you enter a disk or filename, or a page number!

Page Composer requires a disk system, 32K and at least one DS/SD disk drive. Two disk drives are highly recommend. An Epson or compatible printer is also required. The program is compatible with the HFDC, the Horizon RAM-disks, the Myarc Geneve 9640, and the TIM, Dijit and Mechatronics 80-column cards. It works with a joystick or an *Asgard Mouse*. A *Myarc Mouse* version is available by special order.

Suggested retail price $14.95.

Asgard Mouse Upgraded, Price Reduced

A mouse is perhaps the most important new device you can buy for your TI-99/4A or Myarc Geneve 9640 computer. The *Asgard Mouse* is a high-quality mouse for the 99/4A and Geneve that is compatible with virtually all system configurations. Easy to use, simply plug it into your RS232 and load a compatible program. The recently released version 2.0 of the *Asgard Mouse* is even easier to use with improved software and more reliable hardware. Because of design changes, we have also been able to reduce the price to just **$39.95!**

The *Asgard Mouse* is the most popular mouse for the 99/4A - with more sold and more compatible software titles then any other serial mouse. Asgard Software alone sells 8 programs that work with the mouse, with many more under development. The *Asgard Mouse* includes support for *TI-Artist*, as well as two example programs and a detailed manual.

FOR A LIMITED TIME ONLY, ORDER AN *ASGARD MOUSE* AND RECEIVE FREE A COPY OF OUR HIGHLY-RATED MOUSE-COMPATIBLE *CLASSIC CHECKERS* (a $14.95 value) WITH YOUR MOUSE.

You won't be disappointed! The *Asgard Mouse* requires a disk system, 32K and an RS232 card.

Send all orders or inquiries to:

Asgard Software • P.O. Box 10306 • Rockville, MD 20859-0306

NOV 1992	
S M T W T F S	
1	MEETING
15	
22	
29	

AT WHITEHALL BOROUGH COMMUNITY ROOM
100 BOROUGH PARK DRIVE
WHITEHALL, PA.

CLASSES BEGIN AT 3PM
GENERAL MEETING BEGINS PROMPTLY AT 6PM

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