

NH99'ers User Group

New Hampshire 99'ers User Group
PO Box 5991, Manchester, NH 03108

Newsletter

August 1989
Vol. 7, No. 8

CLUB NEWS
by Paul Bendeck, President

NO MEETINGS UNTIL SEPTEMBER!

Club meetings have been suspended for the summer months, July and August, since many people are away on vacation. Meetings will resume with the September 18 meeting. This decision was arrived at by a consensus vote of the members attending the June 19 meeting. Please mark September 18 on your calendars now so you don't forget.

During the summer recess, we will continue to send out a newsletter each month to keep people informed of what is happening. For those of you on standing order for MicroPendum magazine, the club will continue ordering these at least through September. If you would like to get the June, July, or August issues, contact Vince Demers (603-424-3538) in Merrimack, NH.

Elections were scheduled for the June meeting. However, due to the light member turnout and lack of any candidates willing to run for president, it was decided to postpone elections until September. This situation raises a number of critical questions for our club. In order to continue as a club, we need members to support the club by attending meetings, giving demos, making presentations, teaching tutorials, etc. At present, there are about 10-15 members who attend meetings regularly. We need more than that to realistically sustain the club.

In September we must decide whether or not to continue the club. If enough people show up and there is sufficient interest, we will take nominations for new club officers and have an election. Otherwise, we will begin steps to dismantle the club. Club assets will be donated to charity, as per our charter.

Please think about all of this over the summer. Do you want the NH99'ers User Group to continue as a club? What are you willing to contribute to the club in order to keep it going? What do you want to get out of the club? Are you willing to run for office, help with the newsletter or software library? Bring us your ideas, comments and suggestions to the September 18 meeting.

GRAPHICS COMPATABILITY

COURTESY THE BYTEWINGER - LEXINGTON, KY - FEB - 1987

The multitude of Graphics programs available for the TI computer and their compatibility with word processing programs has prompted a request for some description of each. This is an attempt to clarify compatibility among most of the later programs. The diagram on the next page covers most of the freeware and commercial programs available.

TI-WRITER is the only prudent choice for a word processing program for those having 32K and disk drives. There are no others which come close to providing the features and versatility. All versions still use TI's WRITER program files. The best and least costly is FUNNELWEB's version which in addition to freeing E/A & WRITER from their respective modules, includes C, DISKO, FORTH, FASTTERM, and our choice of others in a disk-based program which shines when installed on a RAMDISK. Almost all of the programs which we will discuss will be used either with text from TI-WRITER or through TI-WRITER.

The CSGD series of graphics programs written by Dave Rose is shown at the top of the diagram. It is compatible with both Prowriter and Epson-gemini printers, but you must purchase the correct version for your printer. The keyboard or Joystick can be used in any of the Editors. The message printing program is common to CSGD-I, II, and III.

CSGD-I contains the Editor programs for creating your own (1) Character Sets, (2) 5X5 graphics, and (3) Pictures. The Editors, primarily the Character Editor, have undergone 4 revisions. Provisions are also made to jockey graphics around to convert between alternate printer types.

CSGD-II is basically a banner program which prints the message sideways and 8 times magnified. It also contains the Graphic Editor, but not the other editors. It has gone through three revisions, including the latest which allows printing lower case in the Banner mode.

CSGD-III is primarily a Label program which produces multi-width labels in 3 heights. It also contains the Message program and an 'easier to operate' Letterhead program. ALL OF THE FILES CREATED IN CSGD ARE I/V 254 and are not compatible with TI-WRITER. The Docuprinter is compatible with WRITER and will produce 1 or 2 column texts using a choice of 6 type fonts and D/Y 80 files through the Formatter. It does not handle fonts of greater height than 1 row.

The CSGD programs are supported by a multitude of graphics, pictures and over 100 fonts written by Dave Rose and contributors who use and enjoy his programs.

TI-ARTIST is an extremely versatile drawing program written by Chris Faherty. It allows creating, loading and modifying, size changes and many other features using the keyboard or a combination of the keyboard and Joystick.

NONE OF THE PROGRAMS DESCRIBED IN THIS DISCUSSION CAN BE LEARNED READING THE MANUAL. You must use them and make your mistakes; it helps you to remember.

The only files that were available with ARTIST were ART-EXTRAS; however, Dave Rose converted his I/V 254 files to D/Y80 which can be loaded as 'Instances' and were released as the COMPANION I-III series. In addition, TI/ARTIST allows the loading of GRAPHX files so that a

rather large base of graphics is available to use and modify or create your own.

GRAPHX is a program with quite a few similarities to ARTIST; was written in Australia and introduced in the USA in 1984. It allows use of the Joystick ONLY, and is not compatible with any but the Epson printer. It is a quite versatile drawing board in the hands of an experienced user.

The support graphics available consist of a series of GRAPHX COMPANIONS and GRAPHX PICTURES. They are all well done. The availability of additional graphics is made possible through TI-ARTIST which will load and save to the Image (PGM) format.

JOYPAINT & JP.PAL are Graphics Drawing Boards well spoken of by their owners. It does have options which allow loading from and saving to ARTIST &/or GRAPHX filtypes. It is currently only compatible with the EPSW printer.

ARTCONVERT is a Program that converts TI-ARTIST files to TI-WRITER files. It is supported by 4 diskettes of files; ARTDATA-I through IV. This permits anyone with TI-WRITER to have the ability to print graphics. It will also merge and print two graphics, but there are no provisions to include text in the graphic file to complete a document.

One unique feature of ARTCONVERT allows the user to convert one row high TI-ARTIST fonts for use through TI-WRITER. This would allow conversion of all of Rose's 1 row high fonts in Companion I-III to be used though they contain 70 of 96 typewriter keys if you do not have the COMPANION series. Compatible with Prowriter and Epson-Gemini.

FONTWRITER by Peter Hoddie is really the first graphics program which is compatible with TI-ARTIST and TI-WRITER. With this program you can create your own type fonts, revise TI-ARTIST and CSGD fonts and use TI-ARTIST Instances mixed in printed documents even on the same line.

The resources for this program are as broad as all of the ARTIST files plus all of those I have indicated earlier which can be converted through ARTIST.

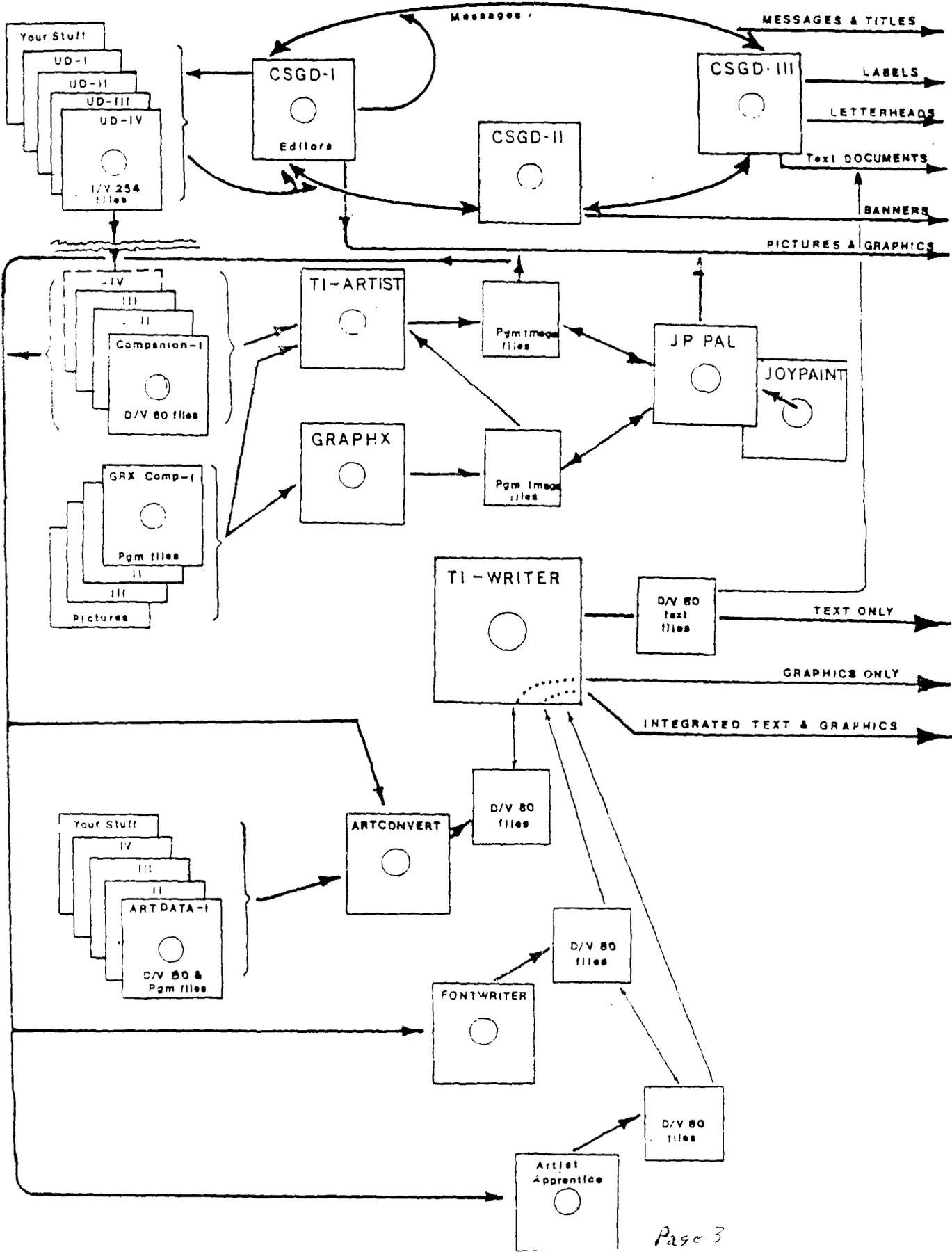
ARTIST APPRENTICE is similar in several ways to FONTWRITER. It allows use of TI-ARTIST type files, fonts and graphics to produce files which are printed according to a "Scheduler". It is limited in being compatible only with EPSON printers.

GENERAL OBSERVATIONS:

Most of the programs are, by necessity, somewhat complex. The MAX-RLE program with an almost infinite picture resource can also be used to convert files between D/Y 80, GRAPHX, TI-ARTIST, and IV 128. There are many more Graphic programs available since this article was first published, ie, the series from Rodger Merritt, PRINT_IT, PICTURE_IT, JIFFY FLYER, JIFFY CARD, and FORMSHOP. PRINT WIZARD, MACFLIX, CERTIFICATE 99, 1000 WORDS, etc. All of the programs are sufficiently time consuming to require the need for reproducing and also they are fairly small.

Don MacClellan - Bluegrass 99 computer Society (Slightly edited by DS of the NorthCoast 99ers)

SOME POPULAR GRAPHICS PROGRAMS



ARK THEORY CHALLENGED

by Earl Raguse with J Newton Armstrong

was completely amazed at the chaotic error caused by my dark thesis in the April OM. It seemed to arouse more skepticism than the room temperature (con)fusion experiment by the University of Utah professors Pons and Fleischmann. DARK has been challenged on all fronts. But, with the able assistance of my scientific advisor, J. Newton (Isaac?) Armstrong, I shall attempt to allay the concerns of the doubters and unbelievers, in question and answer format.

Q) By sagacious high school student.
"You state dark cannot penetrate solid objects. How then do you explain dark leaking out through window glass?"

A) Glass is not a solid in the normal sense. Glass is a non-crystalline fusion of silica. It may be viewed as a highly viscous fluid or jelly. Glass continues to flow under the influence of gravity forever. Panes of glass in old cathedrals tend to be twice as thick at bottom as at the top.

This is a good point however, and proves that young people still think. I should have said opaque solids, there are in fact transparent solids and liquids to be discussed later.

Q) By mature doubter and old skeptic.
"How do you account for dark printing in the newsletter etc. How come that isn't sucked up?"

A) You bring up a good point, but that is the problem when one oversimplifies for a audience of limited intelligence. We had not yet gotten around to the more complex subject of adhesives and stuff with strong affinities for dark. One of these substances is printers ink. Others are black acrylic paint, graphite and carbon black etc.

These aren't perfect however, leave them exposed to the dark sucking action of the sun for a few decades and they will fade to light black.

Q) By my barber, who claims to be an MIT physics professor on sabbatical.
"You state that dark travels 186,000 miles/second, that may be true in a vacuum, but in your example there was an atmosphere and hence it probably would take 24 picoseconds for dark to travel from the corner to the light sucker."

A) I was forced to agree with him about the atmosphere slowing down dark, but I carefully pointed out to him that the distance was only 22.67 feet so that the 23 picoseconds was rounded up. Precise calculation allowing for atmospheric slowing showed the time was still slightly less than 23 picoseconds. BOY was he embarrassed!

Q) By interest light citizen.
"What happens in the dark that the sun sucks up?"

A) Dark mediates the hydrogen nuclear reactions in the sun and is consumed in the process. That is where the sun gets the energy to radiate so much heat and ultra violet rays etc.

Q) By innocent bystander.
"How do you explain eclipses of the sun?"

A) When an opaque (note that I said it) body like the moon gets between the sun and the earth, it blocks the path of dark so the sun can't suck it up, so we are all in the dark just like you are. The sun is not really affected, it just looks that way. Actually, I suppose the temporary small loss of dark from the earth may have a barely measurable effect on energy production.

Q) By a rather smart friend of mine.
"Light energy is transmitted by photons, how is dark transmitted?"

A) This brings up the real controversy of dark theory. It almost exactly analogous to the problem with currently used electrical current theory suggested by Ben Franklin before we knew about electrons. He said electrical currents (or was that raisins) flowed from positive to negative.

We now know, course, that "current" is carried by electrons and flows in the opposite direction. Engineers and scientists still use the outmoded current theory because it works even if it is backward. What the heck, we are still using feet and inches yet!

Light theory is the same way, it is backwards but the theory works to solve problems. The truth is that dark is transmitted by Darkons. I know at least one physicist that suggests they be called Photoffs. However, he admits to writing assembly language programs.

Q) By me, in a pensive moment.
"Now that we know dark is transmitted by darkons, and we mentioned transparent solids, how are these connected?"

A) Firstly, dark acts as though it is both a wave and a particle phenomena. When considering transmission through transparent solids and liquids, wave theory fits best.

Dark travels at different speeds in different media. It travels faster in air than it does in water, cold beer or quartz crystals. According to Fermat's principle, wave propagation through a collection of media, takes the path that requires least time. By Snell's law the dark rays are bent (we scientific types say "refracted") toward the slower media. That's why they call them media, because the dark is slowed by a medium amount.



In 40 column mode changes on FWB between v4.12 and v4.13 are small and mostly transparent. An incompatibility was discovered between Horizon Ramdisks and Myarc disk controllers which caused FWB to act up now and then. This has been fixed. Unless you use both these pieces of hardware you may not notice any difference between v4.12 and v4.13. Other differences include paging of directories from QD or from SD with E/X as well as with N/B. The format of the P(rint)ed Directory has been improved.

The big changes are in the optional 80 column editor ED/EE files. This 80 column FWB editor has been revised from the original test release and now works properly with TI, CorComp, and Myarc disk controllers. The 80 column editor was written specifically for use with the DIJIT APVC card and as of this date (Jan 18, 89) it is still not known if the editor works with the Geneve in GPL mode or with the Mechatronics 80 column peripheral, both of which use the same video chip as the AVPC card. All features of the FWB v4.13 40 column editor and its relation to the rest of the FWB are retained in the 80 column editor.

Significant new features of the 80 column editor include V(iew) file in 80 columns after invoking SD, and a really slick 80 column SD display showing 20 files at a time. Both the work file name (if you have previously used LF, SF, or PF) and the name of the most recently marked file are displayed. You can also unprotect or protect the marked file, something not possible with SD from the 40 column editor.

Both the 80 column editing and the SD screens are in four colors. You can change the background and text colors of the tab ruler at the bottom of the editing screen, together with its cursor column position indicator, separately from the main background and text colors. These separate colors are also used in the three data display areas within the SD screen. Upon first booting the editor, the two additional colors are the second set of colors configured into FWB using FWB's CF/CG configuration files.

Minor new features include Ctrl/Y acting as BOTH left and right margin release, the ability to switch from normal scan (usually best) to interlace scan (may be useful with 80 column monitors that have very fast fade phosphors), and the ability to switch from NTSC (used in N. and S. America) and PAL (used in much of the rest of the world) scan standards.

User groups (not individuals) can obtain a copy of FWB 4.13 (with 40 column editor) and its additional 80 column editor files by sending a disk and paid return mailer to the Lima User Group, P.O. Box 647, Venedocia OH 45894. Please specify in your request if you want the extra 80 column editor files. Remember, the 80 column editor works only with special hardware. We are interested in knowing if this 80 column editor works with the Geneve and the Mechatronic card.

Everyone told me how easy it is to use the "reconfigure" feature of Funnelweb 4.10. I tried it and couldn't make it work. The docs. assumed I know something I didn't. So, at our last JU meeting (Oct. '88) we worked thru the procedure and after several mis-fires, came up with the following "cookbook" procedure to change printer call-out from RS232 to PIO (or vice versa).

1. Make a copy of FUNNELWEB 4.10. Leave off the write-protect tab and place this new copy in Drive #1.
2. Auto-load FW 4.10 up to the first menu (Selections 1-9 & -I).
3. Select Option "I" (CONFIGURE). (It can also be reached by selecting the USER LIST from the 'Editor' menu). DSK1.CF & CG will load and display "CONFIGURATION" and the prompts: (?) HELP, (c-C) BACK, & (F-7) DIR.
4. Hit any key. This brings up the 1st window: SYSINFO, QUIT, INSTALL).
5. Hit "S" (SYSINFO) and get the 2nd window: LOAD, EDIT, SAVE.
6. Hit "L" (LOAD).
7. Hit (Enter). (Loads SYSCON from Drive #1.
8. Hit E (EDIT). This will display the 3rd window: LOADING, DEVICES, COLORS, MENU, XB LIST, & UL LIST.
9. Hit "D" (DEVICES). This will display the 4th window: EDIT PRINTER, FMTR PRINTER, OBJECT FILE, WORK FILE, 7 PROGRAM.
10. Hit "E" (EDIT PRINTER). The following instruction window will appear: ENTER FILE/LEVICE.
11. Type in: PIO
12. Hit (Enter).

If the Formatter printer is to be changed, the easiest way is to repeat steps 10,11 & 12 as follows before going further.

- 10a. Hit "F" (FMTR PRINTER)
- 11a. Type in: PIO.LF
- 12a. Hit (ENTER)
13. Hit FCTN-9 (BACK) or CTC-C.
14. Hit FCTN-9 or CTL-C again.
15. Hit "S" (SAVE)
16. Hit (ENTER) to save the change in DSK1.SYSCON.
17. Hit FCTN-9 OR CTL-C to get back to the top menu.
18. Hit "I" (INSTALL). The 6th window gives two choices.
19. Hit "L" (LOAD-XB/XBII).
20. (ENTER) SOURCE program (DSK1.LOAD)
21. (ENTER) TARGET program (DSK1.LOAD)
22. Hit FCTN-9 or CTL-C.
23. Hit Q (QUIT).

To test the changes, it is necessary to return to the TI color screen and reload FUNNELWEB from scratch. While this has only been tested on FW 4.10, it should be applicable to all 4.xx updates of FUNNELWEB.

HORIZON P-GRAM CARD

by Siles Bazerman

The latest hardware release from Horizon is the P-gram card. For those of you that missed the January meeting, where I demoed it, I will review it here.

If you take a collection of Random Access Memory chips, interface chips and control chips and assemble them into the right configuration you end up with a P Box card that thinks it is a module. This is what the P-Gram is all about.

Using a circuit developed by John Guion, Bud Mills has produced another card which promises to become a winner. The P-Gram is a P box card which allows the saving and loading modules from disk. It also has a memory editor which lets you customize your modules, or even create your own. It is available either in a kit form or assembled and can be obtained with an optional clock.

I ordered my card from Bud Mills Services prior to release after a phone conversation with Bud. I have experienced strong support from Bud and appreciate the excellent quality of his kits. This is the third of his kits I have purchased.

The kit comes complete with a cleanly etched printed circuit board, and all parts needed. You only have to provide solder, a soldering iron, and a screwdriver (1 screw to hold the heat sink in place). You also receive a disk of programs for the DSR, a disk of source code for the DSRs, and either (as advertised) a manual on disk, or in my case two manuals already printed.

The first manual is a construction manual by John Guion, the card designer. This is one of the finest set of instructions I have run across in over 40 years of building and assembling electronic kits. There is no question in what order or where parts go. The text and diagrams (which match the silk screening on the PC Board) eliminate any confusion. The other manual is an operating manual by Robert Jones, who wrote the software, and John Guion. It is also excellent and contains full instruction for saving and modifying modules, assembly code for producing your own modules, and accessing the DSR in several ways. More code and assembly language than I could handle, and more tech info about the operating system than you really need to run the card.

I received board #005 and three hours after opening the carefully packed parts had the board built and ready for

testing. Another half hour had it installed, tested and operational. Admittedly, I have an ideal soldering bench, with cardholder, iron stands, choice of irons, magnifying lens with light, etc. but anyone who can solder can assemble this kit with no difficulty.

The card runs as advertised. You can access the card and the clock separately from X-BASIC or BASIC with a "CALL PG". You then have a menu to 1 Initialize, 2 load, 3 save P-Gram (or module), 4 Memory editor, and 5 Quit.

Using this card you can not modify Groms 0, 1, or 2. You can however look at them in memory, move them to other locations to save to disk and then study them to see how they work. You can access GROMS 3 to 7 and two 8K banks of RAM to emulate any and all modules. I have loaded TI, Atari, and Navarone modules successfully and following the docs modified several.

I have also used several packs done on a GRAMCRACKER with total compatability. I believe you can even modify the GK utilities to work on the P-G if you switch on Write Enable in software.

I would rate this card a straight A for all areas due to the excellent documentation and ease of use.

LET'S TALK RAM DISK BY JOHN F. WILLFORTH

WE HAVE A PROBLEM AS TI-994A USERS THESE DAYS THAT MOST MARKET VIEWERS AND MANY TI OWNERS WOULD NOT HAVE BELIEVED POSSIBLE JUST A FEW MONTHS AGO. THERE ARE FOUR MAJOR VENDORS OF RAM DISKS IN THE U.S.A.. THERE IS ALSO A VARIETY OF FEATURES AND SIZES IN THESE UNITS, SOME OF WHICH ARE NOT FOUND IN UNITS BEING PRODUCED FOR ATARI, COMMODORE, APPLE, OR THE P.C. LINES OF COMPUTERS. THE BIGGEST PROBLEM FACING THE USER NOW IS "WHICH TO BUY?".

THE PURPOSE OF THIS ARTICLE IS TO PROVIDE SOME THOUGHTS AND FACTS TO HELP YOU DECIDE. THE NEXT SEVERAL PARAGRAPHS ARE NOT INTENDED TO PROMOTE ANY ONE OF THE RAM DISKS MENTIONED, AND MAY CONTAIN ERRONEOUS INFORMATION, HOPEFULLY BY OMISSION RATHER THAN COMMISSION.

FIRST A RAM DISK IS BY DEFINITION, A SOFTWARE/FIRMWARE SUPPORTED RAM CIRCUIT BOARD EMULATING A DISK. I.E. A CIRCUIT CARD, THAT WHEN PLUGGED INTO YOUR PEB, WILL ALLOW YOU TO STORE AND RETRIEVE DISK TYPE FILES TO/FROM THE UNIT WITH THE SAME EASE AS YOU WOULD TO YOUR PHYSICAL DISK DRIVE (DSK1 FOR EXAMPLE). BECAUSE RAM IS A NON-MECHANICAL DEVICE, IT IS NOT SUBJECT TO THE DELAYS OF POSITIONING A READ/WRITE HEAD OVER A CYLINDER (TRACK), AND WAITING FOR THE DISKETTE TO NOW ROTATE TO THE DESIRED SECTOR, AND THEN READ/WRITE DATA FROM/TO THE SPINNING DISK IN SERIAL (LIKE CASSETTE) FORM. THESE THREE MECHANICAL LIMITATIONS ARE THE MAIN REASON THAT DISKS ARE SLOW. YES, DISKS ARE ABOUT AS MUCH FASTER THAN CASSETTES AS RAM DISKS ARE FASTER THAN DISKS! IF YOU BUY ONE, YOU WILL ENJOY THAT KIND OF IMPROVEMENT, NO MATTER WHICH BRAND YOU BUY.

THE MAJOR TWO TYPES OF RAM DISKS ARE THOSE USING DYNAMIC RAM (MYARC, CORCOMP) AND STATIC RAM (HORIZON, MIKE BALLMAN ENHANCED HORIZON [SOLD BY BUD MILLS]).

- * DYNAMIC RAM IS LESS EXPENSIVE, LARGER CAPACITY, BUT REQUIRES MORE SUPPORT CIRCUITRY, DRAWS MORE POWER, AND IS MORE CUMBERSOME TO SUPPORT IF THE POWER IS LOST (LIKE TURNING OFF THE PEB).
- * STATIC RAM IS LOWER POWER AND THUS EASY TO SUPPORT DURING POWER OUTAGES. THEY ARE MORE EXPENSIVE, TAKE MORE SPACE ON A BOARD, AND THUS FOR THE AMOUNT MEMORY NEEDED, MORE EXPENSIVE THAN DYNAMIC RAM.

I WOULD LIKE TO TALK ABOUT ADDITIONAL FEATURES. THE FIRST ONE THAT I AM MOST ASKED ABOUT, IS THE SPOOLING FEATURES. ALL BUT THE HORIZON AND THE ENHANCED HORIZON, HAVE THE SPOOLING FEATURE. AT THIS PRINTING, ALL THAT HAVE SPOOLING DO IT IN A DIFFERENT MANNER, BUT JUST AS EFFECTIVELY. SOME OF YOU MAY ASK, "WHAT IS SPOOLING?" WELL TO MAKE IT SIMPLE, SPOOLING IS STORING DATA THAT IS TO GO TO A DEVICE (PRINTER MODEM, ETC.) IN MEMORY SPACE, AND RELEASING IT AS IT CAN BE USED BY THE RECEIVING DEVICE. REMEMBER THE TI SITS THERE SENDING TO THE PRINTER UNTIL ALL THE FILE IS SENT. THEN IT IS ABLE TO ACCEPT YOUR NEXT COMMAND OR CONTINUE INSTRUCTIONS. A SPOOLER ACCEPTS THIS INFORMATION AS IF IT WERE THE PRINTER, MODEM ETC., AND AT A MUCH HIGHER RATE THAN ANY OF THOSE PERIPHERALS COULD, AND IN MOST CASES WILL ACCEPT THE ENTIRE FILE TO BE PROCESSED IN A FEW SECONDS VERSES SEVERAL MINUTES. THE TI-99/4A WILL THEN ASSUME THAT ALL THAT IT HAD TO DO WAS DONE AND COME BACK TO YOU FOR FURTHER USE, WHEN IN FACT THE JOB IS STILL BEING COMPLETED BY THE SPOOLER AT A PACE THAT THE PRINTER, MODEM ETC. CAN HANDLE IT. PRETTY NEAT! HUH?

ANOTHER FEATURE IS PARTITIONING, OR MULTIPLE DISKS BEING ASSIGNED WITHIN A SINGLE RAM DISK CARD. WHAT THIS MEANS IS THAT IF YOU HAVE A SINGLE DRIVE ON YOUR SYSTEM (DSK1 FOR EXAMPLE), YOU MAY CALL A PORTION OF A RAM DISK DSK2, OR DSK3, DSK4, ETC. NOW YOU HAVE ONE PHYSICAL, AND UP TO WHO KNOWS HOW MANY OTHER DISKS WHICH ARE PART OF THE RAM DISK.

STILL ANOTHER FEATURE IS BUILT IN COMMANDS, EACH DISK MENTIONED ABOVE HAS IT'S OWN SET. FOR EXAMPLE, YOU CAN TYPE "CALL DM" IN BASIC COMMAND MODE, AND A FILE CALLED DM1 WILL BE BOOTED FROM THE DISK, FOLLOWED BY DM2. MANY COMMANDS DEALING WITH MEMORY ARE ALSO INCORPORATED.

FEATURES SUCH AS CLOCK, (TIME OF DAY), ANALOG-TO-DIGITAL, ETC. ARE NOW COMING AVAILABLE ON THE RAM DISKS.

YOU MAY NEED MORE INFORMATION TO ORDER YOUR RAM DISK THAN I'VE PROVIDED HERE. NEXT MONTH'S ARTICLE WILL GET MORE SPECIFIC ON EACH RAM DISK BUT IF YOU BELIEVE THE ADS, MAYBE YOU CAN UNDERSTAND THEM A LITTLE BETTER NOW, AND YOUR READY TO JUMP IN. GOOD LUCK!

West Park
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SCHEDULE OF MEETINGS

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There will NO club meeting in July or August. The next club meeting is scheduled for Monday September 18 starting at 6:30 PM. Meetings are held the third Monday of each month at the Science Enrichment Encounter (SEE) Center, 324 Commercial Street, Manchester, NH. Below is a list of dates for upcoming meetings.

September 18

October 16

November 20

December 18

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