

BITS, BYTES & PIXELS

LIMA 99/4A USERS GROUP



MAY 1991

Volume 7, 85

1991 LIMA TI MULTI USER GROUP CONFERENCE UPDATE

Saturday May 18, Reed Hall
The Ohio State University Lima Campus

SCHEDULE OF EVENTS

FRIDAY EVENING MAY 17, 4PM till approximately 9PM. Doors will be open. We will be posting signs, setting up tables and systems, and moving furniture. Please come on out to help or just to socialize. DISK COPYING can be done during these hours.

SATURDAY MAY 18, ALL DAY:

The following schedule is tentative, but will probably be followed fairly closely. Time is still available for additional formal presentations, and we anticipate more presentations will be added to this schedule as the conference date approaches.

7:30 AM Doors open. Set up time for exhibitors

8:30-9:00 Room 150-- Charles Good, "THE LATEST ON FIMMELWEB", maybe! Tony McGovern writes "I'll see if I can have something ready, but at this stage no guarantees." Tony is working on improving the text editor.

9:00-9:55 Room 160-- Mike Sealy, "THE LATEST SOFTWARE FROM MS EXPRESS"

9:30-10:25 Room 150-- Bruce Harrison, "GOLF SCORE ANALYZER AND OTHER SOFTWARE FROM HARRISON SOFTWARE"

10:00-10:55 ROOM 160-- Eunice Spooner and Christopher Badard, "THE OAKLAND COMPUTER CLUB." This elementary school user group is probably the most active user group in the country. Eunice is the advisor. Chris is a 12 year old member.

10:30-11:25 Room 150-- Paul Scheidemantle. "PAGE FOLD EFFECTS". This is a new software package authored by Paul.

11:00AM --- FOOD SERVICE IS OPEN

11:00-11:55 Room 160-- Irwin Hott, "THE NEWSLETTER ARTICLE CLEARING HOUSE". A representative of each user group should attend, even those groups not publishing a newsletter.

11:30-12:25 Room 150-- Chris Rabbitt, "MISCAN SOFTWARE AND HARDWARE"

Noon - 12:55 Room 160-- USER GROUP OFFICERS' CONFERENCE, a discussion of common concerns and ideas. An officer from each user group should attend.

12:30-12:33 Room 150-- Bud Mills, "HARDWARE PRODUCTS FROM BUD MILLS SERVICES"

1:00PM ---FOOD SERVICE CLOSES

1:00-1:55 Room 160-- Mike Wright, "BITS AND PIECES FROM THE HISTORY OF THE T199/4A". Mike is a collector and will have various rare and unusual pieces of hardware to show us. Please note: He incorrectly reported last month that Mike would show us a 99/8. Mike says, "The 99/8 is almost the only T199 related product I DO NOT own." Sorry for our goof.

2:00-2:55 Room 160-- Gary Bowser, "HARDWARE AND SOFTWARE FROM O.P.A." Gary is already shipping his 80 column "in the console" board.

3:00-3:55 Room 160-- Barry Traver, "THE CURRENT STATUS OF THE TI COMMUNITY"

4:00-4:55 ROOM 160 --Jim Horn, "THE SEX LIFE OF THE 99/4A." Honest folks, that was the tentative title Jim gave us. We didn't realize there was enough material on this topic to give a whole one hour presentation. Jim's attendance at our conference is only tentative, since he is on active duty with the army and thus may not be able to attend.

6:00-- CONFERENCE ENDS, take down and clean up. We need to leave the place just like it was when we arrived at 4PM Friday, so clean you can't tell we have been there. All help is appreciated.

8:00PM-- Informal dutch treat get together at a local restaurant. Location to be announced.

GROUPS WHO HAVE REQUESTED EXHIBIT ROOM TABLES

To date the following dealers and user groups have requested free tables in the exhibit area. We know that representatives of other user groups who are planning to attend but have not requested table space.

--WAS CONTROLG; William A. Shores offering kits to add modules to the inside of your XB module.

--DISK MOVERS; They have excellent prices on a wide variety of disk types.

--KAMARTHA USERGROUP/COMPRODINE; from Peterborough Ontario Canada, this user group will be the agent for COMPRODINE software.

--CIN DAY USER GROUP; Cincinnati and Dayton Ohio.

--GREAT LAKES USER GROUP; Detroit Michigan.

--BUD MILLS SERVICES; Horizon ramdisks, PGRAM cards, and MEMEX expansion memory for the Geneve.

--ST LOUIS USER GROUP; St. Louis Missouri.

--CONNI; the Columbus Ohio user group.

--TIGERCUB SOFTWARE; Jim Peterson will be selling (almost giving away) disks from his vast public domain library.

--GENIAL TRAVELER; Barry Traver will be accepting subscriptions to his disk magazine.

--CLEVELAND AREA USER GROUPS; Cleveland Ohio.

--OH HI TI USER GROUP; Toledo Ohio

--L.L. CONNER ENTERPRISE; Larry Conner is a general dealer with lots of hardware and software for the 99/8A, Geneve, and CC40.

--OASIS PENSIVE ABACUTORS; Gary Bowser will have the 80 column peripheral, RAMBO, and other neat hardware and software.

--RANCHARSED COMPUTER; Ron Markus is a general dealer with lots of stuff for the 99/8A. Ron may have some 80 column cards available for sale.

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- THE FORT'S USER GROUP; Fort Wayne Indiana.
- NEW HORIZONS USER GROUP; Toledo Ohio.
- 779 USER GROUP; Toronto, Ontario, Canada.
- HARRISON SOFTWARE; Bruce Harrison will feature his Golf Score Analyzer, the Harrison Word Processor, and classical music.
- COMPETITION COMPUTER; a generic TI dealer from Milwaukee. They told us, "We have lots and lots of stuff we can bring to sell." At the Chicago faire they usually have lots of used PE box systems and printers.
- WOODSIEP USER GROUP; Indianapolis Indiana.
- MS EXPRESS; Mickey Schmitt and Mike Sealy will have adventure games and hints available.
- CHICAGO USER GROUP; Chicago Illinois. They will have their own special software and hardware manuals for sale.
- ASGARD; the largest publisher of TI and Geneve software. Chris Bobbitt may have some of his much talked about hardware available as well.
- THE LIMA OHIO USER GROUP; from guess where? A vintage 99/4 with thermal printer and TI side car peripherals will be on display.
- WEST PENN USER GROUP
- PITTSBURGH USER GROUP, Pittsburgh PA
- DISK ONLY SOFTWARE; Jim Horn.

HOPE TO ATTEND, BUT NOT YET CONFIRMED

- Beery Miller; Mr. Miller edits the disk based 9640 NEWS and hopes soon to have a disk magazine for the 99/4A.
- Chris Pratt; representing ESD CORPORATION and their hard and floppy disk controller for the 99/4A.

VIDEO TAPES

All formal presentations will be video taped, both with a video camera and with a VCR recording video and audio directly from the demonstration room computer systems. In addition, a member of the Lima UG will wander around the exhibit room video taping all the displays and interviewing those at the tables to make a video record of all the products available at the tables. An edited version of these videos containing approximately 14 hours of viewing will be made available to any user group, to commercial dealers exhibiting at the conference, to speakers giving formal presentations, and to paid members of the Lima UG.

To obtain these video tapes, leave THREE BLANK VHS TAPES and \$3.75 for postage and packaging, OR \$15 (and we provide the media and postage) at the Lima UG table. CLEARLY INDICATE YOUR GROUP AFFILIATION AND RETURN ADDRESS when leaving these materials and/or money. User groups NOT ATTENDING the conference can still obtain the videos by sending 3 blank VHS tapes and \$3.75 OR \$15 to the address at the end of this article. Remember, this offer is only made to user groups, conference speakers, and attending dealers. Individuals who want a set of these videos should become paid members of the Lima UG.

DISK COPYING FROM THE LIMA UG'S SOFTWARE LIBRARY

As a service to the TI community and to help support other user groups, a designated representative of any user

group may make copies from the Lima UG software library at no charge. We plan to have three copy stations available for copying Friday evening beginning about 4PM and all day Saturday. Printed commented lists this software disks will be available at each copy station. Disk copying is subject to the following conditions:

--Only user group representatives can copy. Individuals who want access to our library can become paid members of the Lima UG.

--Copying is on a self service basis. We will be available to show you how our equipment works but you operate the equipment. Whole disk copy programs in use will be REDISKIT and maybe TURBO COPY.

--You provide your own blank disks. They need not be pre-initialized. EVERYTHING IN OUR LIBRARY IS IN 9900 FORMAT, so be sure to bring enough disks.

FOR FURTHER INFORMATION

Hotel and tourist information was published last month in 990P and is posted on GENIE. We will send this information along with a map to those who request. To request free tables in the exhibit area, to schedule a free formal presentation, or for further information write the Lima User Group at P.O. Box 647, Venedocia Ohio 45894, or phone Dave Szipp evenings at 419-228-7109.

DONES

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 * 99/4A User Group *
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Bits, Bytes & Pixels

ADDITIONAL COMMENTS ABOUT Y.A.P.P.

by Charles Good

Lisa Ohio User Group

Y.A.P.P. (Yet Another Paint Program), written by Alexander Hulpke and published by Asgard, has been discussed extensively in *Micropendium*. A full review by Harry Bradbeer was published in the December 1990 issue. A letter to the editor by Lutz Winkler questioning Y.A.P.P.'s ability to display 424 vertical lines of resolution appeared in the January 1991 issue. In the March 1991 issue, a letter by Paul Charlton says such resolution is indeed possible. A letter to the editor by Alexander Hulpke in the February 1991 issue clarified some of the features of the software. When I purchased Y.A.P.P. at the November 1990 Chicago fair I intended to write a complete review for this newsletter. Since this has already been done in *Micropendium*, what I have to say below will be "additional comments" directed at both current and potential purchasers of Y.A.P.P. Readers interested in my comments are urged to read the *Micropendium* articles and letters mentioned above.

Y.A.P.P. is an "artist" program designed for those with 80 column systems (a Geneve or a 99/4A with 80 column peripheral). Its features resemble those of TI ARTIST, and it allows the user to take full advantage of all the color and graphics capabilities of the 9938 and 9958 video chips to produce stunning color pictures. Comparable software that unlocks the color features of the 9938 chip includes XHi (also by Alexander Hulpke) and NYART. In my opinion, Y.A.P.P. is by far the best of these three. It is one of only two software packages for the TI that make full use of the 192K video ram possible with the 9938 or 9958 video chip. (Funnelsweb is the other.) It is the only "artist" software for the TI or Geneve that allows manipulation of GIF pictures, and it is unique in its ability to create double vertical resolution pictures consisting of 424 lines and either 256 or 512 columns. The other two "artist" programs mentioned are limited to 212 pixels vertically.

To load GIF pictures into Y.A.P.P. takes a lot of RAM. You either need a Geneve, or you need a 99/4A with a supercart or gram device to provide RAM via the cartridge port. Without this extra RAM you lose the ability to manipulate GIF pictures with Y.A.P.P. In order to utilize double resolution, it is necessary to have 192K video RAM installed. Most TI 80 column peripherals have this much video RAM, but the Geneve doesn't. Y.A.P.P. comes with instructions and testing software for adding the necessary video ram to a Geneve. With only 128K of video RAM, the standard configuration on a Geneve, Y.A.P.P. users are limited to 212 lines of vertical resolution.

There are lots and lots (probably thousands) of high resolution GIF format pictures on BBS systems that support IBM clones. These can be downloaded into an ordinary TI (with a disk system and memory expansion but without an 80 column peripheral) and viewed with GIF MANIA, a Texas

product. The results with GIF MANIA are less than ideal, because you are squeezing a high resolution picture with 32 or more original colors into the 99/4A's lower resolution display of only 16 colors. Those of us with 80 column systems can view GIF pictures in their full glory with the public domain program G99. However, neither of these GIF viewing programs allows the TI or Geneve user to manipulate the displayed image. This can only be done with Y.A.P.P., and this is one of the reasons Y.A.P.P. is so significant. An example of such manipulation is shown in THE CITY picture that accompanies the hard copy version of this article. This picture was originally in GIF format. I added the text at the bottom of the picture and changed some colors so that it would produce a better half tone dot matrix printout. XHi and NYART can only load previously created high resolution pictures that were saved in NYART format for enhancement or alteration. (XHi can also load low resolution TI Artist format pictures.) The number of NYART images available on BBS systems or user group libraries such as the Lisa UG library is quite small compared to the number of available GIF pictures.

The HARDCOPY utility that comes with Y.A.P.P. was used to print the picture that accompanies the printed version of this article. This utility was originally created for use with Alexander Hulpke's XHi, and is even easier to use with Y.A.P.P. HARDCOPY will print in black and white on a dot matrix printer a good representation of a high resolution NYART format picture that has been saved to disk. HARDCOPY uses up to 256 different dot densities to simulate the 256 colors of a NYART format picture. THE CITY picture that accompanies this article has 32 colors and a resolution of 256 x 212 pixels. The reason that HARDCOPY is easier to use with Y.A.P.P. than it is with XHi is that changing a picture's colors is much easier with Y.A.P.P. HARDCOPY works best when there is lots of difference between the darkest and lightest colors of the picture. A picture that looks great on screen but is made of similar shades of dark colors will print with HARDCOPY to look like a black cat in a coal bin. Changing a few colors, particularly lightning background and border colors, as the original picture is displayed on screen before saving back to disk in NYART format will greatly enhance the subsequent printout with HARDCOPY. Such color changes are relatively easy with Y.A.P.P. and very cumbersome with XHi.

There are a couple of minor limitations I found with HARDCOPY. 1- Its default starting point is the left side of line 212. If you use this default, HARDCOPY will only print out the upper half (the top 212 vertical lines) of a picture created and saved as double 424 line resolution. The thing to do is change the "dH" default from 212 to 424. 2- In setting up HARDCOPY (with the HARDCOPY setup utility) you should chose S610 as the printer type if you are using a STAR Gemini 10X or S610. However, the resulting printouts will have narrow horizontal white lines because the resulting line feeds are too great. This can be corrected as follows for

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those with Zenith 10K or 3610 printers. After setting up HARDCOPY for the 3610 printer use a sector editor and examine the only sector of the file MCOB. Look in Hex for the string 1B4A0F and change this to 1B4A0E. This will reduce line feeds by 1/144 of an inch and eliminate the little white horizontal lines.

40 column users take note! HARDCOPY can be used with an ordinary 99/4A (without an 80 column device) to print any MYART format picture of either 212 or 424 vertical resolution.

A neat feature of Y.A.P.P. is the ability to load any TI Artist font into the program and then to display text anywhere on the picture currently displayed on the monitor. Text can be positioned with one pixel accuracy, and the modified picture with added text saved back in Myart format. The Lisa User Group's software library has lots of these fonts.

I sometimes have trouble trying to use a large font to add text to a double resolution picture. The text refuses to be displayed on top of the displayed picture. Apparently double resolution pictures really push the limits of memory of my 99/4A with AVPC and supercart. I have no trouble displaying text with normal resolution (212 pixel vertical resolution) pictures.

The drawing cursor of Y.A.P.P. can be moved with a mouse or a joystick. A mouse is definitely preferable because joystick movement is limited to only 8 directions whereas the direction of mouse movement is basically unlimited. Some things are very difficult to draw with a joystick, such as good spirals or cursive writing. DSR's are included on disk to allow you to use the Myarc mouse, Mechatronic mouse, and Asgard mouse. Unfortunately, if you have an AVPC card and do not have a IBM bus mouse specifically wired to attach directly to the AVPC mouse port you are out of luck. In a March 15 phone conversation with Asgard's Chris Bobbitt I was told he recently discovered that the Asgard mouse is not compatible with the AVPC even if the AVPC has the revised EPROM 2. Asgard has for months specifically advertised Y.A.P.P. for AVPC users, and only now do I learn that ASGARD'S OWN MOUSE WON'T WORK WITH THE AVPC unless Chris can cob together some sort of software patch.

This is especially distressing because the joystick DSR that comes on disk with all copies of Y.A.P.P. sold to date doesn't work either!! This non working joystick DSR was not written by Alexander, but was instead written at Asgard's request by another person. I wrote Alexander directly about this problem and he responded by sending me on disk a joystick DSR that does work well with Y.A.P.P. He sent the same DSR to Asgard. Presumably Asgard will include this working joystick DSR with Y.A.P.P. from now on. But, THOSE WHO HAVE PURCHASED Y.A.P.P. PRIOR TO MARCH 1, 1991 SHOULD BE AWARE THAT THEY HAVE A NON WORKING JOYSTICK DSR.

Lutz Minkler in his Micropendium letter and in several personal letters to me questions the claim made by Harry Brashear in his Micropendium review that Y.A.P.P.'s double resolution is "almost as good as VGA". According to one of Lutz's letters to me, and according to Alexander (see the documentation for XHi v3.6) with the proper programming tricks the 9938 chip does allow 424 lines of resolution in 66 and 67 graphic modes. However, to properly display this type of ultra high resolution requires an exceptionally high quality color monitor with a dot pitch of .31 or less. Few TI or Geneve owners use such a monitor. The commonly used Magnavox 8CM515 professional monitor has about .42 dot pitch. When you turn on interlace to display 424 lines you get a flicker or jitter on screen with the 8CM515. This is *sure* apparent with some of Y.A.P.P.'s double resolution pictures than with others. Y.A.P.P.'s double resolution pictures are absolutely the highest resolution graphics possible on any 99/4A or Geneve system. I don't mind the jitter my 8CM515 monitor shows in interlace mode, and the double resolution color pictures remind me of the photograph-like quality (individual pixels invisible or nearly so) of IBM VGA color displays. However, some users I have corresponded with are annoyed by the interlace jitter. I guess the esthetic quality of Y.A.P.P.'s double resolution display on a medium cost monitor is "in the eyes of the beholder".

Is Y.A.P.P.'s double resolution "almost as good as VGA"? Y.A.P.P. pictures can simultaneously display all 256 colors of a 256 color palette with 256 pixel horizontal by either 212 or 424 pixels vertical resolution. Alternately it can simultaneously display any 16 colors from a 512 color palette with 512 horizontal by either 212 or 424 pixel resolution. IBM's VGA graphics can simultaneously show 256 colors from a 256000 color palette with 320 x 200 pixel resolution, or any 16 of the 256000 colors in 640 by 350 pixel resolution. Ignoring the jitter problem, which can be corrected with a *sure* expensive monitor, VGA is probably better but not by much.

Asgard did a sloppy last minute hurry up job just before the November 1990 Chicago faire trying to get Y.A.P.P. ready for market when in fact the product wasn't quite ready. Although Y.A.P.P. is a powerful well thought out product, what was sold in Chicago was very rough around the edges, particularly the documentation. Although I informed Asgard of these problems a few days after the Chicago faire, as far as I know an updated corrected version of Y.A.P.P. has not been released. As a registered owner, Asgard should have informed me of any corrections or improvements. Problems are as follows:

--At one point, Y.A.P.P. displays "version 1.00" and elsewhere in the program the screen says "v0.71".

--The non working joystick DSR. Registered owners should be notified by the existence of Alexander's working joystick DSR.

--The documentation sometimes refers to "Paint-Pro" and sometimes to "Y.A.P.P." In a letter to me Alexander said that

he initially named the program Y.A.P.P. Asgard wanted to change the name to PAINT PRO, but Alexander insisted on using Y.A.P.P. (which I like better anyway). References to PAINT PRO in the documentation can cause confusion, and are an indication of sloppiness on Asgard's part.

—The Y.A.P.P. package is, according to the accompanying documentation, supposed to come with some TI Artist fonts on disk. Mine had no such fonts. This may be a sample defect not representative of Y.A.P.P. packages that have been sold.

—Page 2 of the ^{disk} manual on the GIF converter program called GIFFER1. There is no such on disk file.

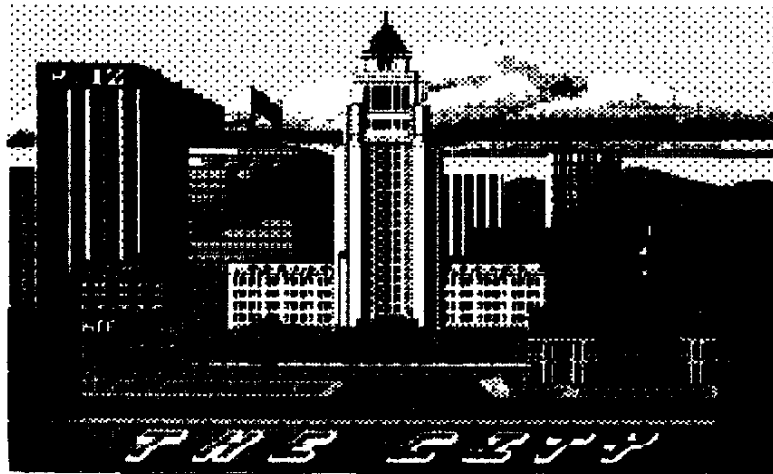
—The package includes the public domain utility 699. Page 37 of the documentation tells you in great detail how to use 699 to convert GIF pictures to MYART format. Well....you can use 699 to load and display on screen GIF pictures, but you CAN'T USE 699 TO SAVE these pictures to Myart or any other format.

YET ANOTHER PAINT PROGRAM (Y.A.P.P.) Price- \$29.95 + shipping

Available from dealers, and from

ASGARD Software
P.O. Box 10306
Rockville MD 20849
703-755-3005

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GIF original, modified and saved in MYART format with Y.A.P.P.. then printed using HARDCOPY.



The same GIF original, saved to TI ARTIST format with GIF MANIA, then printed using MAX-FILE.

GIF MANIA — THE 40 COLUMN USER'S GIF ALTERNATIVE
reviewed by Charles Good
Lima Ohio User Group

User groups and bulletin board systems often have lots of GIF format pictures in their libraries. Until recently these GIF pictures could only be viewed by those TI power users with 80 column capabilities (Geneve, Dijit AVPC card, Muehtronics 80 column peripheral, or OPA's TIM). Now, with Barry Boone's GIF MANIA, mere mortal 40 column 99/4A users can also view these pictures. You can't directly manipulate (add or delete lines, change colors, add text) the displayed GIF picture with GIF MANIA, but you can save the displayed GIF picture to disk in TI ARTIST format for manipulation by TI ARTIST. Even those who don't own TI ARTIST can dump the GIF picture to a printer by printing the TI ARTIST ".P" file with MAX-RL.

There are a lot of compromises that must be made to get a GIF picture onto a 99/4A screen. GIF pictures have resolutions of 300x200 or 600x400 pixels and can include 32, 64, or 256 colors. The 99/4A's screen is only 256x192 pixels and only 16 specific colors can be displayed. GIF MANIA, under software control, does the necessary picture squeezing and color condensations (combining several of the original GIF picture's colors into one of the TI's 16 colors) to get the picture onto the TI's screen. Several display options are available that allow the GIF MANIA to alter the combination of colors displayed, the overall picture contrast and the sharpness of borders between adjacent colors. One of these options is by trial and error. If you don't like what you see on screen, try playing around with some of the display options.

There is no doubt that the same GIF picture displayed (using Y.A.P.P. or G99) with all its numerous colors and full resolution on an 80 column system is better looking than the same picture displayed with GIF MANIA on an ordinary 99/4A. They say that a picture is worth a thousand words. The two "CITY" pictures that accompany this article are both from the same GIF disk file, and show a good approximation of the differences between 80 and 40 column GIF screen displays. Both were printed with a dot matrix printer and are reproduced in the newsletter natural size. The "80 column" picture was loaded into Y.A.P.P. using a system equipped with a Dijit AVPC card. It was then resaved in MYART format, and the resulting MYART image was printed with Y.A.P.P.'s MAKECOPY utility. The "40 column" picture was loaded into a 99/4A using GIF MANIA and then saved in TI ARTIST format. The resulting ".P" file was printed using MAX-RL. There is obviously more detail in the "80 column" picture. The "40 column" picture is, however, quite usable despite the loss of some fine detail.

Despite its compromise displays, GIF MANIA can produce quite pleasing and useful graphics. It is the only software that will convert GIF pictures to TI ARTIST format. For 40

column users who want to play with GIF pictures GIF MANIA is the only option available.

COST- \$14.95 + shipping
available from TEXAMENTS
53 Center St.
Patchogue, New York 11772

DONES

CC-40 4K TO 18K UPGRADE

(BBS editor's note: The original source and author of this article are unknown. The article was provided to us by member James McCulloch, who originally got it several years ago from a BBS. James successfully used these instructions to upgrade his CC40 from 6K RAM (which is what new CC40s usually have) to the maximum internal 18K RAM.)

DISCLAIMER: You assume sole responsibility for attempting this upgrade.

BEFORE ATTEMPTING THIS UPGRADE, BE ADVISED THAT THE COMPONENTS IN THE CC-40 ARE SUBJECT TO DAMAGE FROM STATIC ELECTRICITY DISCHARGE. OBSERVE PROPER ESD PRECAUTIONS.

I don't remember where these instructions came from, but I acquired them about 5 years ago. Had no problems upgrading my CC-40, and was even able to re-use the memory removed from the CC-40. Follow the instructions and all should work out fine. Have fun!

Willy

You'll need:

- 2 8K CMOS STATIC RAM ie, HM6264LP-15
- 2 1/2" buss wire
- 1 Spool solder wick (solder remover)
- Soldering iron and solder
- Common electronic type tools

READ ALL INSTRUCTIONS THOROUGHLY BEFORE STARTING

1....Take out batteries, cartridges, or any other connections to the CC40. Turn the CC40 upside down and carefully remove the phillips head screws from the CC40 and put in a secure place to keep from losing them.

2....With the CC40 still face down. Turn the CC40 until the words CC\$ are correctly facing you. This way there will be a common direction between these instructions and the computer. Carefully and very slowly remove the back cover. Note sure the keyboard is still flat on the table, otherwise later the keys may fall out of place (this would be bad).

3....Make sure you are statically discharged before touching the board. Do this by touching any grounded metal object. With pliers gently pull up the battery connectors by moving the tabs back and forth as you pull them up. Just do the ones with the wires attached.

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4....Now remove all the black oxide screws from the circuit board, there should be a total of 11 screws. Store these in a safe place where they won't get lost. Carefully lift up the board side next to the battery holder and pull back making sure the keyboard doesn't come up. If the top PC board will not come up then gently press down over the contrast knob (on the right hand side) while lifting up in the middle of the board. This will give more room for the knob to slide out of the case.

5....Now remove the plastic insert that lies between the 2 PC boards. To do this you start by lifting up on the right hand side of the plastic insert, when it is out of all the screw holes then slide the plastic out. This will leave the 2 PC boards which you will take out next. Caution when taking out the boards try not to bend the connectors too much as they will get brittle and break.

6....Remove the PC boards by lifting up on the ends nearest to the connector ribbons and lift up both boards at the same time, but leave the keyboard down so the keys stay put. After successfully removing the PC boards put the case in a safe area where the keys won't get knocked out.

7....Turn the PC board so that the two long chips are at the top, with the ribbon connectors also at the top. Move the two jumpers over one slot to the right. 1 to 2 and 3 to 4. (These are the vertical jumper wires soldered in place at the top part of the board and require desoldering as described below.)

8....Remove the two top chips by removing the solder with the solder wick, making sure not to get the board too hot. Carefully remove the two chips and insert the two new chips in, making sure the new chips are inserted in the same direction as the old chips. Pin 1 on the far left.

NOTE: IF YOU HAVE NEVER USED SOLDER WICK, OR HAVE HAD TROUBLE USING IT WITH INSTALLED COMPONENTS. IT MAY BE BETTER TO CLIP ALL THE LEADS TO THE TWO IC'S WITH SHARP DIAL CUTTERS. THEN HEAT THE SOLDER ON EACH LEAD AND REMOVE EACH LEAD (WHILE HEATED), FROM THE BOARD, WITH A PAIR OF NEEDLE NOSE PLIERS. AFTER ALL THE LEADS HAVE BEEN REMOVED IN THIS MANNER, USE THE SOLDER WICK TO REMOVE THE LEFT OVER SOLDER IN THE IC MOUNTING HOLES. OF COURSE THER ISN'T MUCH CHANCE OF SALVAGING THE OLD MEMORY USING THIS METHOD. Willy

9....Solder in the new memory IC's and reassemble the CC40 in the reverse manner of it's disassembly, making sure not to fatigue the connector ribbons that connect the two boards together. After reassembly is complete turn on the CC40 and check the amount of memory using the FRE(0) command. It should return a value of at least 18K.

THATS ALL FOLKS.

DONES

LETTER TO THE EDITOR

Joseph Cohen
144 Minosa Dr.
Charlottesville VA 22903
March 29, 1991

Dear Charles,

Comments on newsletters: January 1991:

The RS232 stand alone from TI actually has TWO serial ports at the back (no need for a special cable like the PEB card has)! I happen to have one of these and it works just like the serial devices for the PEB. True, it does not have a parallel port since TI did not think that such a port was useful (recall that the TI99/4A impact printer was intended for use as a serial printer at 300 baud).

Third party manufacturers continued to market side car peripherals long after the PEB was introduced, and even after TI left the home computer market. I have a CorCoop 32K stand alone. It is smaller than the TI side car peripherals but has a separate transformer that plugs into the wall outlets (not just a cable like the TI peripherals have). It is interesting that this one WILL NOT work when connected after the speech synthesizer. I thought something was wrong with mine, but then I discovered that somewhere in MICROPENDULUM a reader pointed this out, so it must be an error in the design.

The THERMAL PRINTER (TP) (or, officially the TI Solid State Thermal Printer) is something I always wanted but haven't found. From the manual of the AMAZING module I find that pressing FCTN/P on the 4A (or SHIFT/P on the 99/4) prints the current maze to the TP! This cannot be done with the impact printer.

In response to Andy Frueh's suggestion to load by disk name rather than drive number, the problem is that if you change the disk name you are in trouble. I have once spent two hours with a backup disk that refused to work while the original worked fine, till I realized that I had changed the disk name and thus no file could be loaded. So this idea (which was used even on some TI software; e.g. the Multiplan diskette) has its shortcomings.

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Other cartridges that do not work on the 99/4 are Congo bumps; Microsurgeon; Touch Typing Tutor (perhaps because of the keyboard!); Super Demon Attack; Star Trek; NARROW. These are the ones I know about.

Historically, I think the 99/4 was released AFTER the Atari 400 and 800 computers, which were also aimed at the home market. I am not sure about the Radio Shack Color Computer but I think the earliest CoCo's (which had, I believe, 4K of RAM) were marketed before or at the same time as the 99/4. They all had provisions for cartridges. I may be wrong here, but this is what I recall from the literature. incidentally, the Atari 400 had a membrane keyboard, and the early CoCo's had "chicklet" keyboards!

DONES

TI Extended BASIC Tris - MUSIC
By: Andy Frush, Lisa US

Despite what certain members of "auxiliary" groups say, (ah-hoo!) computer music IS a form of music. [BB&P EDITOR'S NOTE: Andy refers here to an article by Barbara Good in the January 1990 issue of BB&P. Barbara claims to be a member of the "computer widow's auxiliary" of the Lima User Group.] As a programmer and musician myself, I think it's neat to get away from the stereotypes of what a "proper" instrument is, and go for the avant-garde. After all, the piano was a "cheap imitation" of the harpsichord. Which one replaced which?

You don't even have to be a programmer to get the TI to produce songs. You have a selection (if you consider 2 programs a "selection") to choose from that help you write songs. One is TI's Music Maker module, and the other is **ASCARD**'s Music-Pro. Both allow you to enter music in "short" form, and play it.

But for those who have shown an interest in programming music in Extended BASIC, this is for you. The most basic form of music programming happens to be the one I use often. It uses a CALL SOUND statement for each note to be played. The disadvantage to actually programming music is that you can't "overlap" notes of different durations. For example, you can't have a note of a short length repeat as a note of longer duration is held out.

CALL SOUND uses a very easy system to program sound. The format is CALL SOUND(duration,frequency 1,volume 1,freq 2,vol 2,freq 3,vol 3) where duration is the note's length in milliseconds, the frequency is in Hertz, and the volume is on a scale from 1 to 30, with 1 being the loudest. Those who wish to learn more about programming with repeated CALLS SOUNDs may request a copy of **SOUNDBOOK**, my tutorial on the subject.

This article, however, is meant to introduce NEW ways to program music. Well, not actually so new, as they are simply not used a whole lot. One way to achieve writing music programs is to use CALL SOUND once, replacing the numerical values with variable names. The names get their values by **READING** a DATA statement that contains the usual data. This frees up more memory than the first method, which allows space for things such as text or graphics.

I suggest that the potential music programmer learns to use different techniques. There are more music programming techniques than can be printed here. I think that the best start is to get several music programs and break them to look at how it was done. Then, copy that technique.

Speaking of getting music programs... I hate to advertise (no I don't!), but I DO have a music package available. It includes my version of "Phantom of the Opera",

with a **SOUND** file. I came across a Beethoven **Mulley** by C. Rugosa in an old issue of **COMPUTE!** I have my 1990 update version of this fine piece. I edited it to play in Extended BASIC, using pre-scan commands, and also added a new beginning. This is a replacement to my original Phantom Fairware offering. Now, if you ask for Phantom, you get the Beethoven piece. If you already have Phantom, send back the disk (if you want to go through the trouble) with a dollar or two for postage and time, and I'll add the program for Beethoven.

DONES

Brow's Vienna: Lost Software Rights
By: Andy Frush, Lisa US

Should manufacturers of all this "lost" software either re-release it, or put it in the public domain for all of us? It's an interesting topic and very controversial. The problem is, these publishers didn't expect the TI to still be around SEVEN YEARS after TI stopped production. Surprise! We all owe ourselves a tremendous pat on our backs, since all of us have kept this great computer alive.

Anyway, the main point is, if the manufacturers do re-release their software, they would make money. There is still a market out there for this software. I don't have a **GROM/GROM** device, but long for this software. It's great!

On the other hand, they could simply give it to us as public domain material. They would be loosing potential sales. However, for reasons that I'm not aware of, it seems that these people aren't willing to release the stuff in any way. A disadvantage. Somehow, some of this material got to someone, or else no one would know about it. Perhaps we need to all ask these publishers about their software/hardware.

However, until the time comes when we get answers from these people, how should we treat their "lost" software? I firmly believe that we can distribute it as we wish. If these companies DO decide to maintain copyright's on their work (i.e. they will release it), then we must honor that copyright. When a company DENIES that some software exists, such as the **NECC** educational software, then there is no question in my mind. It is ours if they don't want it to be theirs. This stuff should freely circulate until manufacturers decide that it's time to recognize their TI software.

DONES

BB&P PUBLICATION SCHEDULE

BB&P is published 10 times per year. This "May 1991" issue is actually being mailed out in mid April in order to inform the TI community in advance about the **MUG** conference. The "June 1991" issue may not be mailed until late June. There will, thus, be an unusually long period between publication of the "May" and "June" issues.

DONES