# BITS, BYTESEPIXELS

LIMA 99/4A USERS GROUP



#### OCTOBER 1989 VOLUME 5 48

#### MAKING VINES TAPES MITHOUT A VINED CAMERA

A MEN SERVICE TO THOSE MEMBERS WHO CAN'T ATTEND OUR REGULAR MONTHLY MEETINGS. by Charles Good Lima Ohio User Group

The concepts discussed here were inspired by an article by Everett Smith published in the Aug 89 newsletter of the K-Town 99ers and by a demonstration put on by John Parkins (C.O.N.N.I.) at the 1988 (not the 1989) Lima Multi User Group Conference.

I have long known that it was possible to output from the 99/4A to a VCR. What I didn't realize was that this can be done easily without a video camera using "off the shelf" cables instead of custom soldering my own home made cables. I so didn't realize until recently how easy it is to add a spoken commentary to a video tape of computer output using nothing more than an ordinary cassette tape recorder. If I had known these techniques a few months ago, the videos we made of our 1989 conference would have had much better audio and video quality.

From now on, the Lima Heer Group will videotape all of the demonstrations shown at our regular monthly meetings. The video tape will include simultaneously the computer video output, the computer audio output, and a spoken commentary by the person presenting the demonstration. A copy of the tape made at each meeting will be kept at Dave Szippl's home and made available on loan to all local members at no charge. He will make copies of these tapes for all out of town members who are interested. Paid out of town members of the Lima User Group need only send a VHS tape and \$1 (\$0.90 postage and \$0.10 for the "send the libarian on a Florida vacation fund"). We will copy the tape for you at no charge and put it back in the mail to you. This will allow ALL OUR MEMBERS, marticularly out of town members to learn from the domes presented at our monthly meetings. You will be able to bear the demonstrator's verbal commentary and the questions members ask during the demos. What you see and hear will be less "slick" than the demos at our MUS Conferences. Histakes and equipment failures sometimes occur. Demonstration topics will be listed in this newsletter each month.

AUGUST 1989 VIDEO DEMONSTRATIONS—"House of the Rising Sun", a music program that pushes the limits of the 99/44's sound generation. The program is enhanced by Ray Kazmer (of Woodstock fame) with a very nice graphic. This is Public Bunain and will be available from the group Library in September.

"GB40" a beta testing version of the new enhanced Funnelweb Swick Directory in 40 celuans. This is for those who don't have 90 celuan cards and contains many of the features found in GDAV, the 80 column enhanced Funnelweb swick directory described on page 1 of our Sept 87 newsletter. GD40 is not yet available for release.

The main equipment you need to output directly to a video tage, besides a VCR and a 99/4A console, is a MONITOR CABLE. This is the cable normally used to connect the console to am RGB composite color monitor such as the 10 inch munitor TI used to sell. This is TI part number PHA2010, and is available for \$15 from L.L. Conner Enterprises (317-742-8146), Tex Comp, and probably any other dealer that sells 99/4A hardware. Hook one end of this cable to the compole where the RF modulator (TV adapter) normally attaches. Hook the other ends of the cable to the VIDEO IN and AUDIO IN female phono jacks in the back of the VCR. Attach a TV in the usual way to the VHF OUT antenna jack in the back of the VCR and you are ready to go! You can hear the amdio and view the video output of the computer on the TV and at the same time optionally record the output onto video

To allow for a spoken commentary you need a cassette tape recorder and some cables from Radio Shack. The T.I. PROBABL **RECORDER**, or the almost identical SE Computer Program Data Recorder (model 3-51588) we once used to store 99/4A tape programs and data work fine. You can't use small tape recorders that mute the EAR(phone) jack when you press RECORD. Buy a small "Y" shielded phone cable with two female and one male end (Radio Shack #42-2436) and plug it into the AMBIO IN tack in the back of the VCR. Plug the audio part of the MONITOR CABLE into one branch of this "Y" cable. Commect a shielded cable between the other side of this "Y" to the SPEAKER or EAR(phone) jack of the tape recorder. Small tape recorder EAR(phone) jacks such as that on the "TI Program Recorder" need a "mineature phono plug". The appropriate Radio Shack cable is #42-2444 which is 6 feet long and has a mineature phono plug at one end and a male "regular" shows plug at the other. If you can't find this particular cable for the cassette recorder-to-VCR link, you can use Radio Mack cables with stripped ends, a 3 foot phono cable (#42-2370) and a 3 foot mineature phono cable (#42-2434). Just twist and tape the ends together.

Using this setup, you need to push RECORD on the cassette tage recorder to record a spoken commentary onto the video tage. This allows the built in tage recorder microphone to pick up your voice and send it to the VCR via the EAR(phone)

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jack. You can, if you wish, use an external microphone attached to the tape recorder's NIC(rophone) jack. With most recorders you can only push RECORD if there is a cassette tape in the recorder. If you don't want to use the cassette recorder with a tape inside, you can usually reach inside the tape compartment with a finger and push the pin that is mormally pushed by the write protect tab on a cassette tape. Pushing this pin will allow you to push RECORD and activate the microphone. To turn off the microphone push cassette STOP.

With this setup you can make VCR recordings that simultaneously include the video putput of the computer, the audio output of the computer, and the voice of the person presenting the demonstration. This can be done NITHOUT A VISEO CAMERA. Neat! Because it is so easy to do, there is alot of potential for dealers, software authors, and user groups to video tape stuff and make the videos available to the II community.

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## SOME CONCENTS ABOUT OF CELLOON MOMETURE AND IN PARTICULAR THE BASHOVER SCHOOLS.

by Charles Good Lima Ohio User Group

In one of our exchange newsletters I noticed a statement to the effect that VGA monitors should work with the Geneve and AVPC. These monitors are described as having unlimited culors and analog input, both characteristics needed by the 9738 video chip of the Geneve and AVPC. I talked to Too Spillane, maker of the AVPC, and he stated that VGA monitors BO NOT WORK WITH THE AVPC OR GENEVE. The Sync speed of VGA monitors is too fast.

Probably the best single indicator of color monitor resolution is "dot pitch" which refers to how close the rad. green, and blue rolor dots are physically placed on the memitor screen. The smaller the dot pitch the better the resolution. There is a specific definition of "dot pitch", but there is apparently no specific definition of "pixels of resolution". I have seen identical resolution claims made far monitors of different dot pitches. I recently purchased the Magnavox BCM515 professional color monitor for use with my myPC equipped 99/4A system. This monitor is apparently identical to the Commodore 1084 and has a dot pitch of 0.42. Tany McGovern, in the doc file that accompanies the Funnelwob \_90 column editor, describes th Commodore 10848 as "only just ecod enough for 80 column work," I agree with this statement. but I need to add that this 0.42 dot pitch IS in fact adequate, in my opinion, for 80 column work. I believe the BCM515 is probably the color monitor of choice for AVPC am Geneve users. I have looked at a 0.5 dot pitch Radio Shack, CMS monitor. This is the monitor you see on prominent display at most Radio Shack stores. I find its display of #0 column text unacceptable. The fuzzy text displayed by the CMS would give me a headache if I had to look at it for ambile. The only easy way to buy an AVPC or Geneve compatible monotor with better than 0.42 dot pitch is to purchase a multi sync monotor. These expensive monitors all have good resolution (0.39 or better dot pitch) and cam be driven by a variety of frequencies, making them the most versitile in terms of present and future graphics standards. Tonex, in their Fall 89 catalog, lists one with a 0.31 dot pitch for \$516. Often they cost much more. It is too bad that Magnayox discontinued production of their BCM536 momiter with a 0.31 dot pitch and features otherwise identical to the **BCM5**15 that I purchased.

I had been using a cheap monochrome green monitor with moticably better resolution than my new GCM515. However, this better resolution is only apparent when you can adjust the software you are using for the colors white (actually groon) on black. Changing the default colors on some TI software is quite difficult and may require the use of a Grood device. Non white on black color combinations sometimes produced real problems with my groon memiter. My memochrome

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momitor had better resolution, but the SCMSIS is sharp unough for text work and the color is great! I do not want to go back to my green momitor.

The Magnavox 8CM515 is relatively inexpensive and has alot of nice features. There are phono plug composite color video and audio inputs so you can run a VCR or regular 97/46 (using a monitor cable) through these inputs. In fact, you have a Geneve or AVPC system AMD a VCR or unmodified 97/46 commected to the 8CM515 and operate both AT THE SAME TIME. A front panel button allows you to switch between the two displays. The 8CM515 has a "green switch" that imitates that simulates the display of a green monitor and is useful fortext work. Back pannel controls allow you to stretch the screen display vertically and horizontally and then center this display. This means that you can get any video input to exactly fill the monitor screen. If you want to use your 180 clone with this monitor in C6A mode there is an appropriate 8 pin BIN socket for ITL color input.

The Fall TENEX catalog lists the 8CM515 for \$259, am excellent price. I purchased by 8CM515 for \$269 from Midwest Microperipherals. This is the outfit with all those ull page ads in each issue of Compuer Shopper. I called their 800 mumber to make sure that the monitor was in fact in stick and them drove there the same day to pick it up. Midwest is easy to reach from anyplace in Ohio that has access to Interstate 75. The people there were very pleasant and gave me quick service. Midwest has expanded greatly over the years. They weed to be in a little store front in the tiny town of St. Paris. Then they moved to a concrete block building in a mearby rural location out in th middle of noplace. The concrete block building has now been boarded up and Midwest is now in a new large modern insulated steel building. Standing in their warehouse area waiting for the customer service person to bring me my monitor, I saw about 400 STAR MX1000 printers stacked neatly on pallets. They are an authorized STAR service center. I saw an assembly line for boxing equipment for shipping by UPS to customers all over the country. What a place!

CGA, EGA, VGA, and the 9938 chip's COLOR DISPLAYS:
The following information comes from various sources including the Fall 89 Tenex catalog and the Sept. 88 issue of Micropendius.

The CGA (Color Graphics Adapter) standard resolution is 320 x 200, that is, 320 pixels per line and 200 lines per screen. The simultaneous display of 4 colors from a palette of 64 is possible.

The EGA (Enhanced Graphics Adapter) will simultaneously dimplay 16 colors from a palette of 64 with a resolution of 640 x 350.

A V6A (Video Graphics Array, some call it the "Very supensive Graphics Aarray") display can include simultaneous display of 16 colors from a palette of 256000 with a resolution of 640 x 330. Alternatively, a V6A display can

simultaneously display 256 of these 256000 colors with 320 x 200 resolution. There are also, I believe, several "super" VSA formats with higher resolution. I have seen fantastic dono displays of VSA graphics showing pictures of flowers and outdoor landscapes. The subtle colors and lack of pixel graininess in these demos made the monitor display resemble a Kodacolor projetion slide.

The Geneve computer, and 99/4A computers with an AVPC have a display based on the 993B video chip. This chip's high resolution color displays include 16 colors from a palette of 512 with 512 x 212 pixels resolution. Alternatively, you can display all 256 of 256 possible colors with a resolution of 256 x 212 pixels. These figures suggest that the 993B's color display is, in most respects, better than EGA, and approaches what is possible with VGA.

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#### HE CAREE

In the June issue of this newsletter, an article by Andy Fruch identified the Ontario U6 as being present at our Multi Weer Group Conference selling I (TI) shirts and other stuff at their table. This group was in fact the TORONTO U6. As far as I know, the Ontario group, as a group, did not show up. Ontario was expected, but their table was vacant. We applied to TERRANTO for our incorrect report.

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#### DENEVE COMPUTER SPECIAL BALE PRICE!

This is a quote from the Oct/Nev 89 issue of MUS SMOTS, the mensletter of the Macon Georgia 99/4A Users' Group.

"SPECIAL PACKAGE BEAL!! Starting Sept 1st Myarc is selling the 9640 mouse w/MYART for \$450. Regular price is \$650 for the 9640 and \$125 for the mouse w/MYART. This is the buy of a lifetime! Call Jack Riley in Birmingham AL at 265-654-3841."

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#### NML update, and NANGCOPY tutorial by Charles Sood

Lima Ohio User Group

I now have, direct from the author Alexander Hulpke XNI v3.41, released in late August 1989. Version 3.2 was reviewed by me in the Sept 89 issue of BBMP. Any interested user group or paid member of the Lima U6 can obtain a copy of v3.41 by sending a disk and paid return mailer to P.O. Box 647, Venedocia OH 45894. User groups and tima U6 members can also obtain from me at cost a video tape showing the stap-by-step operation of XHi's HARDCOPY. This video is available by sending a VHS tape and \$1 postage, or by sending v65 to the address above.

#### CHANGES TO INI NEW TO v3.41:

All of the "complaints" about XHi's LOAD and COLDEF willties mentioned in my review of XHi v3.2 have been corrected to my satisfaction. Those using XHi on a 99/46 system will no longer have to hunt for the unusual key codes that correspond to keys on the geneve keyboard. However, some of the changes in LOAD and COLDEF that are new to v3.41 are not mentioned in the v3.41 doc.

The XHi code has now been attached to LOAD with SysTex, so XHi now loads very rapidly.

A new command, CALL LIMK("COLRES") is available that resets all colors to their original values.

#### HARDCOPY

The main changes to v3.41 are to HARDCOPY. This has been improved in several ways and prints MYART pictures in black and white to a printer with different dot densities assigned to each of the 16 or 256 colors. The result is better than MYART's own printer dump. The new HARDCOPY is still very confusing to set up and use, and the revised HARDCOPY doc is difficult to understand although most of the information is there. I printed a 4 foot tall MYART picture with HARDCOPY by printing 30 pixel wide vertical strips of the picture on famfold paper and taping the strips together. This required 24 hours of printer time!! XHi's author suggests that you might want to use HARDCOPY to make wall paper for your recon. A \$15 commercial program for the 99/4A allows you to print gigantic posters from TI Artist instances. This should give you some indication of the conitary value of MARDCOPY.

SETTING UP HARDCOPY PRINTER DEFAULTS— There are now two proconfigured printer defaults available in the v3.41 NCSETUP program. The Epson FX85 defaults should work with STAR NX printers, and possible all STAR N series printers (NL etc). The S610 defaults work with the STAR S610 (in STAR mode) and with the Genini 10%. The following comments apply to these who must set up their own printer defaults using HCSETUP. For those of you using the original HARDCOPY that came with XNI v3.2, I will list here the FX85 and S610 printer defaults.

"The prompt requesting high res graphic mode works best with with the code for quadruple density graphics fellowed by an upper case L, a space, and an upper case M. The correct responses to this prompt are 27 122 L H for the S610 and 27 42 3 L H for the Epson FX85.

The prompts for a carraige return followed by 23/216 or 1/216 inch line feed require the code for a "one time only" m/216 line feed. If the printer's minimum line feed is greater than 1/216 inch, than an approximation of 23/216 meeds to be made. On the S610, this would be the code for 15/144 inch line feed. For the 23/216 line feed prompt the remponse for the S610 is 13 27 74 15 and for the FX85 it is 13 27 74 23. For the 1/216 line feed prompt input for both the S610 and FX85 is 13 27 74 1.

For the "backspace" prompt the 8610 uses 8 and the FIES uses 27 106 24.

You can now boot HARDCOPY as EAS or from its own Xbasic NCLOAD program. Even those who are using a 99/4A that does not have a 9938 video chip (no AVPC card or Hechatronics 30 celumn peripheral) can use HARDCOPY to print MYART graphics. Unfortunately the screen display is slightly distorted on such a "no 9938 chip" 99/4A system, so data input is more or loss blind. Since the screen display is only slightly distorted, I expect the XHI author should have little trouble creating a HARDCOPY that works ok on "ordinary" 99/4A systems.

When first booted, you are prompted for the MYART file same. You can now have trailing spaces to the left of the cursor after this name without causing an I/D error. Type the file name, complete with drive number, and press (enter). After entering the picture file name, HARDCOPY displays the number of colors it thinks are possible in the picture, 16 for 66 mode and 256 for 67 mode. Press (enter) to move on. If the initial test printout looks totally black, like a black cat in a coal bin, HARDCOPY probably guessed wrong about 66 or 67 mode. Try restarting HARDCOPY and when the number of colors appears (either 16 or 256) press "1" or "2" to change to the alternate number of colors and then press (enter).

Now you see the two boxes and are given the opportunity to change the printer dot density of any colors you wish. Nowally this is an exercise in frustration and you should just press (enter) to go to the main menu. The box on the left shows a color and the box on the right shows the dot density. The first number immediately below the color box is the color number (0-15 for 66 graphics, and 0-255 for 67 graphics). The three digit number immediately under the color number shows the red, green, and blue intensities of the displayed color. Each of these R6B color numbers can be from 0-7. A 7 7 7 is black. If you want to see the various colors you can cycle through them with the up/down arrow keys (PCTN/EX). You can also directly display a color by pressing any letter key, then type the color number (0-15 or 0-235), then (enter). When a color is displayed its dot density; can

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be altered by using the left/right arrow keys (FETM/SD) or by typing numbers, and then pressing (enter). Pressing (enter) a second time immediately after (enter)ing a dot density leaves the dot density alteration part of HARDCOPY and goes to the main menu. At the bottom of the screen display it says "First color" followed by a number. The XHi author suggests that this is probably the background color and that changing this color number to a minimum or zero dot density will improve the printout by making the foreground easier to see. I have almost always found that lightening the density of this "First color" has little effect on the final printout of the picture.

If you want to save your altered set of color dot densities, or to load a previously created custom set of color dot densities this can be done with options "5" and "6" of the main menu.

Pressing "2" in the main menu allows you to enlarge the printout H(orizontally) and V(ertically) as much as 99% times larger than the minimum size. A small cursor appears below where you are entering data. First type the horizontal amlargement (1-999) and then press (enter). Just pressing (enter) uses the already displayed number as the default. Next type the Vertical enlargement (1-999) and press (enter). Next set the S(tretch) flag by pressing "1" (extra picture elengation horizontally) or "0" (no extra picture stretching beyond what you just set with the H and V prompts). 67 pictures (256 colors) usually benefit from setting the S flag to "1". You are now back to the main selection menu.

Pressing "3" from the main menu allows you to crop the printent and only print part of a picture. Again, a little cursor appears immediately beneath where input is expected. To enter data type a number and press (enter) to move on to the mext input area. Just pressing (enter) at any imput field accepts the already displayed number as the default. "N" and "V" are the horizontal and vertical coordinates of the lower left corner of where you want the printout to begin. 0,0 are the lower left coordinates of the original picture. "H" left to right is 0-512 for 16 color pictures and 0-255 for 256 color pictures. "V" from bottom to top is \$\delta 211 for both kinds of pictures. "dH" and "dV" designate the size in pixels of the rectangular part of the picture to be, printed horizontally and vertically from the just **design**ated starting coordinates. If your picture is set up to print off the right edge of the paper this causes no probless.

After configuring "2" and "3" from the main mann, as described above, you are now ready to press "4" and start printing the picture. Any printer output directed off the right side of the paper is ignored and printing of the most line proceeds correctly. Small pictures only take a few seconds to print. Very large pictures may take hours. I printed my 4 foot tall 56 picture by setting H and V magnification to 35 with option "2" of the main monu. I then

starting coordinate 30 pixels with each new strip and leaving the V(ertical) starting coordinate always set for 0. I did this by changing "H" (and only the "H") of option "3" from the main menu to 0, 30, 60, 90, 120, etc every time I printed a new strip.

I hope you find these HARDCOPY operating instructions an improvement on the original HARDCOPY doc. I think HARBCOPY has alot of potential and by itself is morthy of a fairmare dentaion to the XMi author.

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PREVIEW OF PICASSO COMPANION 1 By: Andy Frush, Lina UG

I'm designing a drawing utility for Picasso Publisher. I feel that this Fairware offering from Arto Heino has good features, many found only on commercial programs. It even has a magnifying feature, that several people have asked fer. It has very few drawbacks, and is a very workable program. The only reason I don't use it is that I'm not into II art as much. I'm just releasing this package so that Picasso waers have more to work with.

My companion disk includes a Quick Reference Card (that takes a little over one whole page), and complete docs for the companion. Side 1 also includes several TI-Artist format pictures. These take up less space on the disk, and are leaded into Picasso using the FCTN = menu.

Side 2 includes one Picasso format picture. There are also a few fonts, all of which are different to the ones that came with Picasso. One of the fonts, is really a set of borders, entered with an alphabet key, so there are 52 borders (26 capital, 26 lower-case). Another one of the fonts is really a set of patterns and shapes.

I haven't got permission from the author of Picasso to release this. If I get word from him telling me not to distribute this anymore, of course I'll stop. I did include his address in the docs, along with a description of the program (a brief description). Side 1 is full (360 sectors), but I only compiled these TI-Artist pictures. Side 2 isn't as full, but is entirely my work. For these two reasons, I'm asking a 45 Fairware domation.

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PREVIEW OF HOME FILER v2.0 By: Andy Frueh, Lima U5

In the works on my 4A is a package some users may be interested in. It's a home management system. It's designed to be pretty simple to use, with np complicated commands, and it's menus and displays are easy to understand.

I won't get into the tiny details, but I'll give an everview of this system. The package includes all the files and docs needed to get started. The first side will contain the master files and a -RFAD-MF file. The second side will have the docs. The only distribution form I offer is a SS/SD flippy. So far, there are a few bugs in the database and address book programs (see below) but everything else works fine.

that else is there? Well, as I've said, there is a general database. This "file drawers" system is set 🖦 fairly easily and quickly. In my earlier, unreleased versions, the "sort" function has some serious flaws that just can't be worked out in time for the scheduled release of July or early August. If I can get some time to work on it. a new version with the sort will be released. The address book program has a major problem. I won't get into the details of this, but I know this can be solved before the scheduled release. It also includes a "clock in the corner" program. You can set the actual time or reset it if you mond to. There is a great disk catalog reader/printer, and a Bis/Var 80 reader/printer. This program will print Bis/Var 66 files (TI-Mriter compatible) in a chose of 80 columns pica or 132 columns elite. Of course, some printer may need the codes changed. The proper lines are listed in the docs.

There are one or two more features that I won't get into. At certain points in the programs (again, listed in the docs) you can return to the main menu. This is usually by typing "N" for no when asked "want to proceed?" or pushing FCTN 7.

And that's my program. I hope that this one does pretty well. It's Fairware, so I encourage anyone reading this to ask for a copy. Updates will be made as I see the need for them. To obtain a copy, write to me. Include a disk, and return mailer. I would appreciate it VERY much if the requested \$10 donation is also included. If you don't send a denation, you must send return postage, or else I'll keep your disk until I recieve postage or a donation. If I gave you a pre-release copy, please destroy it once the actual release version is out. I don't want a copy with bugs floating around the TI community.

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4A Hints and Tips By: Andy Fruch, Line UG

Mere's a tip for TI-Writer users. If you want to type in 132 columns, using condensed mode, be sure line 0001 read, .LM 1;RM 132;FI;AD and then start whatever on line 0002. When finished, use PF then C DSK1.name as the device. This receives controls characters and the tab line. Enter the Formatter and print out as usual.

Try these sound effects. It's interesting to see a CALL LOAD control sound instead of calling the SOUND subroutine. See what other effects are possible.

10 CALL INIT

20 FOR J=2000 TD 2300 STEP 10

30 CALL LOAD (-31568.J)

40 NEXT J

Remember, you can LIST to a disk file. It produces a Dis/Var 80 lisiting of the program. Just type LIST \*\*DSK1.filename\*\*.

Amother CALL LOAD. This one lets you go from Extended BMSIC to TI BASIC. I don't know why people would use this, but I guess someone might be interested. CALL LOAD (-31962,8787). Ignore the error and then type NEW.

When using the Speech Editor, or Extended BASIC, some phrases may not come out right. To get the computer to speak a pre-programmed phrase, put a # immediately before and after the phrase. For example, CALL SAY("#TEXAS INSTRUMENTSO").

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PREVIEW OF BY MAMAGER By: Andy Frueh, Lima US

This is what I plan to be my fourth, and final Fairware venture (at least for a little while!). This was almost more of a novelty program than anything useful, but I feel it does have potential.

DV Manager is a simple, self-contained disk manager for Display/Variable 80 (or TI-Writer) files. It is simple to use. From menus, you can see or print a catalog of the disk. You can also view a D/V 80 file, or print it in 80 or 132 columns (similar to Home Filer). You can copy a text file. Also, you can copy or compare disks. There's even a feature to count the words in a D/V 80 file.

If I develop additional routine, I'll add them in a new version. This program is really only supposed to be a manager for B/V 80 files. I think it serves that purpose very well. It's so easy to use, being menu-driven, that docs aren't included. If they are needed, they can be requested. I request a \$5 dollar donation for this program. It fits on a \$\$\simeq\$SS/SD disk.

INSTRUCTION SET By: Andy Frush, Lina UG

This is for Assembly programmers. I have never seen a chart of the TMS9900 instruction set without a lot of "greek" in between. This chart simply gives the code, and what it stands for in what may be a simpiler to understand, "dictionary" form.

A ADD WORD AR ADD BYTE **ABS ABSOLUTE VALUE** AI ADD IMMEDIATE AMDI AND IRMEDIATE **B** BRANCH IN RRANCH AND I INK BLWP BRANCH LOAD WORKSPACE POINTER C COMPARE WORD CO COMPARE BYTE

CI COMPARE IMMEDIATE CADE UT OLA DEE CKON CLOCK ON CLR CLEAR OPERAND

**COC COMPARE DNES CORRESPONDING** 

CZC COMPARE ZEROES CORRESPONDING

**BEC DECREMENT BY DNE DECT DECREMENT BY TWO** 

DIV DIVIDE

INLE IDLE

INC INCREMENT BY ONE

INT INCREMENT BY TWO

INV INVERT, ONES COMPLEMNT

JEO JUMP IF EQUAL

JET JUMP IF GREATER THAN

JH JUMP IF HIGH

JME JUMP IF HIGH OR EQUAL

JL JUMP IF LOW

JLE JUMP IF LOW OR EQUAL

JLT JUMP IF LESS THAN

JMP JUMP UNCONDITIONAL

JMC JUMP IF CARRY CLEAR

JND JUMP IF OVERFLOW

JOC JUNP IF CARRY SET

JOP JUMP IF DDD PARITY

LDCR LOAD COMMUNICATIONS REGISTER

LI LOAD IMMEDIATE

LIMI LOAD INTERUPT MASK INNEDIATE

LREX LOAD RON AND EXECUTE

LWPI LOAD WORKSPACE POINTER INMEDIATE

MOV MOVE WORD

MOVE MOVE BYTE

MPY MULTIPLY

NES NESAATE. TWO COMPLEMENT

ORI OR INMEDIATE

RSET RESET

RTWP RETURN WORKSPACE POINTER

S SUBTRACT WERE

SE SURTRACT BYTE

SBO SET CAU BIT TO ONE

SBZ SET CRU BIT TO ZERO

SETO SET ONES

SLA SHIFT LEFT, ZERO FILL

SOC SET ONES CORRESPONDING (WORD)

SOCB SET ONES CORRESPONDING (BYTE)

SRA SHIFT RIGHT, CIRCUCLAR

SRL SHIFT RIGHT, LOGARITHMIC

STCR STORE FROM CRU

STST STORE STATUS REGISTER

STWP SOTRE WORKSPACE POINTER

SMPB SMAP BYTES

SZC SET ZEROES CORRESPONDING (WORD)

SZCB SET ZEROES CORRESPONDING (BYTE)

TB TEST CRU BIT

X EXECUTE

MOP EXTENDED OPERATION

**XOR** EXCLUSIVE OR

I hope that this helps decipher some assembly programs, and maybe get a few XB programmers started in Assembly. The idea of having all of the commands on one page, and in an easy to follow dictionary forms of all those abreviations seems like a great idea. I hope it helped someone!

##DONE##

PAGE PRO 99 HOW TO USE By Harold Bingham

First of load DM 1000 and format a disk. This will be your work disk. Stick a label this disk WORKDISK. Then select the PAGE PRO PICTURES AND FONTS that you will use, and with the DN 1000 capy these files on your WORKDISK.

Now insert your PASE PRO 99 disk in drive one and load the PAGE PRO progres (option 1). After the program is loaded, you can remove the Page Pro disk from disk drive # 1 and insert your NORKDISK in drive 1. If you have not printed the BWICK-REF file, do so now, as this is your key to operate the program. To do this, be sure the Title screen is loaded. them hit any key, then press FCTN F and you will have another manu. Select # 1 Load Page, then type DSK1. QUICK-REF. You can view with FCTN 4,5, and 6. FCTN P will print your reference chart.

Always use the same disk drive because Page Pro marks the disk and the drive, and it will not work properly if another disk drive is used. If you use only the disk drive one, you was't get confused.

If you mant to save your page, press CTRL "F" with your choose filename, using disk drive #1.

EXDONESX

THE "BEST" SOFTWARE AROUND By: Andy Frush, Lina US

(Author's note: This article reviews several catagories of seftware. These are the opinions of Andy Frueh and may or may not be the same as others in the User Group.)

UNIVERSAL UTILITIES: There really aren't a whole lot of mtilities that do it all. The best and most popular is Funnelweb. Since most people know their way around this mtility, I won't realy get into it. This is available from Tony and Will McGovern in Australia.

MUSIC: Since there are probably thousands of programs that PLAY music, I'll give my vote for the best music writing program. As far as I know, MUSIC-PRO is the best music writer. This is available from ASSARD SOFTMARE.

EDUCATION: There are too many education programs. There are even more catagories. Therefore, I'll give my opinion of the best series of programs. In general, the "Rocky Robot" series is tops. However these require the TE2 module. They are free.

GAMES: There are a few catagories that this can be split into. See below.

ARCADE SAMES: Only "Donkey Kong" is a true copy of an arcade video game. It is available from Atarisoft.

ADVENTURE GAMES: Legends from ASGARD is the best.

ACTION GAMES: The top game is "Super Demon Attack" from Activision.

TEXT ADVENTURES: Anything from the INFOCOM series is great.

MAZE GAMES: Munchman 2 by John Phillips, although I haven't seen it lately, is the best maze game. Far better than the original.

P&D GAMES: The lunnels of Doom series is as close as we'll get.

all do something differet. DM-1000 from the Ottawa U5 is the best program for routine disk managing. It can also do neat things like recovering a deleted files. Archiver 3 will let you pack and compress several files into one file. It allows you to backup several disks on one. The last is John Birdwell's disk utilites. It is a sector editor and disk manager.

WORD PROCESSORS: I can only recommend the Funnelumb version because it includes so many other things. However, if all you want is a good word processor, I recommend TI-Writer 4.2 from RAG software (I refuse to recommed PRESS until it's released.

DRAWING: Two programs really stick out on top. The best commercial program is TI-Artist because of its features and great support software. However, if you'ld rather have a Fairware program, Picasso from Arto Heino is good.

DESKTOP PUBLISHING: Page Pro 99 from ASGARD is the best (and only) program in this category.

If anyone can think of another category, or feels I left a good program out, let me know and I'll include it later.

##DOME##

4A Hints and Tips By: Andy Frumh, Lima NG

Here's another installment of helpful hints. Remember to send me your favorite tips so I can include them here. You may know something that many fellow 99'ers can learn from.

After a 5070 or 605UB statement, you can add any comment you like. This feature is similar to the tail REMark sign, or the !. This helps you debug. For example: 10 605UB 29 moes to instructions

For those that use cassettes, you can make an immediate back up copy by hooking up two recorders (if you have the rarer, twin cable) and record both at the same time. The TI sends a signal to both recorders.

The trick to printing 132 condensed columns in TI-Writer has been published. For those trying to do this in BASIC and finding you get 80 condensed columns, find out where your program opens the file to the printer. Change it to: OPEN 8n: "device", VARIABLE 132::PRINT #n:codes for condensed:: PRINT #n:your regular text

There haven't been too many tips for you Microsoft MULTIPLAN users, so here's mine. You can turn off the "recalc" feature by typing 0, press SPACE to elect "no" then hit ENTER. To use "recalc" just press FCTN 8. This makes entering new data somewhat faster, and can save the horror of realizing you made a lot of mistakes.

Try CALL POKEV(784,n) using a number from 16-31 for n if you are using Mini-Memory BASIC. It changes the background color of the space. I don't know if this works with Editor/Assembler BASIC as well (it might, as both uses similar CALL's published before).

Here's an oldie but goodie. Several people complain that they can't print on row 24 without the screen scrolling up. This is easily avoided. Find which line prints on this row and tack a ; character onto the end of the statement. For example: 20 PRINT "your text";

Some people use a black and white TV for a TI monitor. If you do, and experience a fuzzy or unusual image, try using grey (color code 15) for a background.