## BITS, BYTESEPIKELS

LIMA 99/4A USERS GROUP



#### SEPTEMBER 1991

#### Volume 7, 47

# THE NEW FUNNELNES v4.40 described by Charles Good Lina Okio User Group

Accompanying the mailing in mid August 1991 of this newsletter are disks containing the first release of FUNDELNEB V4.4. ANY INDIVIDUAL OR ANY USER GROUP that does not receive this mailing can obtain these files from us by sanding two DSDD disks (everything unarchived), OR two DSSD disks (files partially archived), OR four SSSD disks (files partially archived) and a paid return mailer to F.O. Box 647. Venedocia OH 45894.

Although some releases of v4.40 have the date May 31/91, debuged v4.40 files were not actually available until early August. This version contains the new enhancements demonstrated by me at the May 18 Lima MUG Conference, plus a lot more! 80 column users will particularly benefit from some of these new features. As stated by Harry Brashear in the June 1991 issue of Micropendium, the existence of 80 column Funnelmeb really justifies the purchase of an 80 column card for the 99/4A. In his letters to me, Tony McGovern suggests that this will NOT be the final Funnrelmeb update. At some future date he hopes to completely rewrite the Funnelmeb text/program editor.

Mainly because of new extensive doc files, v4.40 will no longer fit on one DSDD disk unless it is partially archived. The system files (both 40 and 80 column) occupy 709 disk sectors and the docs fill another B74 sectors. Thus owr imitial distribution with this newsletter is partially archived. Enough files are left unarchived to let you immediately try out the major features of v4.40, includin the 40 column EDITOR and DISK REVIEW. Archiver is on disk and can be booted from Funnelweb to unpack the rest of the files. Unpacking can be done, and Funnelweb v4.40 can be used on a system with only SSSD drives. We are including supplementary files, not part of the official Funnelweb v4.4 package, as space permits. These supplementary files include DSKU v4.2, mn1000, and foreign language character sets.

Upgrading from earlier Funnelweb versions is easy. You can use your old SYSCON file to quickly configure v4.40. Load your old SYSCON into v4.40's Configure program and then press DACK and "install" the configuration into v4.40's LOAD and FW files. You cannot safely use your old user lists (older versions of files UL and D1) directly with the new version. However, the v4.40 -READ-ME file gives easy and explicit directions for transferring data from your old UL and D1 files to the v4.40 UL and D1 user lists.

#### THE NEW FEATURES ARRED SINCE v4.31

--SUPPORT FOR BSKU FILE COMMENTS: Many II user groups use BSKU file comments to annotate their software libraries. Now these comments can be copied and (in BO commen DISK REVIEW) viewed and edited on screen. Normal file by file disk copying does not transfer DSKU file comments to the destination disk. Until now, the only way to copy these comments has been to use John Birdwell's DSKU program, or to use a whole disk file copier. Now Funnelweb will copy these comments when files are copied from within Funnelweb's 40 and 80 column DISK REVIEW. Tagging files and then asking for an action (ctrl/A) from DISK REVIEW now has a new option W(otes). First you C(opy) all the tagged files to the destination disk by pressing "C". Then pressing "N" will transfer all DSKU file comments from the source disk to the destination disk. This is a two step process.

From 80 column DISK REVIEW you can also directly read these DSKU file comments on screen, and you can also edit them or create new comments where none existed. You can't read or create file comments directly from the 40 column BISK REVIEW, but you can use DISK REVIEW 40's sector editing capabilities to read/edit/create such file comments. Very specific instructions on how to do this are included in the 40 column DISK REVIEW documentation.

An example of DSKU file comments can be seen at the **end** of this article describing each of the separate Funnelweb v4.40 files.

--MULTIPLE USER LISTS SIMULTANEOUSLY ACCESSABLE MOD DISPLAYED ON SCREEN: The supplementay user lists, each listing accessable from Funnelweb's central menus as USER LIST or DISK UTILS have been available in earlier releases of funnelweb. They are nice because the files called from these lists can have a file name of up to 10 characters and a path mame of almost any any length, and the files can and can reside in multiple drives hard drives or randisks. These user lists are great for booting software from hard disks or from multiple drive systems that have "resident" disks sitting all the time in specific drives (the poor man's hard drive). Each USER LIST can have up to 8 programs that RUM with the press of one key.

There is nothing new in the above paragraph. What is new is the ability to display up to three (40 column systems) or six (80 column systems) user lists on screen sumultaneously when USER LIST is selected from Funnelweb's central menu. This display can also be obtained on power up if you CONFIGURE Funnelweb to immediately boot its USER LIST. You can then nove the cursor with the arrow keys over to the

program you want to boot and pross (enter) to run the program. Thats right folks, a simultaneous display of up to 24 \(\)(in 40 columns) or 48 (in 80 columns) program names instantly bootable from any drive.

What you do is create separate user lists from within COMFIGURE using Funnelmeb v4.40's UL file as a template and them save each user list to the Funnelmeb boot or TIN drive (as designated from within CONFIGURE) with a file name other than UL (such as UM, UN, etc). Then take Funnelmeb v4.40's ML (or ML00) file, rename it UL, and place it on the Funnelmeb boot drive. When you select USER LIST from the TIN Funnelmeb central menu, ML or ML80 reads all the user lists and displays all their file names on screen!

--ENHANCED BO COLUMN SHOW DIRECTORY: 80 column users already know about the ability to store multiple large text files in memory for rapid viewing with 80 column DISK REVIEW. Now you can do almost the same thing from within the 80 column text/program editor. From within Show Directory you can V(1ew) a second text file while the text file you are editing remains in memory. The V(iew)ed file is displayed as one 80 column page of text at a time. This is not new to v4.40.

What is new is that up to 24 screens of text from one or from several V(iew)ed files CAN BE STORED IN MEMORY for almost instant access without further disk activity. I have a 44 sector TI Writer help file that takes up only B screens. I can store other text files in the remaining 16 screens of the Show Directory V(iew) text storage buffer. Once I load my help file into memory, I can rapidly switch back and forth between the text editor and show directory display buffers for viewing purposes. From the edit buffer I can press 50, V(iew) my help file without bothering to boot a disk directory, go back to the text I am editing, and then later instantly bring up my help file again as needed.

No, you can't rapidly exchange text between the 80 column edit and SD buffers without first saving your edit buffer text to disk. And no, this extra text V(iew) storage buffer is not available to 40 column users. Some of the extra VDP memory associated with 80 column cards is used to store the V(iew)ed text, and this memory does not exist on 99/4A systems without an 80 column card. 40 column users can still V(iew) text from Show Directory one screen at a time, but there is no memory buffer for the V(iew)ed text.

--COMBINATION 40/80 COLUMN EDITOR: There are times when 80 column users would benefit from a 40 column editor, for example when preparing documents designed to be displayed on a 40 column screen. The new 80 column text/program editor can be switched back and forth between a 40 and 80 column display. Of course you need an 80 column card to get an 80 column display. 40 column only users still have a separate 40 column only editor. The 40/80 column editor is combined with an 80 column only Show Directory screen with all the new V(iou) enhancements described above.

-- IMPROVED ERROR HANDLING:

Funnelmeb v4.40 should now be compatible with grow library devices such as O.P.A.'s gizmo, the Mechatronic gram card, and an enhanced gramulator.

When loading DF80 software, Funnelweb will now display the mames of any unresolved REFs or duplicate DEFs that are encountered.

--ACCELERATING CURSOR: The flashing cursor autorepeats and also accelerates as a single key is held down. This acceleration is new.

--ASSEMBLY "PROGRAM" FILE MAKE FROM SCRIPT LOAD: A greatly enhanced Script Loader (file SL), when called from LOADERS option of Funnelweb's central senu, can assemble a linked group of DF80 object code files into runable assembly PROGRAM FILES. Extensive documentation describing the use of SL tells how. Tony Mcgovern says this feature has been used extensively by him in the creation of Funnelweb v4.40. The new Script Load should be useful to those creating very large assembly programs from a series of separate DF80 object files as is often done in the development of c99 software. If you have any long groups of DF80 files that take forever to load (such as early versions of the games TENNIS and ARCTURUS) you might try running them through Script Load to convert them to quick loading EA PROGRAM files.

--ASSEMBLY LANGUAGE PROGRAM SERVICES: Funnelweb loads some special assembly language callable routines (with EQU DXXXX). These routines can be used by programmers who create source code that is designed to run from the Funnelweb environment. Many of these routines have been available in earlier versions of Funnelweb. They are now fully documented and available to the programming "public". Some of these routines include:

DSRLNK, that is compatible with multiple RS232 cards. KSCANA, an enhanced KSCAN.

DELSPR, shuts off the sprite list for quick return to text mode.

 $\mbox{\sc VMBND}, \ \mbox{\sc a} \ \mbox{\sc VMBND}, \ \mbox{\sc a} \ \mbox{\sc VMBND} \ \mbox{\sc that} \ \mbox{\sc space} \ \mbox{\sc by ignoring nuls in a} \ \mbox{\sc fixed length data value.}$ 

VMBRD, the VPD read version of VMBWD.

VFILL, fills a block of VDP RAM with a single byte value. VSTRW, writes a string to VDP.

CURSOR, an enhanced cursor routine.

DSRREN, a direct DSR reentry from saved values.

SETGRD, sets GROM address so that module library banking is supported.

CFILE\*, sets the number of open files, as in CALL FILES RDDEV, builds a PAB in VDP.

Below are disk directories showing the unarchived set of Funnelweb v4.40 files on two DSDD disks, complete with DSKU file comments describing each file.

NEXT PAGE

Dits, Dytes & 1 Ixels				
Filenane	file	Type	Size	
MR	PGM	8066	33	ARCHIVER v3.03
AS	PSH	8172	33	ASSEMBLER, part I
AT	P6M	5432	23	ASSEMBLER, part 2
Ci	PGM	1024	5	Text editor character set.
C2	PGM	1024	-	Program editor character set.
C99PFI;0	D/F	80	_	Used with c99
CF		8192		CONFIGURE, part 1
CE		6220		CONFIGURE, part 2
CHARA1		1024	-	Character set for DSKU.
CP*		587		Boots c99 & neatly returns to FW
CT9K/O		80		Boots FW from menu of supercart
<b>B</b> 1		542		DISK UTILS user list
DR		8192		40 column DISK REVIEW, part 1
3R80		9984		BO column DISK REVIEW, part 1
0A01		8400		40 column DISK REVIEW, part 2 40 column DISK REVIEW, part 2
36 30		7706		TO COLUMN DISK REVIEW, PARC 2
9V 9V		8192 8192		<b>NOKU</b> v4.2, part 2
De		7424		<b>BSKU</b> v4.2, part 3
EA		1860		Required to boot any EA files.
ED		8192		40 column EDITOR, part 1
E <b>34</b> 0		8192		40/90 column EDITOR, part 1
ED41		499B		40/80 combination EDITOR, part 2
E <b>98</b> 0		8192		89 column EDITOR, part 1
EDG1		5028		90 column EDITOR, part 2
EE		4152		40 column EDITOR, part 2
FO	PGH	8192		FORMATTER, part 1
FORE I SMARC	I/F	128	12	Archived foreign character sets
FP	P6M	3620	16	FERNATTER, part 2
FSAVE	D/F	80	7	2
FW		8152		The main FUNNELNEB program, from EA
LIFE	D/F			Boots FW from Minimem or EA module
LH		3836		LIME HUNTER assembly code wtility
ll 1000		2064		LOW LEADER, needed to boot LL files
LOAD		7873		Main FUNNELNEB program, from XB
116		8192		101000, part 1
横	P5M	4978 526	Z1 4	BM1000, part 2 40 column MULTI LIST user list.
NLB0	P6M			80 column MULTI LIST user list
20		2622		QUICK DIRECTORY, part 1
or .		2544	11	QUICK DIRECTORY, part 2
SCRIPT	D/V	80		Sample SL script file.
SL		3002		Morded to boot SL series of files.
SYSCON		1214	6	System configuration data, forCF/CG
BL.	PSM	542	4	central menu USER LIST template
194THL)	PSN	203	2	Boots TI FORTH from XB user list.
FMDOC/EASH	<b>B/V</b>	80	40	PROGRAM EDITOR doc
FNOC/EDAY		80	57	80 calumn TEXT EDITOR doc
FWDOC/LOAD		80	48	
FN90C/PSRV		80	95	Mowly available assembly calls doc
FW00C/REPT		80	60	Day report doc
FWGC/SCLL		80	51	SL, LL, UL, and ML doc.
PMOC/TINR		80	31	TEXT EDITOR doc, both 40680 columns
FWGC/UTIL	Đ/V	80	38	CF CP FSAVE LIBER UL LN CTRK/D doc

Filename	File	Type	Size	Concert
-READ-HE	D/V	80	53	It really is important to READFIRST
FORE 16NDOC	D/V	80	3	Foreign language character sets doc
FWDQC/DR40	D/V	80	77	40 column DISK REVIEW doc, part 1
FWDOC/DR41	D/V	80	75	40 column DISK REVIEW, part 2
FWDOC/DR80	D/V	80	99	30 column DISK REVIEW doc, part 1
FWDGC/DRG1	9/4	80	51	80 column BISK REVIEW doc, part 2
FWDOC/MR82	<b>B/V</b>	80		80 celumn BISK REVIEW doc, part 3
				**DONE **

#### LETTER TO THE EDITOR

refers to a "Letter to the Editor" from Chris Bobbitt published in the June 1991 issue of the Lima UG newsletter SITS BYTEG & PIXELS, and to comments made by Gary Bowser at the May 1991 Lima MUG Conference and recorded on video tape #1 of this Conference.1

Dear Charlie,

The M-U6 meeting tapes arrived in fine shape and despite the usual problems of viewing NTSC tapes in a PAL country, I have managed to look at a large part of them. When I walk up to the Audio-Visual counter at the U. of Newcastle library with a videotape in hand, they just wave me towards the NTSC machine without even asking now. You really do have a good thing going at the Lima conferences.

There are a couple of items in the tapes and in the June BOAP that just invite comment though. Firstly in the BOAP Chris Bobbitt has a throwaway line that should not be allowed to slip by unchallenged. [EDITOR'S NOTE: Chris says, "I hear complaints all the time from FUNNELWEB and TIPS users that they are always perpetually a few versions behind because it is updated so frequently." | Let's face it, there is always a cortain amount of tension between commercial publishers (and also carriers of paid advertising such as MicroPendium) and fairware authors. As one such I find it maconscionable to know of a bug-fix for one of my programs and not share it immediately. Equally well if I come up with improvements. I like to share these as soon as possible. New I know as well as Chris that the realities of commercial mublishing make it inevitable that buggy software does not always get fixed for the paying customers, and that bug-fixes and improvements may well be withheld to suit commercial schedules. I have a rule for evaluating what salesmen say, and thet is "paraphrase the pitchman". In this case he is claiming as a virtue, a policy of delayed release of bug-fixes and improvements, by disparagement of alternative policies. I think the comment was disingenuous at best, and mot at all necessary in the promotion of Asgard's software line. NEXT PAG

Sary Bouser's concent is a more complex one to deal with. and brings up a lot of the problems with new product development on our fascinating but isolated orphan of a computer. [EDITOR'S NOTE: On the video tage, Gary Bowser says about RAMBO, "Me gave one to .... Tony McGovern. Tony McGovern has never even pluged it into his Horizon Ramdisk. We just opened up the manual, read it, put it back in the box."] There are no multi-gigabuck companies doing it, and rarely much more than individual efforts on a part time basis. The results are remarkable all things considered, but me individual or small group can ever do as much as they would like. These days I teach college physics for a not very inspiring and even less rewarding living, but I have been a hardware (but not digitally) oriented EE in the past and still am by inclination. The gap between my eye-sight and micro-electronics is widening rapidly from both sides, especially mine, so I mostly stick to getting my kicks from programming - the 9900 is much more fun than the ATs I use at the U. of Newcastle. Cooperation between hardware producers and software writers is even more essential for the TI-99 community than it is for currently supported machines. Trouble is, it hasn't been all that apparent. Look how little Myarc seemed to have learned from TI's original horrible example.

Yes, there is a RAMBO here, and no, it has not been installed. Meither has it been sold, and it may still find application. Firstly it came as a fairware contribution from a Canadian User Group, and not from OPA directly. Gary did call at terrifying length from Toronto (terrifying at least to one here who thinks in terms of Telecom Australia's billing habits) for very interesting conversations with the kind of EE I can talk to, but no hardware, or software source level info ever came to Australia out of it. As far as I cam see my position vis a vis OPA is just that of any other purchaser of product. Same holds true for Horizon products, except that I bave never been able to establish two way contact with Bud Mills about HRD problems. I gather Bud doesn't believe in the existence of life outside Ohio. At least that beats Lou Phillips who some suspect never even existed (it was really Basil Fawlty on the cover of MicroPendium I'm sure).

Group fairware was also the way the original Horizon RD arrived here, and that had a large influence on the development of the Funnelweb system. That and a second similar 192K HRD are to this day the boot disk foundation of my main 99/4a system. So there you are, the HRDs are crammed to bursting and in permanent use. Also they are the original 8-bit jobs, and conversion involves a major level of butchery that I am not prepared to undertake on essential components of my system just to test a new product of little benefit in my system as it exists. The ideal would be to install it on a new HRD3000, but I am very dubious about spending the money needed unless memory prices decline severely. The cost certainly would never be recovered from fairware at this late stage. As it is I have well over 1400 in a local HV77 Quest 512K RD (the first dozen 32K by 8 chips having been bought at

very high prices), and I am still not convinced that it was a wise investment. So there's the rub - writing software to use RAMBO might have been interesting if I had already had a big HRD with memory to spare, but why commit a small fortune on supporting a device of unknown detail design, no source code provided for the ROS nor information on possible bugs. and not all that much potential benefit. When it comes down to it an 8K block is not too useful without Geneve style mapping into larger contiguous blocks, though I did write out pseudo-code for a segmented text buffer manager for TI-Writer as a starter. Other things that might be done involve the Assembler and Formatter, but without access to original source for these it hardly seems worth the effort as they already work satisfactorily with the current level of interface patching. That's something that bugged me years ago, when after much hard work on deciphering TI-Writer, enough to make significant patches and additions such as paged SD, the original source crossed the Pacific and it was clear that not a damn thing of substance had been done with it in the meanwhile. For the 99/4a I rather prefer the type of memory mapping implemented by TI in their never-released 128K RAM expansion card. We have a working one of those built up with TI original circuit board and PAL, but is there much incentive for writing anything for a rarity like that? RANGO is a more likely candidate, but will have to wait until the right HRD is available for use, if ever.

I had previously faced a similar problem with the AVPC, an early prototype card that someone else had had for a year before us, where I had to lay out \$570 at K-Mart (as always the computer bits bought when you needed them are cheaper now) on an Amiga monitor. Now in this case the benefit was large, apparent, there was already the first Amiga in the house, and the monitor could be justified further for use with a future VCR as a monitor or even a replacement TV. The AVPC still has the original ROM, no source code, and no TI RS232 fix-up ROM, and the only realistic way to got a response from DIJIT in finite time was to write to Lutz M. as intermediary. Still, I think the 80-column developments here have been useful to users and producers of all 80 column devices, no doubt including OPA's TIM, but it was DIJIT that made the constructive approach.

Signs of the times here are that the Hunter Valley Uswill cease operation very soon. It became apparent at the AGN that continued operation could no longer be supported by the local membership, and so an orderly winding up procedure is under way. It was fun while it lasted, and I think the group made its mark on the TI-99 world. Many members had already drifted off to other machines, but others will continue informally.

So what for the future at Funnelweb Farm? Plans to move on to the Amiga have only been postponed, for reasons extraneous to computing. We have done very little with the graphics capabilities of the 9738 as yet - William wrete a set of video utilites, and I did some not successful enough

experiments on getting more colors in text mode. But them I look in the next room and see where Will, now the master of Amiga blitter fills, has full screen size objects rotating with 50 Hz screen updates in perspective view, and them I wonder why bother on the /4a. Now that Vn 4.40 of Funnelmob is finally released, mental fatigue is setting in, and I don't even want to think about the complete Editor rewrite again just yet — maybe it will never happen. There would be nothing like the TI Assembler source code to get the juices flowing again, but even that will be too late soon. Now hardware is in much the same category. To us over here the 99105 board is just a fleeting image on videotape, and the prospect of a hard disk controller that actually works properly is still no more than claims on an advertising flyer.

Tony McGovern Funnelweb Farm July 4th / 91

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#### OFFICIAL TI PROMOTIONAL VIDEOS OF THE 97/4 AMD 97/4A described by Charles Good

Lima Ohio User Group

The Lima Ohio UG has purchased copies of several video presentations made for TI between 1980 and 1983 to promote sales of the 99/4 and 99/4A. This material includes TV concercials, segments featuring the 99/4 from nationally broadcast TV shows, in store point of sale video demos, and TI's "99/4A RETAIL SALES TRAINING" video. Many of these tages feature Bill Cosby. [He is often shown smoking a large cigar. I thought smoke was supposed to be bad for both people AND computers! ] Since none of this material displays any copyright notices, the Lima UG is making these videos available to any interested user group as well as to our own masters. We have condensed the whole thing onto two WHS tapes with a total viewing time of about 3 hours. Each of our tapes has an on screen table of contents at the beginning of the tape showing the tape counter location of each separate segment. Interested user groups and out of area members of the Lima UG can obtain these two tapes by sending **\$5 OR** a blank VMS tape and \$1.25 for each tape desi**red** to P.O. Box 647, Venedocia OH 45894.

-- TAPE #1/ THE VIDEO CONTROLLER COSBY TAPE: This is a very long (about 1 hour) in store, point of sale, video featuring Bill Cosby and the 99/4 (without the "A") computer. It was made professionally for TI in 1981 The really unusual thimm about this video is that it is designed to be used with the VIDEO CONTROLLER peripheral, that very rare and (as listed in TI's catalogs) very expensive device that only a few of us have ever seen. At the start of the video, Bill Cosby prompts in store customers to "press a key on the keyboard next to me": #1 key for children's education, #2 for financial management, and #3 for entertainment. When any of these number keys are pressed, the 99/4 computer, under control of the Video Controller side car peripheral, fast forewards the videotape to the appropriate location and plays the videotape beginning at that point. As far as we know, this is the ONLY video tape ever made to run under control of the video controller peripheral. For those without this peripheral (and that means all of us), you can also view this video tape the normal way, starting at the beginning and ending at the end.

This in store video clearly shows the 99/4 computer and some of the side car peripherals. Shown are short, but very professionally done, demonstrations of many vintage 1979-1981 II software cartridges, as well as some of II's marly cambette software written in TI BASIC or EXTENDED BASIC. These short demos, each running about 3 munutes, would be good to show at a user group meeting. This TI software may be old, but it is generally of high quality and still quite useful or entertaining. Game demos show children using the ORIGINAL TI joysticks that were sold to go with the 99/4, not the TI joysticks most of us are familiar with. The official

NEXT PARE

Il demos of official II software on this Cosby point of sale video include:

MULTIPLICATION 1 cartridge
EARLY READING cartridge
BEGINNING GRAMMAR cartridge
MUMBER MAGIC cartridge
TI LOGO (also known as LOGO 1)
MONE FINANCIAL DECISIONS cartridge
PERSONAL REAL ESTATE cartridge
SECURITIES ANALYSIS cartridge
MAILING LIST, on cassette in TI BAISC
CHECKBOOK MANAGER, also on cassette
THE ATTACK game cartridge
AMAIING game cartridge
VIDEO CHESS cartridge
BRIDGE BIDDING 1, on cassette in TI BASIC
MUNT THE MUMPUS game cartridge

-- TAPE #2/ OFFICIAL TI COMMERCIALS, SALES TRAINING, ETC: This tape contains professionally produced video segments made by and for TI and runs two hours. Included are many of the 99/4A TV commericals, as well as commercials for other TI educational products such as SPEAK & SPELL. Bill Comby is in most of the commercials. There is also an excellent Cosby point of sale demo, with segments showing both the 99/4 and 99/4A. I am told that PC Penney used this demo on their sales floor.

To me, the strangest thing on the tape is Bill Cosby's 99/4A commercial directed not at the public, but at retailers. He is trying to motivate existing retailers who already stock and sell the 99/4A system. Bill calls this segment "Perceptions" and discusses how different people have different perceptions about the 99/4A. "The whole (TI home computer promotion) effort is directed toward higher income families, and its all about learning. But as far as you are concerned its all about making moneyyyyy!"

Desides Cosby commericals, this tape also has segments from metwork TV shows. On the Mike Douglas TV show aired the week of July 20-24, 1981 Dr. Ralph Oliva, director of the TI Learning Center, and students from the Lamplighter School in Dallas TX show the 99/4 doing speech, LOGB, and music. On Scool Morning America June 3, 1983 you see a short feature about TI LOGO in a Naw York City school classroom. The last segment on this tape, about 45 minutes of viewing, shows TI's official RETAIL SALES TRAINING video. This was sent free to stores that stocked the 99/4 system and is designed to train sales people.

These videos really are good sales tools. Viewing them has again reminded me what a VERSATILE and USER FRIENDLY machine the 99/4A really is.

\*\*DONE \*\*

### THE 7900 CLIPSONNO: A NEW "DIRKAZINE" reviewed by: Andy Frush, Lina US

There is a new magazine-on-a-disk for Assembly and c programmers called the TMS9900 Clipboard. It uses TI-Writer files loading through a menu, table of contents style. For the most part the articles are fairly easy to follow. On one side of a SS/SD flippy, you have articles, and on the other side is Assembly and c source code, Assembly object code and PROGRAM type files. This is similar to what the Genial TRAVelER does.

The coftware has included such goodies as speech/graphics denos, a neat D/V 80 file viewer, light pen software, a font editor, and games. The authors are reported to also be working on a new c compiler as well as a BASIC compiler! They have already authored a DOS which resides in a SuperCart.

I should note that you have to be a fairly devoted programmer to get any use of these articles. This is not another MicroPENDIUM, and is NOT for the users, although users may find some of the on-disk programs useful. The disk contains very little material outside of its programming scope. The only "new product/innovations" type information you get is what the two editors are currently working on.

This is written by two college students, I assume studying computers or electronics of some sort. They know their stuff. Unfortunately, when the get to the "Editor's PAD" and G&A type column, they seem to come off slightly cocky. This some may find very insulting, and displaying anything other than a courteous attitude towards those using your service/product is very unprofessional.

The price is definately right. You may get a sample copy if issue #1 free. Subsequent issues are #2.00-disk or #4.00 without a disk. You may subscribe for 6 months at \$22.00 or 1 year for \$44.00. User groups may subscribe at \$18 for 6 months or #36 for 1 year.

It is worth the \$0.29 it takes to get your free copy. Then decide if it's worth it for you.

Write: TMS 9900 Clipboard 629 Field Cliff Drive Stone Hountain, GA 30087

\*\*DONE\*\*

#### COMPARISON CHART FOR BU COLUMN CAMBS By: Andy Frush, Line US

Feature(s)	: Asgard E61/ ! Mechatronics	: Dijit ! AVPC	IOPA TI-Image   Maker	
Max colors in that mode	?! No : 512 x 424 : 16 of 256	P Box card   Some   512 x 424   16 of 256	Internal board   Some   512 x 424   16 of 512	
Most colors in one mode Ports/outlets Operating system? VDP chip used VDP memory standard/max Sprites 80 column modes Composite compatible? Total # of modes *7 Approx. price	: Mouse port \$1 : TI's : 9938	Serial port   TI's   9938   128K/192K   Unknown	1256 (256 x 424)   None   OPA OS	

Thinking about buying an 80 column card, but can't decide which one to choose? This chart may help you decide. No opinions, just facts.

#### Notes

- \$1 I'm not sure if Asgard's device (same as the Mechatronics) will also have the mouse port
- \$2 OPA developed an operating system to cure any software problems. Some programs do NOT operate properly on 9939/58 systems.
- \$3 I know these devices will alow 8 on one line, but I'm not sure on the maximum number of sprites with the AVPC and E61. An unmodified TI will give you 28 sprites, 4 on a line.
- \$4 There may be other modes, but I'm not sure on that.
  All BO column programs are designed to use 80x24 mode anyway.
- #5 But it is NOT recommended. An R6B monitor is desirable
- 16 There should be available soon a device to let the T.I.M. be composite compatible.

87 All of these devices have 256 by 192/212/384/424 as well as 512 by 192/212/384/424 modes. The differences are mainly in the total number of colors. Using what is called the YJK System Display, the OPA device can use 19,268 SIMBLYANEOUS colors. The other two are limited to 256.

Now some more interesting tidhits. The ESI, although the most expensive in our group, offers a double-edged sword type advantage. All you do is plug it in and go. No set up or modification, no matter how simple. This means any computer can be set up for 80 columns in about 5 seconds. The bad part is that your console will increase in width. Also, some devices seem to have unreliable contacts when you use them "midecar" fachion. By some devires, I do NOT mean the ESI, just some of the other sidecar devices. Both of these problems can be corrected with a RELIABLE sideport cable.

More interesting facts. Check out this table comparing video formats. It compares two of the best IBM/clone graphics modes with an unmodified TI and a 9938/58 TI.

***				19938/58 TI:
	1620×200	1720×350	1256×192	: 512×424 :
Total pixels on screen				

That's right. The "super video" TI's are better then a "low res" IBM and almost as good as a top of the line IBM. Need more convincing? Well if you think that the TI has good graphics (very good for a 1979 computer) and feel that these devices offer nothing for you other than a handy \$180-250 aid in word processing, consider this. The modified TI's have a graphics screen that has barely over 4.4 TIMES the resolution of a normal console!

\*\*DONE\*\*

#### MINISTE STATE

### ANOTHER OFFICIAL TI NEVER RELEASED HODULE

described by Charles Good Lima Ohio User Group

This is the MUSIC MAKER module with an extra Grom. This extra grom turns MUSIC SDA into something really useful, not just the toy that MUSIC MAKER is. With MUSIC SDA you can create music disk files directly usable in BASIC, GPL, and ASSEMBLY programs.. The title screen says "copyright 1980 Texas Instruments" and looks identical to the MUSIC MAKER title screen except that it says "MUSIC SDA" instead of MUSIC MAKER. I have no idea what the "SDA" means. First you load some music into the module from disk or tape, or you create some music from within the module in the same way as is done with MUSIC MAKER. You are then presented with the following list of options, two of which are not found in MUSIC MAKER:

- --EDIT
- --PLAY
- --SAVE (creates a cassette file or a 59 sector disk file irrespective of how many measures long the music actually is)
  --PRINT (only works with the TP, prints music on the staff)
  - -- NUMP (not in MUSIC MAKER)
  - -- EXECUTE (not in MUSIC MAKER).

I am not really sure about the purpose of EXECUTE. You are given options to change speed, start and stop measure, number of voices, etc., just as when you select PLAY. The computer then grinds away internally for a while and them plays the music. You can speed up the pace of the music that is played tremendously with EXECUTE, much more so than with PLAY. I think you are supposed to EXECUTE if you make any changes before you DUMP the music.

NUMP is the really neat feature of MUSIC SDA. It saves music to disk in really useful formats, not the "can only be read into MUSIC MAKER® 59 sector forest you get with SAME. When BUMP is selected you get these options:

- i. SPL
- 2. BASIC (DISPLAY FORMAT)
- 3. BASIC (MERGE FORMAT)
- 4. ASSEMBLER

DUMP 6PL creates a DV80 file that can be used as source code for programming in 6PL.

DUMP BASIC (DISPLAY) creates a DV80 file that looks like a TI BASIC program listing. You can type this list into TI BASIC or IB and play the music at the speed you designated from EXECUTE.

DUMP BASIC (MERGE) creates a DV163 file that you can MERGE into any XB program.

DUMP ASSEMBLER makes a DV80 file of the music that can be used in assembly language programming.

Thanks to Mike Wright for calling this little gem to my attention. I asked Mike what the "SDA" of MUSIC SDA stands for. He is obviously as knowledgable as I am. "Hell if I know," he said.

This would have been a REALLY USEFUL command module if it had ever been released to the public. Its title screen date date suggests that it was in existence in the early stage. of the 99/4(A)'s history. Why was it never released? My guess is that TI didn't want the public to know what GPL source code looked like. We have MUSIC SDA as Grae Kracker files on disk 585B of the Lima U6 library.

The following are samples of the exact same two measures saved to disk with DUMP. Each DUMP automatically generates comments indicating the title of the music, the start of each new measure, and the total length of the dumped music in bytes.

I	KMP SPL	DUMP BASIC DISPLAY	<b>D</b> UI	MP ASSEMBLER
<b>*</b>	FUGHETTA	2000 REM FUGHETTA	1	FUGHETTA
1	MEASURE: 0001	20010 REM MEASURE: 0001		MEASURE: 0001
	DATA >03,#>8E0F,>90,>0C	20070 CALL SOUND (0200,00440,00)		BYTE >03,>8E,>0F,>90,>0C
	DATA >02,#>8AOC,>04	20030 CALL SOUND(0067,00554,00)		BYTE >02,>8A,>0C,>04
•	DATA >02,#>830E,>04	20040 CALL SOUND (0067,00494,00)		BYTE >02,>83,>0E,>04
	DATA >02,#>8315,>04	20050 CALL SOUND(0067,00330,00)		BYTE >02, >83, >15, >04
	DATA >02,#>8709,>04	20060 CALL SOUND (0067,00740,00)		BYTE >02,>87,>09,>04
	DATA >02,#>8E0B,>04	20070 CALL SDUND(0067,00657,00)		BYTE >02,>8E,>08,>04
1	MEASURE: 0002	20080 REM MEASURE: 0002	1	MEASURE: 0002
	DATA >02,#>BAOC,>04	20070 CALL SOUND (0067,00554,00)		BYTE >02,>8A,>0C,>04
	DATA >02,#>8E0F,>04	20100 CALL SOUND(0067,00440,00)		BYTE >02,>8E,>0F,>04
	DATA >02,#>BF07,>10	20110 CALL SOUND (0267,008B0,00)		BYTE >02, >8F, >07, >10
	DATA >02,#>8708,>08	20120 CALL SOUND (0133,00831,00)		BYTE >02,>07,>00,>08
ENDSNID	DATA >04,>9F,>BF,>BF,>FF,>60	20130 REH 00427 BYTES	ENDSNO	BYTE >04, >9F, >BF, >BF, >FF, >00
1	00047 BYTES		1	00047 BYTES

##DONE ##