TISHUG

# NEWS DIGEST

Focusing on the TI99/4A Home Computer

Volume 9, Number 11 December, 1990

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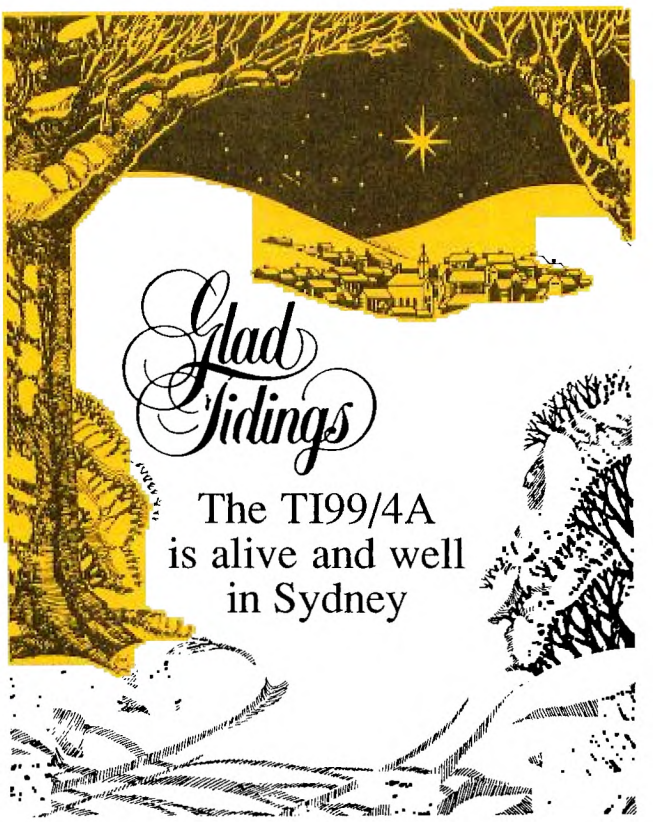
# Merry Christmas ....




# ...and a happy new decade!

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TIsHUG (Australia) Ltd, based in
**Sydney**

## TIsHUG News Digest

December 1990

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### Membership and Subscriptions

| | |
|---|---|
| Annual Family Dues | $30.00 |
| Associate membership | $10.00 |
| Overseas Airmail Dues | A$60.00 |
| Overseas Surface Mail Dues | A$45.00 |

### TIsHUG Sydney Meeting

The next meeting will start at 2.00 pm on 1st of December at Ryde Infant School, Tucker Street, Ryde. At 12 pm, before the meeting, there will be a beginners Editor Assembler class for all those interested.

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## TIsHUG Fairware Author of the Month

The Fairware Author for this month is R.A. Green for his Macro Assembler and his updates to Multiplan and TI-Writer. The shop has disks of all his software for sale. All Donations collected at the meeting and sent in will be mailed to him.

## Corrections!

1. The article entitled "Ontplopper!" on page 17 of the October TND was written by Stephen Shaw, UK and not by Koen Holtman.
2. The article titled "Report" on page 26 of the November TND should have had the title "What I have been up to with the computer" by Ross Mudie.

# Editor's Comment

by Bob Relyea

Well here we are at the end of another year. I hope that we see the end of many more as we continue to enjoy our 99/4A. That review in the Micropendium will not hurt our cause any.

Rolf gave me four new disks loaded with gear that I hope to get edited over the summer and then print them in the form of a series through the year. There is some interesting looking material, especially if you are into Multiplan, TI-Base, Forth and programming in general.

I hope to see as many of you as possible at the AGM December meeting. I like the idea of having the AGM at the end of the year because we then will know where we stand over the holiday as to who is occupying each position and we can start the new year getting right into the TI rather than having the old business meeting first off.

Anyway, have a nice Christmas and New Year from the whole editorial staff.

# Co-ordinator's Report

by Dick Warburton

I have spent some time over the past week, reading Micropendium. I was delighted to read about TIsHUG in their October review, particularly because they gave our club a very positive write up. They praised our newsletter, gave Ross Mudie the credit he deserves, and described our neck of the woods as a "hardware hacker's paradise". I would agree with Harry Brashear's assessment, and believe that we must still have one of the best User Groups in the world. Why is this so? Sure we boasted over 1400 members in our heyday, and today we have only about 160. Surprisingly, with such a small number we are able to maintain many of the Club's services, and to continue to provide an excellent newsletter, as well as improve some of our service activities. e.g. exchange consoles.

Perhaps part of the answer lies in the fact that firstly we are Australians, and take some pride in being independent. TI have not provided much help or support out here, as they still do in the States. I can remember going to TI seeking advice in 1983, and being unimpressed with the fact that there was no-one working there at the time who had a good working knowledge of the TI99/4A. When consoles or peripherals failed, they simply changed them under warranty, or exchanged them at a fee later. A variety of my equipment failed, including a disk control card, a console, and a disk drive. I was quite concerned about getting adequate help, but fortunately I learned about the User Group. I started to attend meetings in 1983, but found it hard to get the type of help I wanted. The group has changed significantly since that time. I can remember large meetings where games seemed to predominate. Though I kept going, many of the early activities were of little interest to me . Software was sold, cups of coffee dispensed, games demonstrated, but I came away feeling a bit lost, and without meeting many members. One day I took along a dead console, and plugged it in. Members came from everywhere to have a look and offer advice. I started to get to know people. It did not get it fixed, but quite a few members expressed interest in the hardware side of the computer. This interest in the Club seems to have grown and grown.

Our magazine at that time was a full 16 pages, including four pages of advertisements. There were a few programs to type in, news from overseas, and some basic information about new hardware available overseas. It was also clear that plenty was going on, as regional groups were just starting. When I consider that our membership has dropped by a factor of eight, and we now put out the Newsletter of the quality that we do, and provide more help and support than I can ever remember in those days, both in low cost software and in hardware kits and projects etc. I feel some pride in belonging to such a Club. How have we done it? I believe we have achieved so much, because of our need to be independent and self reliant. We have been separated from the mainstream of TI activity in the U.S. and as such have had to rely on our own resources. I would like to go on record to thank those TI members of the past who have contributed so much to our present development. We must give credit to Shane Anderson's inspired early leadership, and to members like John Paine, Peter Schubert, Ross Mudie, Ben Takash, Geoff Trott and their remarkable abilities to devise increasingly useful hardware for the TI. Then there were the software specialists like Arto Heino, Mike Slattery, Craig Sheehan etc. all inventive, all motivated to do their best, without the need for fast dollars, meeting the challenge of the TI99/4A.

I want to thank all members who have contributed in some way over the past year, for helping this Club to reach the position we now have. I have mentioned only a few names which quickly come to mind. Perhaps the important fact is that I do not really have space to mention all those who have contributed over the past few years. Perhaps this is why we have an active and functional group today. We have so many members who actively give their time and effort to help this group maintain its services. As the group gets smaller, more of the group participate, and in turn become stronger members. I have said it before, that the more we contribute, the more we get back as members, in knowledge, skills, achievement, recognition, friendship etc.

The articles in Micropendium make it clear that the TI is still growing, more and better software is being written, better hardware is being devised. The newer technologies will allow some further development for us too. There are newer more efficient eproms, cheaper memory chips, hard drives and controllers, 80 column cards with excellent resolution and graphics. Not only is it challenging and lots of fun, but we can do it all at much lower cost than other computer users, and maintain our really beaut group at the same time. With money tightening up, this is not the time to invest in high priced technology. You can do it much more cheaply, and have more fun with a TI.

The Annual General Meeting will be held at Ryde school in December. Make sure that you come and share in our future. If you have not already had a go at helping in some way, do so in 1991. You may surprise yourself. Already there are lots of developmental ideas for next year. As soon as we can burn some eproms, the long awaited Eprom Ramdisk will be available in kit form. The shop is gradually becoming better stocked to meet our needs. 1991 will be a great year for the TI.

See you at the next meeting. o

# MICROpendium Review

by Harry Brashear, NY, USA

Retyped from MICROpendium, OCTOBER 1990, by Ross Mudie. Is this is how we are seen from outside?

***** TISHUG

Nobody made a mistake there folks, I added an extra star - something I have never done before- but this one deserves it. TIsHUG stands for Texas Instruments Sydney Home Computer User Group. This is an incorporated group in Australia that in its heyday boasted over 1,400 members. Now they are down to 160 paid- ups (Poor guys, some of our groups should be so lucky). They have a regular newsletter that they put out that is one of the finest I have laid eyes on. According to the letter I received, in 1989 they produced 12 newsletters with a total of 408 pages. WOW! And we are talking about 8 1/2x12 inch paper, 2 columns and every word completely readable - heavyweight cover too.

As I browsed through the TIsHUG News Digest (the name of the newsletter), I was impressed by the fact that this was truly an international publication. Yes, there were reprints from the USA included, but every one had been retyped edited and bugs cleaned up on programs, etc. Another thing that impressed me was that TIsHUG seems to be an outlet for the Australian hardware projects, many kits available, and new projects written up with easy-to-read schematics. A hardware hackers paradise! If anything convinced me that they were doing it right, the treasurers report says that they have over $7000 in the kitty. That tells me that they are a very honest group, with lots of followers. I also took note that they had eight regional meetings a month. How would you like to keep up with that? What a staff they must have (I am starting to feel proud of myself. ED).

Along with my newsletter I also received a volume that was labeled TIsHUG November 1988 Tutorial. The title of the article was "Controlling A Small Train Set Using The Wire Accessory Interface And TI99/4A" by Ross Mudie - same size as the newsletter and 56 pages long. Oh my aching back! It contained all of the wiring diagrams necessary, the program object code, plus detailed explanations of everything. I have no idea how this gets distributed, whether it costs extra or what, but it is one fantastic publication.

continued on page 7

# Secretary's Notebook

by Terry Phillips

Again we are drawing to the end of another successful year which has been devoted to TI activities with December 1st being the club's annual general meeting. Make sure you can get along to this important event if at all possible. The agenda was published in the November TND, but to refresh memories here is what will happen.

The meeting will start promptly at 2pm, so please be in attendance by about 1.30pm to enable your name to be marked off on the attendance list. We will then move on to the business side of things with apologies, confirmation of minutes of the previous AGM and Special General Meeting, Directors and Auditors reports, election of Directors and then new business. This latter item is the time for any member to have a say or put forward any ideas he or she may have.

I note also that in the November TND it was suggested that after the AGM there would be a Christmas Party. I, personally, know nothing about this, but I am sure that if there is sufficient time left over after the AGM, there will certainly be time for socialising, so why not bring along a plate of party food to share?

If you subscribe to Micropendium, (or borrow the library copies), you will have noticed a glowing tribute to our group in the October issue. In fact our club was given a 5 star rating with the author urging all readers to join. Well, that article has borne fruit, and to date 2 new members from the USA have been signed up, and as this will be the first TND they receive, it is a big welcome to:

Ralph Metz from Niagara Falls, New York. Ralph only sent a brief letter with his cheque so I do not know much about him but I hope he writes again to share with us what his TI activities are. Editor's Note - Welcome Ralph. I am a native New Yorker myself, having been born and raised in the Albany area. We came to Australia in 1972 and I have worked in Australia in the capacity of a high school Maths and Physics teacher. I got back to the U.S. in 1985 briefly as I have a lot of friends and relatives in the Albany area still. We hope you and the others mentioned in the following lines enjoy your membership in TIsHUG.

Jerry Keisler from Paris Texas. Jerry is the President of the Paris (Texas) 99/4A user group and he enclosed the November issue of their newsletter. His group is only small - 17 members - but I gather they are a fairly enthusiastic bunch.

Another new member to welcome is Pierre Garoche from Clamart, France. Pierre appears a very keen TI'er and after reading his lengthy letter seems to have done some marvellous things with his TI. Welcome Pierre, and I hope you can locate some more members in France for us.

Dave Clark, a member from Ashburton (Vic), was the only response I received concerning Asgard news. Thanks for taking the time to write Dave. Regarding this publication we will not be taking out a subscription on behalf of members, however we are arranging a subscription for 3 copies which will be placed in the library from where they can be borrowed as required.

That is it for this time. If you are coming to the AGM make sure you bring along your November TND, which contained the minutes of the last AGM and SGM, and the financial supplement which was enclosed with it. o

# Letter to the Editor

Dear Bob,

Thank you for publishing my last letter. I have received a solution to my problem of the fishing club records. It was sent to me from the Banana Coast regional group. Their solution was to use the Personal Records module. This works fine, if a bit slow. Speaking of the PRK module, mine will not work with the ram disk in the box? Any ideas why anybody? Also a member of the Illawarra regional group is writing an Extended Basic programme to do the job (see my article entitled 'What I am Doing With My Computer' elsewhere is this issue. ED).

One of the other things that I have thought about is the fact that when I am not actually at the key board the computer is not earning it's keep. I was wondering if the TI99 could be used as the "brains" of an intruder detection system. In my (perhaps simplistic) way of seeing this, the computer could be attached to a number of sensors, maybe in the form of pressure mats, magnetic switches etc, via the joy stick port. The computer would be in a 'wait state' until there was an input from a sensor, then an alarm could be activated via the RS232/PIO.

There would obviously have to be fine points added to the programme such as: a time delay to allow the exit from the house; another delay to allow the entry to the house; an automatic reset after a set time to allow for false alarms and multiple break ins!! I remember seeing in the old Best of 99'er book a programme that dialed a telephone (via a modem), this could be incorporated in the programme to call you at work or maybe the police; with the speech synthesizer asking for help!!!. Ok, ok that is going a bit too far I know, but it is late in the evening so give me a break.

Well that is what I think would make this orphan computer of ours a real asset to the house. You never know, if someone could make up a programme to do this then maybe we might just get some forgotten old orphan computers out of the bowels of the hall cupboard and into the fresh air and fingers of once proud owners yet again.

I would like to take this oppotunity to wish the directors, committee and members of TISHUG seasons greetings and a happy new year. As a famous person once was heard to say "may YOUR God go with you, whoever He or She may be"

Michael Ball
8 Caroola Pde
North Nowra 2541
17/10/90 o

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```
240 Y=1406/281 :: X=802/161
250 P1=(S-ST)/S :: P2=ST/S
260 REM
270 REM
280 CALL GRAPHICS(3)
290 REM
300 FOR I=1 TO P-1
310 OX=X :: OY=Y
320 REM
330 X=C1(I,1)*P1+C(I,1)*P2
340 Y=C1(I,2)*P1+C(I,2)*P2
350 IF DM(I)=0 THEN 370
360 CALL DRAW(1,OX,OY,X,Y)
370 NEXT I
380 REM
390 REM
400 REM SO FAR ONLY          DISPLAYS DIFFERENT PICS!
410 REM AT THIS STAGE SAVE TO DISK IN VECTOR DRAW
    FORMAT. OR USE JBM103 TO SAVE IN TI ARTIST FORMAT
    FOR SUBSEQUENT ANIMATION
```

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## TIsHUG Shop with Percy Harrison

Hi, this month I have some good news and some bad news. First, here is the bad news. In an endeavour to get an indication as to when the next delivery of monitors would be forthcoming I rang Wang and was very disappointed to be told that they could not commit to a date and, in fact, I was then advised that there was now some doubt as to whether we would receive any monitors at all. It will be mid-January, 1991 before Wang can clarify this matter. Under the circumstances, I recommend that members who have ordered monitors but have not yet paid for them withhold their payment until further advice from me. For those members who have already paid, I will retain your payment until mid-January at which time I should know where we stand with Wang and if, by then, indications are that we will not be getting any monitors I will refund your payment in full. Should anyone wish to have their money refunded before mid-January please let me know and I will expedite your refund.

Now for the good news. We now have available a number of half height Double Sided Double Density 5.25 inch disk drives which are priced at $65.00 each and carry a twelve months' warranty. If ordering by mail please allow $10.50 extra to cover packaging and postage.

In general, the disks of software released each month are in SSSD format. For some programs or groups of programs this does not provide enough room (Funnelweb for example) and so these will be released in double sided format (even double density where necessary) on one disk for $2.00. If you cannot handle the single disk format, you can ask me to convert those disks to your preferred format which will then cost you $2.00 for the first disk and $1.00 for each additional disk. This means that if you can only read SSSD it will cost you $3.00 for a 2 disk set (DSSD original) and $5.00 for a 4 disk set (DSDD original). Note that any special format disks will not be available until I have been asked to prepare them.

Attention members who recently purchased the RS232/PIO kit for the Multifunction Card. Alf Culloden recently assembled his kit and tells me that the parts list supplied for the kit is incorrect in that the two 1N914 diodes should be 12 volt Zener diodes. I will replace these with the correct diodes as soon as I have them in stock. Many thanks to Alf for drawing this to my attention.

Items available from the shop:

| | |
|---|---|
| New release software disks | $2.00 |
| (See "Software Column" for details) | |
| Asgard News Vol. 2 No. 3 | $3.25 |
| 3.5 inch SSDD Disk Drive | $20.00 |
| 5.25 inch DSDD Half Height Disk Drive | $65.00 |
| 5.25 inch DSDD Disks-Box of 10 | $6.50 |
| 5.25 inch HD Disks-Box of 10 | $16.00 |
| 3.5 inch DSDD Disks-Box of 10 | $15.00 |
| Horizon Ramdisk RDS EPROMs | $20.00 |
| Multifunction PC Board | $30.00 |
| Multifunction Disk Controller Kit | $102.50 |
| Multifunction RS232/PIO Kit | $42.50 |
| Multifunction 32K Kit | $26.50 |
| Multifunction RS232/PIO/32K Kit | $60.00 |
| Two-way Interface PC Board | $23.00 |
| Monitor Interface PC Board | $12.00 |
| Monitor Interface Kit (no jiffy box) | $21.00 |
| Monitor Transformer - 12V ac | $3.50 |
| Jiffy Box (for Monitor I/F Kit) | $7.00 |
| Monitor Power lead (needs 3 pin plug) | $1.00 |
| Monitor to I/F Board lead | $2.00 |
| Console to I/F Board lead | $2.00 |
| Music Kit (including PC Board) | $65.00 |
| Lithium Battery 3.6V | $4.00 |
| Mini Speaker - 8 Ohm | $1.50 |
| Transformer - 13V Arlec | $12.00 |
| Transformer - 60VA | $20.00 |
| 32K Printed Circuit Board only | $7.00 |
| Module PC Boards (Single chip vers.) | $9.00 |
| 32K Memory Chips | $17.00 |
| TI Joysticks | $12.00 |
| Extended BASIC Module plus Book | $25.00 |
| TI Technical Data Manual | $15.00 |
| TI-Sort | $15.00 |
| Display Master | $15.00 |
| TI-Artist Plus | $25.00 |
| TI-Base upgrade | $15.00 |
| TI-Base Version 3.00 | $25.00 |
| Picasso Version 2.00 | $14.00 |
| Picasso Support Disks (3 disk set) | $6.00 * |
| Picasso Applications Disk #1 | $2.00 |
| Adventure Hints Booklet | $2.00 |
| Pro-Mod Booklet | $1.00 |
| TI-Writer for Novices Booklet | $1.00 |
| Extended Business Graphs Booklet | $1.00 |

Packaging and Postage Charges:

| | |
|---|---|
| Up to 2 Disks | $1.70 |
| Over 2 up to 5 Disks | $2.20 |
| Over 5 up to 10 Disks | $3.20 |
| 3.5 inch Drives | $10.50 |
| 5,25 inch Drives | $10.50 |

Other items at packaging and postage costs.

* Please note: Picasso Support Disks will only be sold to those members who purchase Picasso Version 2.0 or to those who can furnish proof that they originally purchased this program from Arto Heino. Sorry, but this restriction is necessary as it is a commercial program.

## Cataloguing the Library

by Rolf Schreiber

The amount of "new" (including some not-so-new, some fairly recent and some brand new) software that I have received from various sources this year is quite staggering. They have been received in a variety of formats, ranging from the standard SSSD, to 80 track DSDD disks full of archived material. The job of cataloguing all these disks, and un-archiving those disks that I had received in an archived format, has kept me very busy for most of my spare (?) time when I am not doing other things, such as helping with the magazine, trying to write the software column, sorting out what software to release every month, writing letters (I am woefully behind in this; some letters have been waiting for over six months to be written), and sending away for new software for the library. After un-archiving and copying all these new additions onto SSSD disks, I then have to sort out duplicates, and those disks with bad sectors or faulty programs. Working out the best way to catalogue all the new software, as well as the vast amount of existing software, has caused me quite a few headaches, since most disk catalogue programs allow for only about 600 filenames. The best one that I have found to date has been R.A. Green's RAG Cataloguer, which can handle a maximum of about 1600 filenames. However, even this excellent program is inadequate when it comes to cataloguing the complete TIsHUG library, comprising over 700 disks and some 5000 to 6000 (at a guess) filenames! After a lot of head scratching, I finally decided, rightly or wrongly, on the following approach. Using a disk cataloguer (I use a modified version of the Myarc DM Level III), with the output sent to a disk file instead of the printer, I save the catalogue of each individual disk to a separate DIS/VAR 80 file, using the disk ID number as the filename. These files can then be printed out to produce individual disk labels, or combined into a single file for sorting with TI-Sort (an extremely rapid sort program from Inscebot, available through the Shop). Since these files can be loaded into TI-Writer, I can, at a later time, enter more information about individual filenames, as required. By

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# TIsHUG Software Column

by Rolf Schreiber

(Note: The following article was left out of my column last month because of space restrictions. I decided to include it this month for good measure.)

Lou Amadio recently returned from a holiday in the USA. He visited various places in California, including San Francisco and Los Angeles. At my request he made contact with several TI99/4A users in Los Angeles, including Earl Raguse and Jim Swedlow. Jim very generously donated four disks to TIsHUG, containing a complete set of both his TI Bits and XB Tips articles, a well as a tutorial on how to configure the latest version of Funnelweb to your own system. Earl Raguse was equally obliging and has promised to send us a set of his excellent Forth articles on disk (Note: these have since arrived). Lou was able to arrange a meeting with Fred Moore, the LA99ers User Group's merchandising coordinator, who was kind enough to bring along all the items that I had requested Lou to buy for me while he was in Los Angeles. These included articles on Forth, Logo, Assembly and the Gram Kracker. Lou also bought for me the book "The Orphan Chronicles" by Dr. Ron Albright, which makes fascinating reading for those of us interested in the history of the TI99/4A.

User Group of Orange County (ROM) library listing has been made available, courtesy of Jim Swedlow. The listing consists of more than 226 disks, comprising:

| | |
|---|---|
| Business and home finance: | 5 disks |
| Education: | 16 disks |
| Fairware: | 96 disks |
| Forth applications: | 18 disks |
| Games: | 25 disks |
| Graphics: | 13 disks |
| Home Computer Magazine: | ?? disks |
| Music: | 21 disks |
| Utilities: | 32 disks |
| Total (not counting HCM) | 226 disks |

While there is some duplication of their disks with those in our library, quite a few of these disks are presently not in our library. A hard copy listing of the UGOC library will be available for perusal at the next meeting. If anyone is interested in ordering any disks from the UGOC library, I will arrange to get them from Jim Swedlow. The cost to members will be the same as our normal monthly disks.

## December Software Column

by Rolf Schreiber

You may have noticed that my column last month was rather short, when in fact I had lots to talk about. As usual I ran out of room! When I paste up the magazine, I usually leave my page until last, to allow for last minute adjustments. This time I had miscalculated the length of two of the articles, and they spilled over, taking up about half my page. I was also in a hurry to meet the deadline, so my article contained a couple of errors, which I tried to correct with an insert (which some of you may have missed because of all the other inserts that month). So, for the sake of completeness, the items from last month that needed correcting were:

In the first paragraph, where it said "for a charge of 65c for each extra disk required", please read "for a charge of $1.00 for each extra disk required". This offer only applies specifically to any DSSD, SSDD or DSDD disks released for sale through the shop, and does not apply in general to every DSSD or SSDD or DSDD disk in the software library.

The second error occurred in the last paragraph where it said "will then be available on subscription only, for $30.00 for the remaining 10 disks". I did not do my sums properly for this one either. The correct version should read: "will then be available on subscription only, for $34.00 for the remaining 10 disks". Since we will not be supplying flippies, each $34.00 subscription involves paying for 10 blank disks, on top of sending a $20.00 royalty to Barry Traver (the author and publisher of the GENIAL TRAVelER). That does not leave too much for profit, considering all the work that goes into duplicating the disks, not to mention the incredible amount of time and effort that went into writing the software in the first place.

In releasing this software through the shop, I wanted to give all TIsHUG members the opportunity to legally acquire this series of diskazines, since I felt that the material in them was too good to be left in the archives. Besides, Barry Traver did offer to make me the Australian distributor for his diskazine, way back in July 1987! For those members interested in more details, see (or write to) Percy Harrison for a 6 page catalogue containing a description of what are on the disks. The cost will be $1.00 (plus any postage), to cover the cost of the photocopying.

Tony McGovern very kindly sent me some disks during October. Among them were a collection great music disks from Harrison Software (a US software company). I probably will not be able to demonstrate how good this music is at our next meeting, since the December meeting is also our AGM, but I hope to have one of these disks available for sale through the shop as a demonstration item. These disks are commercial items in the US/Canada, but outside of those countries the Harrisons (a husband and wife team, I believe) appear to be happy to come to some other arrangement regarding their distribution. I will be writing to the Harrisons in the near future in order to clarify the situation and to try to acquire their complete range of musical software for our library.

Included among the remaining disks that Tony sent me was a beta version of his latest Funnelweb disk (which has not yet been released) and some really great GIF pictures which need an 80 column in order to view them. Any TIsHUG members who own the Dijit or Mechatronic 80 column card are encouraged to get in touch to find out details of the 80 column specific software in the library.

The second person to send software last month was that very good friend of TIsHUG's, Jim Peterson. I had written to Jim with a request for the Tips package, and Jim, very promptly as always, send back ten DSSD disks of Tips files in archived format, and a further ten disks, the contents of which I will describe another time.

At the November meeting Terry handed me a handful of disks containing software, that had been sent to TIsHUG from various TI99ers from overseas. I would like to thank Martin Smoley, Earl Raguse, and Herbert Schlesinger (all USA) and Stephen Shaw (UK) for their contributions to our software library. I will hopefully find the time to write to them personally (including a few other kind people in the USA that I still owe a letter to).

### Software Releases for December 1990

DISK A158 is the last of a series of three exchange disks from the Canadian Channel 99 User Group. This DSSD disk contains 32 program and data files, from games to utilities. ANIMAL is an E/A option 3 object file which loads a series of animal pictures (these include ANT-KAN, INS-ZEB, LIO-RHI and SHA-ZEB). There are several programs that make use of speech with the TE II module, as well as a variety of utilities, including a joystick response tester, a prime number generator and an assembly routine (with source code) to test all your RAM memory, including MiniMemory and 32K memory. There are also about ten Extended BASIC games, including a version of NIM, a concentration game, several space games, an adventure game and a car racing game. Some of the other

Extended BASIC programs include a pocket calculator, a DIS/VAR 80 to DIS/VAR 163 conversion program (converts programs in text format to merge format) and a graphics character designer. A memory image type assembly game, called 'Race to the Crown', with several levels of difficulty can also be found on this disk.

DISK A440 is called PRO-MOD, originally released in 1984 as a commercial offering from a company called 'Technologies Support Group'. This SSSD disk contains seven utilities (all written in Extended BASIC) which each carry out a specific task, which can be selected from a menu. All these utilities require that the program to be modified has previously been saved in the MERGE format (ie as a DIS/VAR 163 file). The following program manipulations are possible: delete REM and ! (tail remark) statements, modify variable names, delete blocks of program lines, insert blocks of program lines, save blocks of program lines as stand alone subroutines, locate variables and dissect an Extended BASIC program. A photocopied manual with comprehensive instructions and helpful hints is available for an extra $1.00.

DISK A441 is being released as a demonstration disk, at this stage. If it proves to be popular, it will be the start to a series of musical releases from Harrison Software. I guarantee that anyone who hears the music on this disk through a good set of speakers will be suitably impressed with both the programming and the rendition of the music. This DSSD disk is called Mozart Serenade and contains four pieces of music, including Sonata in A, Variations, Sonata in D and Eine Kleine Nachtmusik. A menu makes it possible to play any, or all, of this music with a single key press. The music is written in a very compact format, using an assembly language routine, that the Harrisons have pioneered.

DISK A442 is called TIB-TUT/E, and is the fifth in a series of nine SSSD disks from Martin Smoley of the North Coast 99'ers User Group in Ohio, USA. Martin's tutorials on using TI-Base have now become so well known, having been published in every US User Group Newsletter of any note, that even Dennis Faherty (Inscebot), the author of TI-Base, makes mention of them in his latest version (V3.01). We had previously released a four disk set, covering tutorials #1-#7 as disks A366-A369. I received this set of tutorials directly from Martin himself, and it contains an updated disk #4 (TIB-TUT/D), as well as five new tutorial disks, covering tutorials #8-#21, as well as numerous sample databases and help files. Anyone who originally bought the four disk set will receive the updated A369 disk when they purchase DISK Axxx by either returning the original disk, or paying an extra 65c.

### Tigercub Software Releases

TC-1219 is a Fairware offering, containing Ray Kazmer's 1987 Christmas Card to the TI99/4A Community. The program consists of a delightful animated sequence where Woodstock receives an unexpected gift from Snoopy. Anyone with kids under the age of about 12 should buy this disk for their kids this Christmas. The program has not dated one little bit, and is just as delightful to watch now as it must have been in December 1987. Also on this SSSD disk is a utility called ARTCON, by Ben Yates, which converts pictures produced by Extended BASIC programs into TI-Artist compatible _P and _C files. There are also plenty of documentation files on the disk to help you.

This month I will be releasing all the ten Tips disks, in the format that I received them from Jim Peterson, late October. They are all DSSD and contain archived files, which need Barry Boone's Archiver program to unpack them.

TC-1220 is Tips Disk #1 and contains Tips V1.6, c99 Tips to TI-Artist Converter, c99 Tips Viewer, Tips assembly source files, documentation files for previous Tips versions and several other files in archived format.

TC-1221 is Tips Disk #2 and contains GRABXXX, GRBCXXX, GRCCXXX and GRCDXXX graphics files in archived format.

TC-1222 is Tips Disk #3 and contains GRDFXXX, GRFGXXX, GRGHXXX and GRHLXXX graphics files in archived format.

TC-1223 is Tips Disk #4 and contains GRLMXXX, GRMOXXX, GROPXXX and GRPRXXX graphics files in archived format.

TC-1224 is Tips Disk #5 and contains GRRSXXX, GRSSXXX, GRSTXXX and GRTWXXX graphics files in archived format.

TC-1225 is Tips Disk #6 and contains GAAZXXX, GMAZXXX, GPAZXXX, GRWZXXX, GTAZXXX, GWAZXXX and PGAZXXX graphics files in archived format.

TC-1226 is Tips Disk #7 and contains C1AZXXX, C2AZXXX, C3AZXXX, C4AZXXX, C5AZXXX and C6AZXXX graphics files in archived format.

TC-1227 is Tips Disk #8 and contains 02AZXXX, 12AZXXX, 15AZXXX, FN11XXX, FN22XXX, FN33XXX, H1AZXXX and H2AZXXX graphics files in archived format. File H2AZXXX is corrupted and I am getting a replacement file from Jim Peterson as soon as possible.

TC-1228 is Tips Disk #9 and contains 21AZXXX, 25AZXXX, 32AZXXX, 42AZXXX, 45AZXXX, 46AZXXX and 48AZXXX graphics files in archived format. File 46AZXXX is corrupted and I am getting a replacement file from Jim Peterson as soon as possible.

TC-1229 is Tips Disk #10 and contains FT14XXX graphics file (containing four uppercase fonts) in archived format.

### Commercial Software

We received a letter and the latest software catalog from Asgard recently. Chris Bobbitt, the proprietor, is prepared to give TIsHUG a dealer's discount when we purchase any software, which basically means that the bigger the order, the bigger the discount. I have already placed an order for Page-Pro, Volumes 1 to 12 of Page-Pro Templates, Page-Pro Large Fonts, Page-Pro Utilities, Spell It! and the Rock Runner demonstration disk. I have also placed an order with Texaments, and requested a copy of their latest software catalogue. I have ordered The Missing Link, GIFmania, 'Artoons, CSGD I and CSGD II. With a bit of luck and a speedy postal service, this software might arrive in time for the December meeting. If you are interested in purchasing any of this software, please place an order with Percy Harrison, as soon as possible, so that we can arrange a bulk order with Asgard and Texaments in time to receive everything for the February 1991 meeting. Hopefully with a discount of around 30% and allowing for postage and handling charges, we should be able to sell items for approximately the same number of Australian dollars over here as they sell for in US dollars over there. o

continued from page 4

copying (to a separate disk) the catalogue files of all the disks on a particular subject (eg MUSIC, GRAPHICS or GAMES), and then combining and sorting the result, I can produce alphabetical listings of filenames in any particular category and where to find them. Duplicate filenames also show up, making it quite easy to cull them. I have not yet written all the software that I need to automate the procedure, but I am working on it. The upshot of this approach is that it gives me a lot of flexibility in re-organizing the library, once the method becomes fully operational. o

# Techo Time

by Lou Amadio

In the October issue of the TND I described how to build a PIO interface for the PE Box using the MultiFunction Card PCB. This month's article describes how to add an RS232 function to this project so that it is equivalent to the TI RS232 card.

In order for the RS232 option to work you must have completed the PIO version of the card described in the October TND. Please note that a 1N914 diode MUST be added as indicated on the overlay diagram in this issue (near U15) in order for the PIO to function properly.

Parts List

All of the parts listed on page 13 of the October TND plus one 1N914 diode (see errata in November) plus the following:

1 x 27128 PIO+RS232 DSR EPROM
2 x 9902 IC's (U5 and U6)
1 x MC145406 IC (U24)
1 x 74LS74 IC (U25)
2 x 18 pin IC sockets
1 x 16 pin IC socket
1 x 14 pin IC socket
6 x 0.1 uF Monolithic capacitors
2 x 10 uF 16 volt TAG capacitors
1 x 4.7 uF 16 volt TAG capacitor
1 x 5.6K resistor
1 x 1.8K resistor
1 x 12K resistor
1 x 330 ohm resistor
1 x 560 ohm resistor
1 x 100 ohm resistor
1 x 33 ohm resistor
2 x 12 volt zener diodes
1 x DB25 socket (female) solder pins

Construction continued on page 24

1) Remove the shorting links added previously between:
   - pin 5 to pin 7 of U25
   - pin 9 to pin 14 of U25
   - pin 21 of U16 to PCB track

2) Add a link between the first and last pins of where the SIP resistor would normally go (near U16).

3) Solder IC sockets for U5 (RS232/2), U6 (RS232/1), U24 and U25.

4) Add the components for the +12 volt supply (zener, 100 ohm, 10 uF 16V). Note the orientation of the diode and capacitor.

5) Add the components for the -12 volt supply (zener, 560 ohm, 4.7 uF 16V). Note the orientation of the diode and capacitor.

6) Add the six 0.1 uF capacitors as indicated.

7) Add the 10 uF capacitor near U25

8) Carefully solder the DB25 connector at the rear of the PCB together with the three resistors (33 ohm, 12K and 1.8K). The DB25 is soldered to 3 points on the front and 8 points on the back of the PCB with pin 1 of the DB25 on the back of the board and at the bottom.

9) Insert ICs U5, U6, U24, U25 and the new DSR chip (U18) with pins 27 and 28 connected together and pin 27 bent out so it will not go into the socket, into their respective sockets. Plug the card into your PE Box and check for proper operation by connecting to an RS232 device such as a printer or a modem.

Adding 32K Memory

While we were discussing the components required for this project, Geoff suggested that 32K memory expansion would be a useful addition.

Parts List

1 x 62256 Static RAM (U2)
1 x 74LS20 IC (U12)
1 x BC549 transistor
1 x 4.7K resistor
1 x 330 ohm resistor
1 x Yellow LED
1 x 14 pin IC socket
1 x 28 pin IC socket

Construction

1) Remove the PCB links associated with U12, solder an IC socket in place and insert a 74LS20 chip.

2) Add the indicator components (LED, 4.7K, 330 ohm, BC549). The flat on the LED faces the edge connector of the PCB.

3) Solder a 28 pin socket for U2. Carefully insert the 62256 Static RAM into its socket (this chip can be damaged by static electricity).

4) Plug the card into your PE Box, switch on your system, select Extended BASIC and type SIZE <Enter>. If all is well you should see a message that indicates 24K of program space is available.

Technical Help at Sydney Meetings

Geoff has provided this year, at most meetings, a technical help service. This was originally to help set up the AT disk controller cards and has also enabled members to bring in equipment for a quick check of problems. This has involved Geoff in bringing a lot of equipment to each meeting on the chance that it may be needed. At future meetings he will only come equipped to handle problems that he knows about. So, if you wish to use this service, give Geoff or me a ring before the meeting so that he and you can decide what is necessary to bring to the meeting to investigate your problem.

Season's Greetings to All

o

continued from page 2

Let me say that the Aussies have been beating on this computer of ours a lot harder and a lot more seriously than we have for a long time. If nothing else convinces you of that look at your last FunnelWriter disk. They have hardware and software that we have not seen over here, and from what I can understand it is top notch stuff. This group has a library of over 600 volumes. I bet there is a lot in there that would make you take a second look at your old TI.

Anyway, I would like to recommend the joining of this group. The price is $24US for the dues, plus $12 for surface mail or $22 for monthly airmail. Take it from me, surface is the pits. It has taken as much as three months to get a package that way from Australia - GO AIRMAIL, it is worth it. I am sure that you will receive catalogs and stuff with your membership.

The address is: TIsHUG (Australia) Limited, P.O. Box 214 Redfern, N.S.W 2016, Australia.

This is about YOUR TISHUG...

If you do not believe this write-up get a copy of October 1990 MICROpendium, it starts on page 33 and continues on page 34. See it for yourself! o

# The Sheehan EPROM disk

by Geoff Trott

Lou and I had a very exciting day, today. We programmed two EPROMs and built them into an Horizon RAMdisk and made them work. This is a follow on from the two previous articles in May and September of this year in which Craig Sheehan described how to do this for ROS version 7.3. I had to modify Craig's programs a little to use another EPROM programmer and to remove a few little bugs. However I would like to report that Craig has written some very useful programs here and they are a credit to him.

Dick Warburton and I had a try at this one Sunday but ended up not getting very far for one reason and another. The EPROM programmer was sent back to the distributor for attention and I am not sure if they did anything to it but it now works. Lou decided that he wanted to build a new RAMdisk and put some EPROMs on it, so this Saturday he came over and we completed the construction of that. Then we spent some time filling up a disk of 512 sectors with files from Funnelweb and configuring Funnelweb as he wanted it to be (colours, devices etc.). We did not put the configure program on the disk as it would not be useful for an unchangeable system. There was only room for Mass Transfer and one of Lou's printer setup programs along with Funnelweb. We only had two EPROMs which caused the size limitation. You need 6 27C512 EPROMs to hold the contents of a complete DSDD floppy disk (6x256=1536 sectors).

We just followed Craig's instructions and those that came up on the screen and burned the two EPROMs without trouble. It took about half an hour to do each EPROM, which is slow but it did the job. Then we had two EPROMs to be installed physically on the RAMdisk. This was also done following Craig's instructions, except for the case of the resistors (1K) between pins 20 and 28 of the RAMs or ROMs. These resistors are needed for the RAMs that are actually on the board (3 in this case) but must be removed from vacant RAM slots (especially those used by the EPROMs) and are not needed by the EPROMs. Having done that, we installed the ROS in the RAMdisk (version 7.3) and put MENU and CFG files on the RAMdisk in DSK5. We had configured Funnelweb to expect to be on DSK6 and so told the config program of ROS its two disk would be 5 and 6. The we ran Craig's install program and very quickly the final deed was done. DSK6 was working and had all the files on it that had been put on the original disk. We returned to CFG and the disk was on the configure screen also and then we saved the ROS on floppy along with the slightly modified MENU and CFG itself. Then, if the ROS is lost at any time, the information about the EPROM part of the RAMdisk is restored when the ROS is reloaded.

The final act (at the moment) is to find out how to introduce the EPROMs to a version 8.14 ROS. That will be my goal for the Christmas break. If anyone wants to add EPROMs to their RAMdisk, they must prepare a disk or disks of programs they want on them and configure them carefully to suit their normal operational environment. Then work out how many EPROMs would be needed (1 EPROM holds 256 sectors) and buy the necessary number of 27C512 EPROMs (12.5 volts programming voltage) and hand them all to Lou, Percy or one of the directors and we will fix them for you. If you are not happy doing the construction yourself, attend the console repair group for some help or bring in your RAMdisk also and I am sure that someone will be able to help. The important thing is to thoroughly test the programs you plan to put on the EPROM disk using a write protected floppy to ensure that they do not need to write to that disk and that they have all been setup for your use. o

# Assembly Squeezing part 4

by Tony McGovern

A second form of string that is sometimes found does not use a leading length indicator byte or word, but uses a null byte to mark the end of the string. This means that the string can be of any length but cannot contain any null bytes as part of the string. Once again we look at the problem of moving a string from one known address to another.

```
      LI   R0,STR1
      LI   R1,STR1
LOOP  MOVB *R0+,*R1+
      JNE  LOOP
```

You can see why this form of string is used as the bytes moved set the termination condition as they are moved, and a separate countdown is not needed. The code above takes only 6 words and uses 2 registers, but it is possible to do better still by using indexed addressing again.

```
      SETO R1
LOOP  INC  R1
      MOVB @STR1(R1),@STR2(R1)
      JNE  LOOP
```

The SETO initializes the index so that on the first pass through the loop the first byte is moved. This still uses 6 words but now trashes only one register. In either case the null byte is the last to be transferred and does not have to be attended to separately.

While we are at it, suppose we were reading in a definite number of bytes, say from GROM, and wanted to terminate them by a null byte to make this kind of string in CPU RAM.

```
LOOP  MOVB @GRMRD,*R1+
      DEC  R2
      JGT  LOOP
      MOVB @NULL,*R1
```

NULL is the label of a null data byte. You can save a word by replacing the last instruction with

```
      SB   *R1,*R1
```

Subtraction of a byte from itself is a handy way to clear a single byte as the CLR instruction works on full words only. In this instance

```
      MOVB R2,*R1
```

would also do the job as the loop exit condition leaves R2 containing a null word. From the point of view of someone trying to read the code, and that includes yourself at a later date, the previous form is preferable as it makes what is being done more obvious. o

continued from page 3

```
420 REM USING COMIC SHOW     4.0
430 REM IF USING JBM103      ADD THE REQUIRED CALL LOADS
    AND CALL LINKS. ALSO ADD A SUBPROGRAM:
440 REM SUB DRAW(A,B,C,D,E)
450 REM CALL LINK("LIGNE",15,B,C,D,E) :: SUBEND
460 REM AT VERY END OF           PROGRAM!!!
470 REM AND CHANGE CALL      GRAPHICS(3) TO CALL LINK(
    "SCR2") :: CALL LINK("CLEAR")
480 REM
490 REM PRESS SPACE FOR          NEXT PIC HERE IF REQD
500 REM
510 CALL GRAPHICS(3) :: NEXT ST :: CALL GRAPHICS(1) ::
    RUN
520 END
```

I would be very interested in seeing anything you produce with these programs! Transform a cat into a dog, a tree into a house, anything! o

# Assembly Class

by Ross Mudie

The next regular Assembly Class will be held from 12noon to 1.45pm, preceeding the TISHUG AGM on 1st December 1990 at the Ryde Infants School.

The subject material will be the file LINK-IT15 which is currently on the of the BBS. The class session using LINK-IT15 will be a revision of material from the November class and the new material will be a further discussion of linking between Extended Basic and Assembly.

Class members are reminded to bring their Editor/Assembler manuals for reference purposes. The E/A manual will be essential at this session.

All TISHUG members who are BBS members are welcome to ask for help via the BBS with assembly language problems. Just use mail on the BBS addressed to SYSOP. This will allow problems to be sorted out between the monthly pre-meeting classes.

At the December class a decision will needed concerning the format of the assembly class next year.

Ross Mudie, 4th November 1990. o

Linking Extended BASIC to Assembly

15 LINK IT 15

CONVERTING LOWER CASE TO UPPER CASE
by Ross Mudie, 21st December 1987

This routine was written in response to a request from TIsHUG member Robert Brown. Extended Basic can be used to convert the characters in a string from lower case to upper case, but it is a bit slow, especially if the string is long. The assembly routine copies the string into assembly from the variable S$ using the utility STRREF, then tests to see if the variable was empty. The length of the string is then placed in a register which is used as a counter & the values equal to lower case "a" and "z" are placed in registers for testing. Each byte of the string in the buffer is then tested to see if it is in the value range of lower case alpha. Each character which is in range has Hex 20, or ascii 32 subtracted from it, converting it to upper case. When the whole string has been tested & converted as necessary the string is passed back to ext'd basic in the same string variable.

One very important purpose of this article is to help our members who are trying to come to grips with assembly. After typing in the source file using an editor (Editor/Assembler, Funnelweb, etc) save the file to disk in DISplay VARiable 80 format. Then load the Assembler. The Source file name is the name you saved the source file under. For the source file I used DSK1.US and for the object file DSK1.UO , (I always use short simple file names). If you want a list file you can specify PIO. to go to a parallel printer, (the "." is needed). For the options specify R because all the Register usage is prefixed with "R", L to get the List file and S to get a symbol table in the list. The "C" option must not be used with extended basic because the x/b loader will not recognise compressed object code. If a List file is not required then press enter at the List file option and omit the L & S in the options.

One final comment before getting into the program....

There is only one way to get into assembly and that is get your hands on the keyboard, your head in the book & put in a lot of hard work!

```
* This program converts lower case characters in a
* string into upper case.  It will handle string¢FFER

LOOP1   CB   *R6,R4      Test the byte in BUFFER pointed
*            to by R6 for value less than lower case 'a'
        JLT  NEXTBY          Jump if Less than Hex 61 (a)

        CB   *R6,R5   Test against value of lower case z
        JGT  NEXTBY       Jump if Greater Than Hex 7A (z)

        SB   @BH20,*R6  Subtract >20 from byte in BUFFER
*                  position pointed to by R6 to convert
*                     lower to upper case for that byte

NEXTBY  INC  R6              Point to next byte in BUFFER
        DEC  R3         Count down in string byte counter
        JNE  LOOP1                          Finished yet?

        BLWP @STRASG   Send string back to x/b, R0,R1,R2
*          are unchanged & length byte still in BUFFER+0


END     CLR  R0           To prevent false indication of
        MOVB R0,@STATUS                    errors on return
        LWPI GPLWS          Reload GPL Work Space for X/B
        MOV  @SAVRTN,R11    Reload return address in R11
        B    *R11            Branch to address in R11 to
*                               return to extended basic


SAVRTN  BSS  2          These are down here so that they
WS      BSS  32        are easy to delete if the program
BUFFER  BSS  256             is converted to CALL LOADs.
*                Refer to "HOW TO CONDENSE ASSEMBLY IN
*              X/B USING CALL LOADS" in TND September
*                   1987, page 20.
        END                                             o
```

# Summer Storms, Computers and Fax

by Ross Mudie

The summer electrical storm season is with us. Do not let your computer or fax machine become a very expensive repair job!

Surges on the power lines or telephone lines can destroy your high voltage sensitive equipment from many kilometers away in just one blinding flash.

The best method of protecting your fax or computer with modem attached is to UNPLUG BOTH the phone line and the power cord. Just turning off the switch is not good enough. If lightning is going to jump 5 kilometres through the sky, it is not going to stop at a 2 or 3mm gap in a switch.

The best protection that I have seen for fax or computer/modem is a FAXGUARD. (The club Bulletin Board is surge protected by a Faxguard).

Faxguard incorporates series and shunt protection in both the power and phone lines, together with a common earth. A 500V gas arrestor prevents a large voltage differential between the phone line and mains earth. High voltages can occur between mains and phone line since the phone line earth occurs at the telephone exchange which is usually several kilometres away. Huge voltage differences can occur between the earths from lightning surges or power line faults.

Mains surge protection should be used whenever your computer is in use. Surges can come from power line faults or even household appliances, as well as those violent summer electrical storms. It is important that the whole of your system is connected through surge protection. If just part of your installation is not protected then a surge can enter through the unprotected parts and destroy the whole system through the data or control lines.

Even when you have protection in use, if a storm is approaching save what you are working on, unplug the computer and modem and go and read a good book. o

# From The Bulletin Board

## What are you doing with your computer?

by Ross Mudie

Interested in getting more out of YOUR computing hobby? Read A_WANTED in the news area.

A_WANTED.... YOUR PARTICIPATION!

Do YOU want to get more out of YOUR computing hobby?

If the answer is YES then it is totally up to YOU, YOURSELF.

If the answer is no then obviously your computer belongs in a cupboard gathering dust!

You have the means to communicate to other people in YOUR club, TISHUG, via your club's BULLETIN BOARD and MAGAZINE.

Please read the WHAT_n articles (What_1 at the end of this article) to see what others are doing, then contribute your own bit. It is not hard and more than likely in preparing a contribution you will discover the answer to something that you may have been having problems in doing...

Honestly, the more each member puts in to a hobby like computing with the TI and TISHUG, the more each member can and WILL benefit.

# What_1

by Ross Mudie

What is everyone else doing with their computers?

I posed this question at the beginning of October and here is the first reply received from Tony Beuermann. If more members take up the challenge of sharing what you are each doing on your computers then our whole membership will benefit from your ideas, even your problems and failures.

Thanks Tony for your contribution... For BBS members its as easy as sending mail to contribute. o

# What I am doing with Mine!

by Tony Beuermann

What am I doing with mine? Interfacing with an Atari Portfolio "pocket" computer; an interesting exercise and quite useful.

I had the good fortune to acquire a Portfolio a few months ago and have found it to be quite a useful and interesting little gadget. I will not go and re-write the Atari manual here, but will summarise the description of the machine as a combination of personal organiser and MS-DOS computer. If anybody is thinking about buying one of these machines, I will be happy to supply more detailed information.

Included in the built-in software are a text editor and a LOTUS-compatible spread sheet, both of which I use often. The main drawback is that it is a bit short on memory, compared with a desktop PC. Mass storage is available in the form of credit-card size RAM cards, but these are very expensive. What I do is transfer files to the TI, using MASS TRANSFER, then store on disk, or send to the printer. For example, I keep current monthly bank account details in the Atari on a spreadsheet, and at the end of each month upload to the TI and store on disk. So far it is one-way, i.e. from Atari to TI, but so far I have no communications software for the Atari to enable data transfer from TI to Atari. The current arrangement meets most of my requirements, however.

The Atari serial interface cost $119 (Dick Smith) and I made the cable up myself. A null-modem arrangement with three conductors is all that is necessary. To save fiddling about behind the PE box, I plug into my printer cable which connects to RS232/2. I may, sometime, make up a switch box to save wear and tear on the connectors.

I hope this has been of interest and I will be happy to offer help if anybody wants to set up the same arrangement.

Regards, Tony Beuermann o

# What I have been doing with my computer

by Bob Relyea

In the September issue of the TND (page 3) was a letter to the editor by Michael Ball asking for help in using the computer to do some calculations and updating for the monthly catch records of his fishing club. I am just a mediocre porgrammer but I felt the urge to try to write an XBasic program to handle the information that Michael wanted. I have made quite a bit of progress in that I have a program up and running but need to spend more time learning how to program 'sort' routines. Two members have given me information on sorting which I plan on investiging over the summer and then I need to learn how to make the computer update new information and record catches. I understand that another member has given Michael a suggestion of using a 'Home Record Keeping' program which has been useful. The program that I have come up with is included below. If anybody has any suggestions let me know. The problem that I have to overcome in sorting is having all the variables interchange automatically when a sort is done on any one variable. I have enjoyed the challenge and look forward to complete success.

```
100 CALL CLEAR
110 CALL SCREEN(14)
120 DISPLAY AT(4,6):"******************"
130 DISPLAY AT(5,6):"*                 *"
140 DISPLAY AT(6,6):"*     NOWRA       *"
150 DISPLAY AT(7,6):"*                 *"
160 DISPLAY AT(8,6):"*    FISHING      *"
170 DISPLAY AT(9,6):"*                 *"
180 DISPLAY AT(10,6):"*     CLUB        *"
190 DISPLAY AT(11,6):"*                 *"
200 DISPLAY AT(12,6):"******************"
210 DISPLAY AT(15,3):"This program records the monthly
fish captures and calculates the points valuefor each
capture."
220 PRINT "PRESS ANY KEY TO CONTINUE..."
230 CALL KEY(0,K,S):: IF S=0 THEN 230
240 CALL CLEAR
250 DISPLAY AT(15,1):"PREPARE TO ENTER STATISTICS   FOR
THE VARIOUS CATCHS"
260 PRINT :: PRINT :: PRINT
270 PRINT "PRESS ANY KEY TO CONTINUE..."
280 CALL KEY(0,K,S):: IF S=0 THEN 280
290 CALL CLEAR
300 INPUT "HOW MANY CATCHES DO YOU WISHTO RECORD? ":N
310 CALL CLEAR
320 FOR I=1 TO N
330 INPUT "SPECIES? ":S$(I)
340 CALL CLEAR
350 INPUT "ENTER WEIGHT (Kg) ":W(I)
360 CALL CLEAR
370 INPUT "ENTER LINE CLASS (Kg) ":C(I)
380 CALL CLEAR
390 INPUT "ENTER FIGHTING FACTOR ":F(I)
400 CALL CLEAR
410 INPUT "DIVISION? ":D(I)
420 CALL CLEAR
430 INPUT "ANGLER? ":A$(I)
440 CALL CLEAR
450 P(I)=W(I)*100*F(I)/C(I)
460 P(I)=INT((P(I)*100)/100)
470 PRINT "POINTS VALUE =     ";P(I)
480 FOR DELAY=1 TO 500 :: NEXT DELAY
490 CALL CLEAR
500 NEXT I
```

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# Rambles

by Stephen Shaw, England

Greetings and welcome to another Rambles, a collection of odds and sodds related to the TI99/4A. Your comments and requests and queries are very welcome (as is an SAE if a direct reply is wanted!) please write to me at:

10 Alstone Road STOCKPORT Cheshire SK4 5AH
which is also the address of the disk library.

First an important update on ASGARD- a major publisher of software for the TI, who nevertheless managed to get all my four orders wrong, therefore must carry a warning tag. In past issues I indicated you could obtain Asgard programs via Comprodine, alas this is no longer the case. You could try MICROpendium advertiser Jim Lesher, at 722 Huntley, DALLAS, TX, USA, 75214 (Telephone 214 821 9274), who seems to offer a huge stock of both current software and older modules, but I have not dealt with him so cannot speak for his service.

I received a letter from a Chuck Bower offering to supply modules, but my initial request for a quotation on an order has not been replied to. Reliable sources of supply do seem to be drying up!

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Did you ever want to make an Extended Basic program unlistable and unalterable but still playable and saveable? This is a bit of fun programming to see how to exploit the way our computer stores its programs!

Original programs from Tidewater Newsletter, Ken Woodcock- I took them from WORDPLAY June 1990:

Your computer stores all the basic program lines in one block, and then in a separate block, a line number table, which identifies where in memory each line number can be found- the line number table is in numeric order, the actual program lines are stored in the order you enter them, which may not be in numeric order! The first byte of the Line Number Table tells the computer how long the line is in bytes- this is only used to list the program or to handle editting functions, when running a zero value byte terminates each program line and the LNT is only used to locate the start of the program line.

To make a program unlistable all you need do is change all the length bytes in the LNT! The following program will set all length bytes to zero! and requires XB and 32k.

First load your program. If it uses lines 1 and 2, resequence it! Then MERGE in (or type in) the following code:

```
1 CALL INIT :: CALL PEEK(-31 952,A,B,C,D):: SL=C*256
  +D-65539 :: EL=A*256+B-65536 :: F OR X=SL TO EL
  STEP -4 :: CALL PEEK(X,E,F,G,H):: ADD=G*256
  +H-65536 :: PRINT *256+F
2 CALL LOAD(ADD-1,0):: NEXT X :: STOP :: !@P-
```

Now RUN the amended program. Now in command mode type in 1 (enter), 2 (enter) to remove the extra lines. Now save using a different file name if to disk or a different tape if to cassette!!!

And you can now RUN the program, no trouble- try it.

BUT... what happens if you try typing EDIT 100 or LIST?

What... you saved the amended program over your original? Not to worry you can get it back.

We could alter all the length bytes to the maximum possible, which would certainly allow the program to be LISTed again (change the value 0 in line 2 above to 255), but editting could still be problematical, so lets reset the length bytes to what they should be!

Looking for a zero byte is a start, but not the end, as a zero byte may also occur in certain cases in the program line. The simplest thing to do is to look for a zero byte, then look at the line number table to see if the value obtained is an actual start of a program line. So lets do it...

First load the corrupted program- you cannot list it to see if it uses lines 1 to 6, so RESequence it for safety! then MERGE in the following lines:

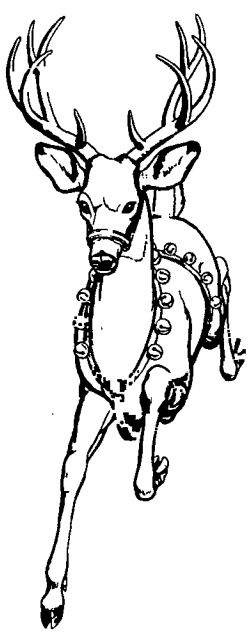
```
1 CALL INIT :: CALL PEEK(-31952,A,B,C,D):: SL=C*256+
D-65539 ::EL=A*256+B-65536 :: FOR X=SL TO EL
STEP -4 :: CALL PEEK(X,E,F,G,H):: ADD=G*256+H-65536
:: PRINT *256+F
2 I=1 :: CALL PEEK(ADD-1,V):: IF V THEN 6
3 CALL PEEK(ADD+I,V,W):: IF V THEN I=I+1 :: GOTO 3
4 FOR Y=SL TO EL STEP -4 :: CALL PEEK(Y,E,E,E,F):: IF
E*256+F-65536=ADD+I+2 OR =0 OR ADD+I>-3 THEN CALL
LOAD(ADD-1,I+1):: GOTO 6
5 NEXT Y :: I=I+1 :: GOTO 3
6 NEXT X :: STOP :: !@P-
```

Some of those lines are a little long by the way- when your console honks at you to say it wont take any more characters THANK YOU, you press ENTER, then bring the line back with EDIT N or N (FCTN X), move the cursor to the end of the line and carry on typing.

Run this amended program- it takes a little longer this time!!! and when it has finished your program is uncorrupted, lines 1 to 6 can be removed and the program saved, listable and editable.

Too slow? From an anonymous author, a machine code fix! This comes from the Sydney News Digest of July 1990 and requires assembly WITHOUT the C option:

```
* PROGRAM TO REENTER LINE
* LENGTH VALUES TO A BASIC PROG
* author wishes to be anon
* FROM TISHUG JULY 90
*
* RUNS ONLY FROM XB+32K
* load corrupted program into xb
* CALL INIT
* CALL LOAD("DSKn.FILENAME")
* CALL LINK("UNFIX")
*
       DEF  UNFIX
       AORG >2500
UNFIX  LWPI USRWS
       MOV  @>8330,R1
       MOV  @>8332,R2
       C    R1,R2
       JHE  FIN
*
       INC  R2
       S    R1,R2
       SRL  R2,1
       CI   R2,BUFMAX
       JGT  FIN
*
       SRL  R2,1
       MOV  R2,@BUFLEN
       INCT R1
       LI   R4,BUFF
*
LOOP   MOVB *R1+,*R4+
       MOVB *R1+,*R4
       DEC  R4
       DEC  *R4
       INCT R4
       INCT R1
       DEC  R2
       JNE  LOOP
       LI   R5,>FFE8
AGAIN  MOV  @BUFLEN,R3
       LI   R2,ZERO
       LI   R1,BUFF
       DECT R1
*
NEXT   INCT R1
       C    *R1,*R2
       JL   SKIP
       MOV  R1,R2
SKIP   DEC  R3
       JNE  NEXT
*
```



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# Spellbreaker part 1

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Before we start, a few words here. Throughout the game, you will be using the Blorple spell many times. The walkthru assumes that you are keeping track of the spells you have memorised, and that you will always have a few Blorple spells in your head. This is important, as there are some situations in which not having Blorple ready could be fatal. So, check on that every so often, to ensure that you have a few Blorples memorised and ready.

Also, from time to time, you will become tired. When that happens, just go to sleep for awhile. Most places are perfectly safe. You may or may not have a dream. That does not matter, as the dreams are not necessary in any way to finishing the game.

Finally, remember that when you write a word on a cube, or when you refer to that cube, you must always put the name in double quotes: "WATER", "AIR", etc. Oh yes, and keep in mind that this is not the only way to get through the game. You might want to experiment at certain points (after saving, of course!) to see if you can come up with another way of doing things. Ok, let's get on with it!

Just when you thought you would be settling down to a nice, soft job as head of the Enchanter's Guild, something goes wrong. Very wrong. Magic, good old dependable magic, is not so dependable any more. In fact, spells have been failing or doing strange things all over the place, making for a very unhappy and disgruntled populace.

Which is why you find yourself attending a meeting of Guildmasters in the ancient town of Belwit. Listening to the speeches of the various Guild leaders, you begin feeling a trifle uncomfortable. They are looking for a scapegoat, and the trend seems to be towards blaming the magic-users (oops).

There is no way to leave the room at the moment, so just stand around and wait awhile. You will not have to wait too long...suddenly everyone but yourself is transformed into an amphibious creature! Well, everyone but you and a mysterious cloaked figure that just slipped out the door.

Follow the figure into the Guild Hall. Pick up the bread and fish, then continue south. Hmmm. Belwit Square is now filled with a strange orange smoke. Checking your handy spell book, you decide that Lesoch is what is needed here. So learn Lesoch and then cast it. As you do, keep in mind that this spell, and others, may not work the first time. This happens randomly, so be prepared to learn and cast a spell several times before it does its job. It does make the game tedious at times, but there is no way around it.

Once the smoke is gone, you see a small white cube on the ground. This is the first of many such cubes you will be collecting, and it is important that you be able to distinguish between them. Otherwise, you are going to have a very hard time finishing the game! So, after taking the cube, write "EARTH" on it. Now look in your spell book. Blorple? That certainly was not there a moment ago.

However, since the spell seems to have appeared at the same moment as the cube, there is probably a connection between them. So, learn Blorple, then blorple "EARTH". Aha! You have been transported inside the cube to the Packed Earth Room (by the way, do not bother with the Mayor's house or the guard; they are red herrings in the game).

The room has several exits, one of which you can not pass through. You will find this to be true of all the cubes; each has an 'impossible' exit. Later, you will learn how to get through those exits, but for now you have better things to do.

First, you will need some light, so frotz your burin. Then go east into the Hall of Stone, then south to the Ruins Room. Here you will find a zipper, which is more than it seems. Unzipping it reveals a large space inside. Get inside and look around. You will find a flimsy scroll with the Girgol spell. Take the scroll and get out again.

The zipper will come in handy for carrying around a great many objects. Since you will not be needing that knife for quite a while, put it into the zipper now. Then blorple "EARTH" again. It is time to pay your first visit to the Roc's nest.

Go down through the hole in the Packed Earth room. This will take more than one attempt. Once through the hole, you will find yourself in mid-air, falling rapidly towards the earth. Do not panic! (Where have I heard that before?) A giant Roc will come along, grab you in its claws, and fly you to its nest.

In the nest you see a stained scroll, a giant egg, and a white cube under the egg. There is no way to get the cube right now, so just leave it be and take the scroll, which has the Caskly spell. Gnusto that into your book, then blorple "EARTH" once again. This time, go out the south exit.

Now you are on a ledge of a cliff, where you find a scroll with "Throck" on it. Gnusto that one, too. While you will need the spell only once, remember that magic might fail at any time, and the scroll will disappear once the spell is cast, whether or not the spell succeeded. So, always Gnusto spells when possible.

Here is a good spot to save the game. You are about to start an avalanche, and if you do not do it just right, you will have some problems (maybe a lot of problems!). After saving, climb up to the top of the cliff. Above you are tons of rock, very precariously balanced. The least touch might bring them rumbling down, which, as a matter of fact, is what you want to happen. So, push a rock. As soon as the avalanche begins, cast Girgol.

Now, all the rocks should be frozen in mid-air. Keep going up until you reach the mountain top. Whew! Take the coin lying there, learn Caskly, then make your way to the hut. Inside is a grumpy hermit. Also inside, as part of a wall, is another cube. Unfortunately, a chat with the hermit reveals he will not let you have it, as it is supporting the wall.

You need that cube, of course. What to do? How about trying the Caskly spell? AH! The spell has transformed the grubby hut into a fine building! The hermit does not need the cube any longer, so you are free to take it. Write "SOFT" on the cube, then blorple "SOFT".

Here you are in the Soft Room. Go south to the meadow. Ignore the pruning shears (another red herring), and get the weed. It will take a couple of tries, but eventually you will pull the entire plant out of the ground. At this point, you can stick the "SOFT" cube in the zipper, since you will not be using it again.

Now blorple "EARTH" and go out the west exit. Here you are in front of the Ogre's cave. The poor thing has a terrible case of hay fever, and you are about to make it worse. Enter the cave, plant the weed, then throck it. Wow, that sure did grow, did it not? The Ogre is overcome with a powerful sneezing fit, but it will not last forever. So, hop on down that hole, get the box and the scroll, then up and out of the cave ( do not worry, the Ogre will not follow you).

The scroll has the "Espnis" spell; Gnusto that into your spell book. Then open the box. Inside is another cube. Take that and write "WATER" on it. Look carefully at the box, and you will see it is decorated with dolphins. There is a mystic connection between the box and the cubes. Each time you put a different cube in the box, the design will change to something appropriate for that cube. For instance, if you put the "EARTH" cube in the box, the design would change from dolphins to moles. More about the box later; you still have a few more cubes and scrolls to pick up!

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# TIPS Documentation

**Version 1.7**

by Ron Wolcott, USA

This version of TIPS has the following changes:

1) 3 by 4 rows of LABEL size images can be printed on greeting type cards front - inside with options to print a different image on each of 4 rows.
2) Semi hot keys at all select function points to select an image file, specify an image, view an image, specify primary colour, or invoke the OPTION sub-menu.
3) The OPTION sub-menu has been expanded to include specifying alternate primary colours for easier use of multiple colours on successive print functions, a DARK option to print multiple passes, a CONFIG option to have FONTS, VERSE, and INSTANCES on other than drive 1.
4) The VERSE processing can have a calendar generated and MERGED with the current contents on the verse, also by entering <CTRL Z> as the first character will cause the line to be printed in the enlarged character set of the printer and these lines have a maximum of 17 characters.

Semi hot keys are <CTRL #> followed by the <ENTER> key where # is the following.

S To SPECIFY a new image file and image.
I To specify a new IMAGE.
V To VIEW the current image.
O To invoke the OPTION menu which will allow the following:

FONT loading
COLOUR specifications
CONFIGURATION (drives) for FONT, VERSE, and INSTANCE files
DARKNESS (multiple passes) of printing
CENTERING adjustment of BANNERS using FT##/FN## images

0 To change the primary colour to 0 code
1-2-3-4-5-6 same as 0 but to their value.

Listed below are the functions and their use. All new or changed functions have an * to indicate a revised operation.

LIST — This will print the names of the images on the current image disk.

PROCESS — This allows selection of the various print/output functions.

REDO — This allows selection/specification of a drive to be used for the images.

SELECT — This allows specifying a 2 character prefix to specify a group of graphic files to process.

FONT — This allows loading FONTTIPS file 0 through 9. These files have been restructured and renamed FONTTIPS.

GAP — This will cause a spacing before the first character of a message is printed and at the end of the message.

NOGAP — This will stop the spacing at the start and end of a message.

END — This terminates the program and resets the printer to normal line spacing.

1XART
2XART — These create Instance_I files for use in other programs. 1X produces 11 by 14 images and 2X produces 22 by 24 images. *Note: do not enter _I as part of the file name.

DSK — The program reads the file information off the currently assigned image disk and asks for the image name.

+1
-1 — (= and / will also work) The program will advance or back-up one image from the currently selected image.

REDO — This sub-function allows specification of another drive for image processing .

PIC — THIS WAS PICTURE. The program will print a large graphic of the currently selected image in either BANNER (across) or TOTEMPOLE (down) format.

MSG — The program will print a large graphic of a user supplied message using the resident FONTTIPS file or if the prefix for IMAGES is either FN## or FT## they may be used for the message. FN## images will have upper/lower case definitions while FT## will only have upper case. A new specification of which FONT CODE to use will determine which type will be used. If you specify 0 for the FONT CODE the current FONTTIPS file will be used else the FONT CODE will be used to generate the IMAGE name to print. This new processing will only be in effect if the FN## or FT## prefix has been selected prior to specifying the MSG option. This message will be printed in either BANNER (across) or TOTEMPOLE (down) format. Note: the program converts lower case alpha to upper case prior to printing if using the resident FONTTIPS file and no lower case characters are included or FT## images are used.

NEG — This option will allow you to specify that images are positive images or negative images.

IMAGE — This allows the user to enter another image name without the program reading the file information on the disk.

CARD — This allows the user to go to the CARD sub-function menu to create a greeting type card

SIGN — This allows the user to go to the SIGN sub-menu to create either HEAT transfer or POSTER printouts.

FFD — This will generate a FORMFEED command to the printer.

VIEW — Displays a reduced image on the screen of the selected graphic. This is somewhat distorted but should enable the user to see what the graphic looks like, a tone will sound when the graphic has been displayed, and pressing any key will return to processing.

LABEL — This goes to the mailing LABEL sub-function for creation of labels.

OTHER — This sub-menu can be invoked by selecting CARD, SIGN, or specifying to PAUSE when printing CALENDAR. The options are

FONT — This will allow loading a FONTTIPS file.

PCOLR — Selecting this will allow specifying a Primary (use) colour.

2COLR — Selecting this will allow specifying a secondary colour.

NOCOLR — Selecting this will indicate that a colour escape sequence is not to be issued in the event PCOLOR or 2 COLOUR was selected.

SPACE — This option will allow turning ON/OFF automatic spacing while printing CARDS.

RETURN — To return from OTHER sub-menu.

*ALTCOLR — Selecting this will allow you to specify alternate colours for PCOLR on successive print functions. Specifying a null string will terminate alternate colours. Note: specifying ALTCOLR alone will not start colour printing. Note the maximum number of alternate colours is not limited by the number of colours available - you can enter 112223330 etc.

*CONFIG — Will allow specifying drive number for FONT, VERSE, or INSTANCE files. Any errors occurring on OPENING any of the files will cause the drive number to be set to 1, the screen will turn BLACK and wait for a response to continue. This will allow you to place the correct disk in drive 1, press <ENTER> and continue processing. Note: line 130 may be edited/saved to specify values for drive 0 through 9 for ALL files and the 3 (1)'s at end to establish the start-up drives for INSTANCE, FONT, and VERSE files in this order.

*BANRBIAS — This adjustment is for specifying a value to adjust the centering of BANNERS using FT##/FN## files which are centered for using

characters with descenders (gyp etc.) but are not used in the message you are printing. Note: 4 seems to be a good value to use.

*DARK To specify (1-4) the number of passes for printing. This will allow used ribbons to produce a dark image etc. Note: the maximum passes for information printed using the printer's built-in characters is 2. Line 120 may be edited/saved to set the start-up darkness by setting D=2 (etc.).

CARD processing has the added capability of printing a VERSE etc. on the inside left side of the card as the inside IMAGE is printed. This may be 14 lines of 35 characters each. The program will read a DV80 that is created by this or any other program you have but will truncate each line to a maximum of 35 characters. When printed the verse will be centered based upon the length of the longest line.

FRONT This will allow printing the front of a card. This will print all entries upside down.
MSG This allows printing of a message up to 15 characters long.
IMAGE This will print the specified image.
SPACE This will cause a gap to be printed. DO NOT use if AUTOSPACE is ON.
3X4IMG This allows printing 4 rows of 3 images with a PAUSE option after each row to specify a different image and/or colour etc. Note: PAUSE option will allow specifying the image for inside of card after the last row is printed.
BACK This will return to the CARD sub-menu for INSIDE or other processing.
FF This will cause a FORMFEED to be sent to the printer.
INSIDE This will allow printing the inside of the card.
MSG This allows printing of a message up to 15 characters long.
VERSE This will transfer to a sub-function to allow entry of a 14 line verse to be printed at the same time as the image inside is printed.
ENTER Allows entry of 14 lines of 35 characters maximum each.
LOAD Will LOAD from a user specified file a prepared verse. This file is specified as a DV80 file. Note: if the screen goes black at this time, place the TIPS program disk with TIPSDV80 file on it into drive 1 and press the enter key. An open error has occurred and this is the recovery procedure.
SAVE This will SAVE the 14 line VERSE in memory to a user specified file.
CLR This will CLEAR the VERSE in memory.
UPDATE This will allow the user to re-enter a line of the memory verse.
PRINT This will PRINT the current verse in memory for inspection.
*DATE This will MERGE a calendar with the current verse. Note: this take a little while to accomplish.
BACK Return to the INSIDE selection menu.
IMG-VER This will print the inside IMAGE and VERSE if there.
*3X4IMGVER This will print 4 rows of 3 images and t VERSE with a PAUSE option to specify a different image and/or change colour etc.
FF This will generate a FORMFEED to the printer.
SPACE This will cause a SPACE gap on the printout. DO NOT use if AUTOSPACE is ON.
BACK This will return to the CARD sub-function menu.

The sequence to generate a CARD is as follows. Note: this assumes AUTO SPACE is on.

CARD
FRONT
MSG This will be the bottom line on FRONT of CARD.
3X4IMG-/-IMAGE This will print the FRONT IMAGE or images.
MSG This will be the top line on FRONT of CARD.
BACK This goes BACK to CARD sub-menu.
INSIDE
VERSE This allows ENTRY LOAD etc. of VERSE if desired.
BACK BACK from VERSE sub-function.
MSG This will print the INSIDE top line.
BACK
EXIT This leaves CARD sub-function and allows selection of an image for printing on the INSIDE of the CARD.
CARD Return to card function.
INSIDE
3X4IMGVER/IMG-VER Prints the INSIDE IMAGE or images and VERSE.
MSG Print INSIDE bottom line 1.
MSG Print INSIDE bottom line 2.
FF Advances to next page.

LABEL This selects the mailing LABEL sub-function menu. An additional option to print the image only 1 time is included. Prior to this, images were printed twice.
HEADER+3 This allows for 4 lines of information, the first being printed in enlarged characters.
4-LINE This allows for printing 4 lines all being the same size.
1-IN This will print the mailing label information on 1 inch centres, which is the standard for mailing labels.
3-7/8-IN This will print the mailing label information on 3.5 inch centres, which is for envelopes.
FF This will print the mailing label and then do a FORMFEED to be used for letter heads .
HEAT This SIGN sub-function will allow printing of images backwards using a special ribbon to iron on t-shirts etc.
IMAGE This will print the IMAGE backwards.
MSG This will print a user message (maximum=30) backwards.
SPACE This will advance the printout.
FF This will advance the printout to the top of the next page.
2IMAGES This will print 2 smaller IMAGES side by side.
HEADER This will print larger size message (maximum=15) backwards.
CLNDR This will allow printing a 1 month Calendar.
BACK This will return to SIGN menu from HEAT transfer sub-function.
POSTER This SIGN sub-function will allow printing POSTERS
IMAGE This will print the IMAGE.
MSG This will print a user message (maximum=30).
SPACE This will advance the printout.
FF This will advance the printout to the top of the next page.
HDR This was HEADER (shortened to HDR). This will print a larger size message (maximum=15).
CLNDR This will allow printing a 1 month Calendar.
LINE This will print a user LINE in enlarged printer characters.
BACK This will return to SIGN menu from POSTER SUBFUNCTION.

A word of caution before pressing the ENTER key: check for proper/desired spelling/spacing.

The FONTS used by this program include UPPER case alpha, NUMERICS, and a few special characters.

Note: the use of , (comma) will require you to enclose the message in quotes.

The program was tested under the following configurations:

1) TI99/4A TI-PEB with the following:
CorComp Disk Controller
2 DSDD Disk Drives
Foundation 128k card with Myarc EPROM
TI RS232 Card

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# c99 TIPS View v1.1

Terrence Murphy, CIS 76556,3451, USA

This program was written to enjoy Ron Wolcott's TIPS files before converting them to TI-Artist Instances. It will enable you to easily see Ron's pictures. The program is designed to display an entire TIPS file set in a few minutes.

This program can be loaded from the Editor/Assembler option 5 menu, the Funnelweb option 3 menu or any assembly program file loader. The program name is CTIPSVUA. File CTIPSVUB will be also be loaded automatically. Once the program is loaded, its diskette may be removed. Both Ron's TXT and XXX files must be on the same disk when you run this program.

Once loaded the program will ask you to "Enter minimum view time delay (0-10) seconds:" This is the time the instance is displayed, exclusive of file access time. I normally enter zero (0). If the view time is three (3) seconds or less, the last instance will be displayed for three (3) seconds. The program will then display "Catalog a drive for xxx filenames?". Enter a 'y' for yes or any other key for no. If you answer 'y', the program will then display "Drive Number:". Press the drive number of the disk that you want catalogued . After displaying the disk name and the xxx filenames, the program will display "Another catalog? (y/n)". Enter a 'y' for yes of any other key for no. The catalog function will continue until you answer no. The program will next ask, "Enter TIPS xxx filename:". A typical filename is "dsk1.grabxxx". Note that filenames can be entered in upper or lower case. The program will then display "List the picture names? [y/n]". Entering 'y' will start the scrolling of the picture names from the chosen file. The scrolling can be stopped by holding down any key. Next the program will ask you to "Enter picture name:". The picture you wish to start viewing must be entered at this point. Typical entries could be "!", or "armadillo", or "barney rubble". The picture name must be valid for the TIPS data set. Once again upper or lower case may be entered. If just "enter" is depressed for the picture name, the program will search for the first picture in the set. Upon finding the name, it will display "Found picture: picture name". The picture will now be displayed with the picture name appearing below it.

The automatic part of the program now starts to operate. The program will load the data for the next picture. It will then wait the minimum display time, before displaying the next picture and picture name. The program will keep displaying pictures and picture names until there is a file error such as the end of the input file. The display can be halted by you at any time by pressing control 's' during the delay time. Control 'q' will resume processing. Below the picture name will be the words, "Running..." or "Stopped...", depending on the mode you are in. Control 'c' will quit the program. The next line will read, "c99 Exit-Rerun (Y/N)". Depressing 'y' will rerun the program and depressing 'n' will take you to the title screen. o

# c99 TIPS to TI-Artist Converter v1.6

Terrence Murphy, CIS 76556,3451, USA

This program was written to speed up the conversion from Ron Wolcott's TIPS files to TI-Artist Instances. Ron Wolcott did an excellent job but his conversion takes too long. This program generates its single size instances in less than 20 seconds per conversion with my TI disk controller. Double size instances take less than 60 seconds. It takes less than 9 seconds per conversion using a Myarc RAMdisk for source and destination of single size instances. The most tedious part of the program is the typing in of the instance filenames. I have tried to speed this up by eliminating the typing of the output devicename and by eliminating the typing of the '_I' to each filename. I hope that this program allows more enjoyment of Ron's instances.

This program can be loaded from the Editor/Assembler option 5 menu, the Funnelweb option 3 menu or any assembly program file loader. The program name is CTIPS_IA. File CTIPS_IB will be also be loaded automatically. Once the program is loaded, its diskette may be removed. The program requires more than a SSSD disk drive since Ron's TIPS files can run to 357 sectors per pair. Both the TXT and the XXX files must be on the same source disk.

Once loaded the program will ask you to "Enter magnification (1 or 2):". Enter 1 for single size instances or 2 for double size instances. The program will then display "Catalog a drive for xxx filenames?". Enter a 'y' for yes or any other key for no. If you answer 'y', the program will then display "Drive Number:". Press the drive number of the disk that you want catalogued. After displaying the disk name and the xxx filenames, the program will display "Another catalog? (y/n)". Enter a 'y' for yes of any other key for no. The catalog function will continue until you answer no. The program will then display "Enter TIPS xxx filename:". A typical filename is "dsk1.grabxxx". Note that filenames can be entered in upper or lower case. The program will then display "List the picture names? [y/n]". Entering 'y' will start the scrolling of the picture names from the chosen file. The scrolling can be stopped by holding down any key. Next the program will ask you to "Enter picture name:". The picture you wish to start conversions with must be entered at this point. Typical entries could be "!", or "armadillo", or "barney rubble". The picture name must be valid for the TIPS data set. Once again upper or lower case may be entered. If just "enter" is depressed for the picture name, the program will search for the first picture in the set. Upon finding the name, it will display "Found picture: picture name". The program will then display "Enter output devicename (i.e. dsk2)". The program will then display "Enter Instance filename:". Type in the output filename, i.e. "armadill". I used Ron Wolcott's suggested name for instance from his "LIST/xx" files. Once again upper or lower case may be used. The underscore i (_i) does not have to be entered. If left off, the program will add them automatically. The picture will now be converted.

The automatic part of the program now starts to operate. The program will announce "Picture name is: next picture name" such as "Picture name is: ARMY/USAF". The next line will read "Enter Instance filename:". Enter the instance filename, "armyusaf". The program will keep displaying picture names and requesting instance filenames until there is a file error such as the end of the input file, or out of room on the output file device. If the program runs out of room on the output device during a conversion, the program will delete the partial file. The conversions can be halted by you at any time by pressing just the "enter" key when prompted for a filename. When the program quits, a messages will be displayed indicating the error. The next line will read, "c99 Exit-Rerun (Y/N)". Depressing 'y' will rerun the program and depressing 'n' will take you to the title screen.

[Caution: There are some reports that this program will not work with the CorComp disk controller.] o

# c99 TIPS Slide Show v1.0

Terrence Murphy, CIS 76556,3451, USA

This program is designed to continuously display all the pictures in a TIPS data file. The program will display all the pictures sequentially until the end of the file is reached, and then will start at the beginning of the file all over again.

This program can be loaded from the Editor/Assembler option 5 menu, the Funnelweb option 3 menu or any assembly program file loader. The program name is CTIPSHOA. File CTIPSHOB will be also be loaded automatically. Once the program is loaded, its diskette may be removed. Only Ron's TXT file must be on the disk when you run this program. continued on page 23

# TI Bits part 2

by Jim Swedlow, UGOC, CA USA

(This article originally appeared in the User Group of Orange County, California ROM)

BOOK REVIEW

The Orphan Chronicles by Ronald G. Albright, Jr. M.D., 172 pages, published by Millers Graphics

I planned to buy this book but never got around to it. Then I won a copy in the May raffle. I started reading it that night and finished it two days later. I just could not put it down.

Dr. Albright chronicles the TI Home Computer from the 99/4 (no A) thru TI's self-destructive marketing techniques to Black Friday (October 28, 1983 - the day TI announced that they were dropping the 99/4A) and beyond. Along the way he covers the International Users Group (a "commercial" user group - an oxymoron unique to the 4A world) and publications including Home Computer Magazine (and tells us who Regina really is).

Fully half of the book is devoted to the current status of our orphan. There are chapters on telecommunications, freeware, the future and on current 4A supporters.

An interesting chapter is the survival guide. In ten steps, Dr. Albright suggests practical strategies that we can take to help ensure our computers continued existence.

This informative book is clearly written. The material is comprehensive and logically organized. It will help you understand the history that led to today and will give you food for thought about tomorrow.

All in all, this is a "must have" for the serious 4A owner. It will help put the joys and sorrows of having an orphan into perspective.

The Orphan Chronicles is available from Millers Graphics, 1... West Cypress Avenue, San Dimas CA 91733. The cost is $9.95 plus $2 shipping and tax.

QUOTE OF THE MONTH

When you have eliminated the impossible, whatever remains, however improbable, must be the truth.
-- Sir Arthur Conan Doyle, The Sign of the Four (1890)

WHEN YOUR COMPUTER DOESN'T - PART II

Last month I mentioned that my trusty 4A was acting up and that I was sending it off to Lubbock. Here is what happened. I boxed it up and sent it via UPS on June 16th at a cost of $4.00. Three weeks later, to the day, UPS delivered another TI.

Lubbock sent me what looks to be an unused console (black and silver - the same as I sent in) along with a power supply and an RF modulator (I did not send those in). In the box was a bill for $33.50 ($30.50 plus $3 shipping).

Two notes: call 1-800-TI-CARES before you send anything in and be sure and keep your FCTN strip as they will not send you another.

MORE QUOTES OF THE MONTH

Well, as you can tell, life in the Texas Instruments 99/4A orphanage is active and never dull.
-- G. Albright in The Orphan Chronicles (1985)

The sellouts were a sight to behold. Rivaled only by the crunch to buy Cabbage Patch dolls the following year, when a J. C. Penney's or Sears or Montgomery Wards sold out TI, the buyers were lined up before the doors opened . . . . Needless to say, stocks were easily sold out. Quickly and efficiently.
-- Ibid

PLATO lives

The TI Mid-South 99/4A Users Group of Memphis, Tennessee reports that Control Data is still selling and supporting PLATO software for the TI. They operate an 800 number for customer support. Call 1-800-328-4951 or write to:

L. B. Lewytzkyj
Control Data Corporation
8100 34th Ave. So., HQB02G
Minneapolis, MN 55440

I have not personally verified this information.

QUESTION

Do you remember where you were when you heard that TI was stopping production of the 4A?

FIRST LOOK: THE LOST HITS

Tenex is selling a disk with three games: Computer War, Submarine Commander and River Rescue. According to their catalog, Thorn EMI wrote these for TI just before Black Friday and then they disappeared. Tenex 'rediscovered' them and is selling them for $29.95 (plus shipping). Requirements are a disk drive, 32K and XB, EA or Mini-Memory.

Arcade games for $30? Well, my 14 year old twisted my arm until I sent for them. I have not had a chance to try them because I cannot get the disk away from him. From over his shoulder I can tell you that they have excellent graphics, changing scenery or multi-screens (no Munch Man here) and require more than just a good hand with the joy stick. You have to think.

My son gives them his highest rating ("not bad" -- which is much better than "OK"). If you are into games, I would say that they are worth the $30. Tenex's toll free order line is 1-800-348-2778.

SOME THOUGHTS ON BLACK FRIDAY PLUS 3

As the third anniversary of Black Friday nears, it may be meet to ponder the future of our computer. You probably noticed that this column deals with this issue from a number of perspectives. Reading The Orphan Chronicles does make you think.

When TI opted out of the home computer market, I figured that the 4A would last for another two or three years. I decided to keep my system as I had too much time and money invested to dump it and move to another computer.

I never expected that, three years later, the support for the 4A would be as diverse, extensive, and strong as it is. The products available today far exceed those that TI gave us. Compare DM1000 to DM2, FAST-TERM and 4A TALK to TEII, TI ARTIST and GRAPHX to VIDEO GRAPHICS.

Look at the products that Millers Graphics, CorComp and Myarc (to name a few) continue to put on the market. Look at the quality fairware that keeps coming out.

The 4A will not live forever, but I believe that its useful lifespan is far from over.

There remains one key question: Now that we have done so well, what can we do to keep the 4A viable?

I do not think that there is any one answer. I do think, however, that it is time to stop and think about this issue and to think deeply. Time indeed.

Enjoy! o

# Beginning Forth - part 1

by Earl Raguse, UGOC, CA USA

This is a trial balloon for a series of future articles on the wonderful language of Forth. After talking with Terrie Masters and Chick De Marti, I decided that there are TI99/4A users who are still interested in learning Forth, but just have not started for one reason or another. One reason seems to be that some good writers have started out with a simple tutorial format, then got bored or something and quit before any of the readers really got a handle on Forth. The goal of this series is to change that.

Some of you may be aware that I have been writing Forth articles in the Orange County UG ROM for the past two years. That series was a chronology of my learning process, and I took many wrong turns, and am still in the learning process. I have learned enough however that I hope not to lead you down any blind alleys, at least not until we get to more advanced stuff. Then you will have to take your chances with the rest of us.

There are not many sources of teaching information on Forth, in particular for the FIG 79 version of Forth, which is what TI Forth is. FIG stands for Forth Interest Group, and Forth 83 is the current version.

The one outstanding book on the subject was STARTING FORTH, by Leo Brodie, which was excellently written and had humorous cartoons to explain the working of Forth words. This book was really intended to teach Polyforth, the Forth language implemented by Brodie's company, and not all of it was compatible with TI Forth. The TI Forth Manual, however, has an Appendix which points out the differences in the two Forth versions. Unfortunately for TI Forth users, Brodie has rewritten his book to be compatible with Forth 83 and thus does not match TI Forth anymore. The first edition is no longer available in bookstores, but can be found used at reasonable prices.

Forth is not a dying language as I have heard in certain rumor mills. Forth is used in the development stages of almost all new computers, it is usually the first language implemented. This is because Forth is can be written more quickly and is easier to modify, as compared to competing languages such as Assembly Language (A/L), Pascal and "C", very important during development, but C is usually used to write the mature operating system because of its speed. Forth is used to write Word Processor programs, Artificial Intelligence programs (AI) and operating systems. Forth is one of the top languages used for Real Time Control. Forth is a compiled language, hence it is fast and is transparent to the user.

BEGINNING FORTH - PART 1

Major strengths of Forth are:

(1) Its extendable compiler, more on that later.

(2) Ease of testing pieces of code as it is being written. Each word is executable by itself, no driver program is required. Only LOGO compares in this respect.

(3) Ease of making revisions. Changes in one word do not relect in others. Basic, for instance, is very difficult in this respect, as are most of the high level languages.

(4) Very powerful, in that Forth has total access to the machine's capability. If it can be done in A/L, it can be done in Forth.

(5) Forth is fast, only machine code is faster. If Forth does not do a particular operation fast enough, that operation can be written in assembly language and compiled by Forth's built in Assembler. Linking is automatic and transparent to the user.

(6) Well written Forth is very readable Of course there are programmers who seem to delight in producing "Write Only" Forth, unreadable by even themselves after a short period away from it. The trend is away from this however.

There are other reasons for learning Forth, but you get the idea. There are some initial disadvantages, of course. Are there not always?

(1) One must learn Reverse Polish Notation, and LIFO stack operation. The average TIer masters this in 93 minutes.

(2) One must learn a totally different approach to programming. This is usually called "Top down design and bottom up coding". This is not really a difficult obstacle, but it is easier for those who never learned BASIC or FORTRAN.

(3) Forth does have to reside in memory (its not a TI module) and hence restricts program size. Forth is very compact however, and thus this usually is not a limitation even though the 99/4A is memory starved. For those of you who go on to be experts and write huge Forth applications, there are Super Carts to hold Forth and thus leave TI memory for programs and data. RAM disks can be used to advantage also if you partion your code into related packages.

SO WHAT ARE WE GOING TO LEARN HERE?

My plan is to start with the very basics, then continue to the limit of my Forth. o

# Treasurer's Report

by Geoff Trott

I must beg your pardon and that of our esteemed leader and co-ordinator for neglecting his annual (well half a year anyway) report in the mailout last month. He went to great lengths to get it to me in time and then I forgot all about it until our directors' meeting. It is enclosed with this copy of the TND so remember to bring both it and the financial report to the AGM in December. We have also tried to get this issue to you well before the meeting (and I hope we have succeeded!). I hope that you have all had a good year with TIsHUG this year and I would like to wish you all a Merry Christmas and at least one if not a very many Happy New Years.

Our bank balance is swollen at the moment with payments for monitors. Whether we are able to get some more monitors or not, this money will have to be paid to someone. We are managing to keep our income at about the level of our expenditures.

| | |
|---|---|
| Income for October | $1804.05 |
| Payments in October | $1[illegible] 94 |
| Excess of income over expenses for October | $[illegible].11 o |

# Configure Printer

for DM1000, by Fred Moore, LA99ers, CA USA

1. Boot up DM1000.
2. On first menu hold down FCTN 3.
3. Type in the name of your printer (and I do not mean EPSON or STAR). Your printer name is usually either PIO or RS232 (and what port your printer is plugged into the RS232 card and then the baud rate your printer is set to). Example PIO - that is all that is needed if your printer is connected to the parallel port. If your printer is connected to one of the serial ports RS232/1 or RS232/2 then the baud rate BA=1200, BA=4800, BA=9600 etc. The complete listing should look like this RS232/1.BA=2400. A default of just RS232 will assume it is connected to port 1 and set for 300 bauds.

continued on page 20

# Handy Tips

Courtesy of Spirit of 99ers, OH USA

** If you have a speech synthesizer and a TEII cartridge here is a trick for debugging programs. All you have to do is enter your program, type LIST "SPEECH" and hit §enter›. The computer will read your listing back to you.

** If you want to disable the quit key (FCTN =) type in CALL INIT :: CALL LOAD(-31806,16) and then enter. You must have Ext Basic and 32K memory.

** If you are going to save a program to tape and type OLD CS1 instead of SAVE CS1 do not panic. Press FCTN E together then press §enter›. This will take you out of the tape loop.

** You do not have to enter line numbers in TI BASIC or EXTENDED BASIC. Before you start enter NUM n(1),n(2); where n(1) is the starting line number and n(2) is the desired increment.

** You can list programs to the screen in several ways. Try these; LIST, LIST n, LIST n-, LIST n-n

** If you want to renumber the lines in a program to make it neater or make room for new lines you do not have to renumber them individually. Just enter the command RES n,n for the resequence (starting number, interval between lines.

** When entering a listing in Ext Basic and several lines are very similar, you can save time by typing in the first line and hitting §enter›. Then press FCTN 8 (redo). Change the line number and make the changes required then press §enter›.

** Have you ever pressed ERASE by mistake and lost the whole line? Do not panic and DO NOT hit §enter›. Instead press FCTN ? then §enter›. (The use of an uneven number of quotes will also prevent the modified line from being accepted by the interpreter). In both cases your line will still be intact.

** In Ext Basic type in RUN "CS1". Follow the instructions on the screen. It will load the program and then run it automatically.

** In Ext Basic you can use ! or REM to put documentation in a program that the program will ignore.

** When you want to stop a listing on the screen in Ext Basic, just hit any key. To restart the listing hit any key again.

** You can add comments after a GOTO or GOSUB. These commands act similar to a ! or REM.

** With Ext Basic and a disk system, save a program under the name LOAD. When you start with this disk in drive #1, it will load and run the program unaided.

** If you have the TEII and the speech synthesizer type in the program on page 37 of the TEII manual. Try entering strings of K's, Q's, U's, W's, J's or X's for different sound effects. Try mixing them for interesting sounds.

** If you have Ext Basic and 32K type this in as the last line of your program: CALL INIT :: CALL PEEK(2,A,B) :: CALL LOAD(-31804,A,B) This will return you to the Title screen when the program is ended.

** When using a B/W TV as a monitor use CALL SCREEN(15). This will disable the colour generator and remove the vertical lines you may see on the screen.

** To speed up the loading of Infocom games, do not use Ext Basic. Use the Mini-Memory or E/A instead. To use these, select the LOAD and RUN option and type DSK1.BOOT. When this has finished loading, press §enter› until you get the program name, then type START. On the Mini-Memory you will get an ERROR after BOOT loads but keep pressing §enter› and proceed as above. o

continued from page 10

```
510 DISPLAY AT(5,5):"DO YOU WANT THE RESULTED SORTED?
(Y OR N?"
520 INPUT H$
530 IF H$="Y" THEN GOSUB 930 ELSE 540
540 FOR I=1 TO N
550 PRINT TAB(1);A$(I);TAB(11);S$(I);TAB(22);P(I)
560 NEXT I
570 PRINT :: PRINT :: PRINT
580 PRINT "PRESS ANY KEY TO CONTINUE"
590 CALL KEY(0,K,S):: IF S=0 THEN 590
600 CALL CLEAR
610 DISPLAY AT(10,2):"DO YOU WANT TO HAVE A FULL"
620 DISPLAY AT(12,3):"PRINT-OUT OF THE RESULTS?"
630 DISPLAY AT(14,11):"(Y OR N?)"
640 INPUT H$
650 IF H$="Y" THEN 660 ELSE 880
660 CALL CLEAR
670 DISPLAY AT(12,5):"MAKE SURE YOUR PRINTER"
680 DISPLAY AT(14,13):"IS ON"
690 DISPLAY AT(20,4):"PRESS ANY KEY WHEN READY"
700 CALL KEY(0,K,S):: IF S=0 THEN 700
710 CALL CLEAR
720 OPEN #1:"RS232.BA=4800.DA=8.PA=N"
730 PRINT #1:"SPECIES WEIGHT LINE CLASS DIVISION *ANGLER
  POINTS"
740 PRINT #1:"----------------------------------------
----------"
750 CLOSE #1
760 OPEN #2:"RS232.BA=4800.DA=8.PA=N"
770 FOR I=1 TO N
780 PRINT #2:TAB(1);S$(I);TAB(17);W(I);TAB(28);C(I);TAB
(39);D(I);TAB(48);A$(I);TAB(68);P(I)
790 CALL CLEAR
800 NEXT I
810 PRINT #2:"----------------------------------------
----------"
820 OPEN #3:"RS232.BA=4800.DA=8.PA=N"
830 PRINT #3:TAB(2);"*L=LADY,J=JUNIOR"
840 PRINT :: PRINT :: PRINT
850 CLOSE #2
860 PRINT "PRESS ANY KEY TO CONTINUE..."
870 CALL KEY(0,K,S):: IF S=0 THEN 870
880 CALL CLEAR
890 DISPLAY AT(15,10):"BYE FOR NOW!"
900 CALL SCREEN(11)
910 FOR Y=1 TO 400 :: NEXT Y
920 END
930 CALL CLEAR
939 SS$=S$(I)
940 WW=W(I)
950 CC=C(I)
960 FF=F(I)
970 DD=D(I)
980 II$=A$(I)
987 S$(I)=S$(I+1)
990 W(I)=W(I+1)
1000 C(I)=C(I+1)
1010 F(I)=F(I+1)
1020 D(I)=D(I+1)
1030 A$(I)=A$(I+1)
1040 LIM=N-1
1045 S$(I+1)=SS$
1050 W(I+1)=WW
1060 C(I+1)=CC
1070 F(I+1)=FF
1080 D(I+1)=DD
1090 A$(I+1)=II$
1095 SW=0
1110 FOR I=1 TO LIM
1120 IF P(I)>=P(I+1)THEN 1180
1130 PP=P(I)
1140 P(I)=P(I+1)
1150 P(I+1)=PP
1160 SW=1
1170 LIM=I
1180 NEXT I
1190 IF SW=1 THEN 1095
1200 RETURN
```

o

# Jenny's Younger Set

Well, the end of another year and I hope you 'younger set' have enjoyed the programs that have been sent in. Let's hear from a few more of you next year. Here are two letters that I received this month:

Dear Jenny,

This is Crocodile Jones. I received a letter from David Meldrum asking how to escape the bear and the hurricane in adventure #11:Savage Island, Part 1.

David, the only way you can do it is to get the palm logs when they fall. This, however, is no sure way of doing it. The only way you can get the bear is to go to the lake and wash the salt off you. But there is no sure way of doing either thing, first off. If you can get the water to the hot rocky cliff you might be able to make salt. Give it to the bear - he will not hurt then.

Thank you to those who have sent me letters this year. I wish them all the best in finishing their adventures.

Merry Christmas and Happy New Year to all.

Crocodile Jones

Dear Jenny,

First of all, Merry Christmas to you and all the younger set. I hope people will enjoy the following programs. I enjoyed making programs this year and look forward to sending you some programs next year. I hope some of the other boys and girls will send a few in as well.

Wishing all a Merry Christmas,

Vincent Maker

```
100 REM HARK THE HERALD              ANGELS SING
110 REM BY VINCENT MAKER
120 CALL MAGNIFY(2)
130 CALL SCREEN(1)
140 FOR T=1 TO 14
150 CALL COLOR(T,16,2)
160 NEXT T
170 CALL COLOR(0,3,2)
180 CALL CLEAR
190 CALL HCHAR(20,9,30,16)
200 CALL HCHAR(19,10,30,14)
210 CALL HCHAR(18,11,30,12)
220 CALL HCHAR(17,12,30,10)
230 CALL HCHAR(16,13,30,8)
240 CALL HCHAR(15,14,30,6)
250 CALL HCHAR(14,15,30,4)
260 CALL HCHAR(13,16,30,2)
270 CALL HCHAR(21,16,30,2)
280 CALL HCHAR(22,16,30,2)
290 CALL HCHAR(23,14,30,6)
300 CALL SPRITE(#1,42,12,81,122,0,0)
310 DISPLAY AT(3,1):"HARK THE HERALD ANGELS SING ----
--- ------ ------ ----"
320 DISPLAY AT(5,1):"(FELIX MENDELSSOHN)
PROGRAM BY VINCENT MAKER."
330 CALL SOUND(250,196,0)
340 CALL SOUND(250,262,0)
350 CALL SOUND(250,262,0)
360 CALL SOUND(250,247,0)
370 CALL SOUND(250,262,0)
380 CALL SOUND(250,330,0)
390 CALL SOUND(250,330,0)
400 CALL SOUND(250,294,0)
410 CALL SOUND(250,392,0)
420 CALL SOUND(250,392,0)
430 CALL SOUND(250,392,0)
440 CALL SOUND(250,392,0)
450 CALL SOUND(250,349,0)
460 CALL SOUND(250,330,0)
470 CALL SOUND(250,294,0)
480 CALL SOUND(250,330,0)
490 REM
500 CALL SOUND(250,220,0)
510 CALL SOUND(250,262,0)
520 CALL SOUND(250,262,0)
530 CALL SOUND(250,247,0)
540 CALL SOUND(250,262,0)
550 CALL SOUND(250,330,0)
560 CALL SOUND(250,330,0)
570 CALL SOUND(250,294,0)
580 REM
590 CALL SOUND(250,294,0)
600 CALL SOUND(250,294,0)
610 CALL SOUND(250,262,0)
620 CALL SOUND(250,247,0)
630 CALL SOUND(250,220,0)
640 CALL SOUND(250,196,0)
650 REM
660 FOR T=0 TO 2
670 CALL SOUND(250,392,0)
680 NEXT T
690 CALL SOUND(250,262,0)
700 REM
710 CALL SOUND(250,330,0)
720 CALL SOUND(250,330,0)
730 CALL SOUND(250,294,0)
740 CALL SOUND(250,392,0)
750 CALL SOUND(250,392,0)
760 CALL SOUND(250,392,0)
770 CALL SOUND(250,262,0)
780 CALL SOUND(250,392,0)
790 CALL SOUND(250,330,0)
800 CALL SOUND(250,330,0)
810 CALL SOUND(250,294,0)
820 CALL SOUND(250,440,0)
830 CALL SOUND(250,440,0)
840 CALL SOUND(250,440,0)
850 CALL SOUND(250,392,0)
860 CALL SOUND(250,347,0)
870 CALL SOUND(250,330,0)
880 CALL SOUND(250,347,0)
890 REM
900 CALL SOUND(250,294,0)
910 CALL SOUND(125,330,0)
920 CALL SOUND(125,349,0)
930 CALL SOUND(250,262,0)
940 CALL SOUND(250,262,0)
950 CALL SOUND(250,294,0)
960 CALL SOUND(250,330,0)
970 REM
980 FOR Y=0 TO 2
990 CALL SOUND(250,440,0)
1000 NEXT Y
1010 CALL SOUND(250,392,0)
1020 CALL SOUND(250,347,0)
1030 CALL SOUND(250,330,0)
1040 CALL SOUND(250,347,0)
1050 REM
1060 CALL SOUND(250,294,0)
1070 CALL SOUND(125,330,0)
1080 CALL SOUND(125,349,0)
1090 CALL SOUND(250,330,0)
1100 CALL SOUND(250,262,0)
1110 CALL SOUND(250,262,0)
1120 CALL SOUND(250,294,0)
1130 CALL SOUND(250,262,0)
1140 FOR A=0 TO 1000
1150 NEXT A
1160 GOTO 290
```

```
100 A=0
110 REM ******************
120 REM *SCARBOROUGH FAIR*
130 REM *BY VINCENT MAKER*
140 REM ******************
150 CALL CLEAR
160 DISPLAY AT(3,7):"SCARBOROUGH FAIR."
170 DISPLAY AT(5,7):"ARE YOU GOING TO SACRBOROUGH FAIR?
PARSLEY, SAGE, ROSEMARY AND THYME. REMEMBER ME TO ONE
WHO LIVES THERE FOR ONCE SHE WAS"
180 DISPLAY AT(10,7):"A TRUE LOVE OF MINE."
```

```
190 DISPLAY AT(12,7):"2.HAVE HER MAKE ME A CAMBRIC
SHIRT, PARSLEY, SAGE, ROSEMARY AND THYME.
WITH OUT A SEAM OR FINE NEEDLE WORK,"
200 DISPLAY AT(17,7):"AND THEN SHE'LL BE A BE A TRUE
LOVE OF MINE."
210 CALL SOUND(500,147,0)
220 CALL SOUND(250,147,0)
230 CALL SOUND(250,220,0)
240 CALL SOUND(250,196,0)
250 CALL SOUND(250,220,0)
260 CALL SOUND(375,165,0)
270 CALL SOUND(125,175,0)
280 CALL SOUND(250,165,0)
290 CALL SOUND(500,147,0)
300 CALL SOUND(500,220,0)
310 CALL SOUND(250,262,0)
320 CALL SOUND(500,294,0)
330 CALL SOUND(250,294,0)
340 CALL SOUND(250,262,0)
350 CALL SOUND(250,220,0)
360 CALL SOUND(250,247,0)
370 CALL SOUND(250,196,0)
380 CALL SOUND(500,220,0)
390 CALL SOUND(250,220,0)
400 CALL SOUND(500,294,0)
410 CALL SOUND(250,147,0)
420 CALL SOUND(500,175,0)
430 CALL SOUND(250,196,0)
440 CALL SOUND(250,220,0)
450 CALL SOUND(250,196,0)
460 CALL SOUND(250,175,0)
470 CALL SOUND(500,147,0)
480 CALL SOUND(250,147,0)
490 CALL SOUND(500,220,0)
500 CALL SOUND(250,220,0)
510 CALL SOUND(500,196,0)
520 CALL SOUND(250,165,0)
530 CALL SOUND(250,175,0)
540 CALL SOUND(250,123,0)
550 CALL SOUND(750,147,0)
560 CALL SOUND(500,147,0)
570 CALL SOUND(250,147,0)
580 CALL SOUND(250,220,0)
590 CALL SOUND(250,196,0)
600 CALL SOUND(250,220,0)
610 CALL SOUND(375,165,0)
620 CALL SOUND(125,175,0)
630 CALL SOUND(250,165,0)
640 CALL SOUND(750,147,0)
650 CALL SOUND(500,220,0)
660 CALL SOUND(250,262,0)
670 CALL SOUND(500,294,0)
680 CALL SOUND(250,262,0)
690 CALL SOUND(250,220,0)
700 CALL SOUND(500,247,0)
710 CALL SOUND(250,247,0)
720 CALL SOUND(250,294,0)
730 CALL SOUND(250,147,0)
740 CALL SOUND(500,175,0)
750 CALL SOUND(250,196,0)
760 CALL SOUND(250,220,0)
770 CALL SOUND(250,196,0)
780 CALL SOUND(250,175,0)
790 CALL SOUND(500,147,0)
800 CALL SOUND(250,147,0)
810 CALL SOUND(500,220,0)
820 CALL SOUND(250,220,0)
830 CALL SOUND(500,196,0)
840 CALL SOUND(250,175,0)
850 CALL SOUND(250,165,0)
860 CALL SOUND(250,147,0)
870 CALL SOUND(250,123,0)
880 CALL SOUND(375,147,0)
890 CALL SOUND(375,147,0)
900 CALL CLEAR
910 DISPLAY AT(5,7):"HAVE HER WASH IT IN YONDER DRY
WELL PARSLEY, SAGE, ROSEMARY AND THYME, WHERE NE'ER
A DROP OF WATER E'ER FELL."
920 DISPLAY AT(9,7):"AND THEN SHE'LL BE A TRUE LOVE OF
MINE."
930 DISPLAY AT(13,7):"IF SHE TELLS ME SHE CAN'T  I'LL
REPLY: PARSLEY, ROSEMARY AND THYME, LET ME KNOW THAT AT
LEAST SHE WILL TRY."
940 DISPLAY AT(18,7):"AND THEN SHE'LL BE A TRUE LOVE
OF MINE."
950 IF A=1 THEN 980
960 A=1
970 GOTO 210
980 END
```

See you all next year.  JENNY  o

# Graphics
## for Myarc Extended BASIC

by Stephen Shaw, England

This is yet another graphics program, in Myarc XB, which either draws flowers with varying numbers of petals, or it draws spirals. As it stands is selects at random, and will pause after approximately every 180 degrees for you to press space to continue or any other key to halt. After drawing terminates a star appears at screen bottom left. Press space to re-run program or any other key to print out (assuming you have loaded JD/OBJ from the disk library!).

```
10  REM STEPHEN SHAW MYARC XB NOV 89
100 XS=16 :: YS=21 :: Z=3.15
110 XOF=90 :: YOF=126
120 RANDOMIZE :: CALL GRAPHICS(3)
130 CALL POINT(0,XOF,YOF)
140 FLAG=0
150 ON ERROR 160 :: GOTO 170
160 ON ERROR 160 :: RETURN NEXT
170 MULT=INT(RND)+1
180 IF RND<0.3 THEN MULT=RND :: IF MULT<1 THEN 180
190 IF MULT<15 THEN YS=YS/2 :: XS=XS/2 :: IF MULT<8 THEN
    YS=YS/3 :: XS=XS/3
200 IF MULT<4 THEN YS=YS/1.5 :: XS=XS/1.5
210 IF RND<0.3 THEN FLAG=1 :: MULT=0
220 TEMP=RND*0.12+0.01
230 FOR T=0 TO 6*PI+.05 STEP 0.025
240 IF T=Z OR T=2*Z OR T=3*Z OR T=4*Z OR T=5*Z THEN CALL
    PAUSE(P) :: IF P=20 THEN T=20
250 IF FLAG=0 THEN R=R+RR :: RR=SIN(T*MULT) ELSE R=
    TEMP+R
260 REM
270 IF RND<0.8 AND FLAG=1 THEN RR=SIN(MULT*T) ELSE IF
    FLAG=1 THEN RR=RR+TEMP
280 REM
290 CALL DRAWTO(1,SIN(T)*R*XS+XOF,COS(T)*R*YS+YOF)
300 NEXT T
310 REM
320 CALL WRITE(1,24,28,"*")
330 CALL KEY(0,A,B) :: IF B<1 THEN 330
340 IF A=32 THEN RUN ELSE CALL LINK("DUMP",0,16)
350 OPEN #1: "PIO"
360 PRINT #1: " ": "MULT=";MULT : "FLAG=";FLAG : "TEMP=
    ";TEMP : "": ""
370 CLOSE #1 :: RUN
380 STOP
390 SUB PAUSE(P)
400 CALL WRITE(1,24,4,"*")
410 CALL KEY(5,A,B)
420 CALL WRITE(1,24,4,"  ")
430 IF B<1 THEN 400
440 IF A=32 THEN P=0 ELSE P=20
450 SUBEND
460 END
```

Nothing too grand really, but if you want to draw spirals or flowers, that is how you do it!  o

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4. Press ENTER 4 times.
5. Main menu again press 2 Disk Utilities (ENTER).
6. Press #1 catalogue (ENTER).
7. Type in what disk number you want catalogued. (ENTER).
8. The disk catalogue should now appear on your screen.
9. Hold down the FCIN key and the number 7 key.  o

# Vector Graphics and Transformations

by Stephen Shaw, England

Vector graphics are pictures drawn with lines - true perhaps of all pictures! but in vector graphics, the computer only knows the start and ending point of each line in the picture, and joins them up. It then becomes much easier to scale, rotate, or transform the picture. In order to produce vector values, it is helpful to draw a picture on screen and have the computer store the values for us - and in order to use a bit map screen AND have a sprite pen marker we must use Myarc XB. The first program below is to prepare a DV80 file of vector values for a picture drawn using the program. When the program starts to run you will see a white marker on the screen and the word ON. Turn the word to OFF by pressing the letter O key. Now move the white marker using keys ESD and X - the arrow keys. You will find a second darker marker. At most times the light marker is the "draw to" point and the dark marker is the "draw from" point. The draw from point will move as soon as you move the light pointer away from a marked point. As you draw you will also see a number appear at screen bottom, keeping a score of the points - this listing allows a maximum of 100 but could be increased.

From the initial screen, turn ink off, move the white marker, then press key A (Add point) and when you move the white marker the darker marker will move to the point where you pressed A. Press O to make the status word read ON, move the white marker and press A again. The two markers will be joined with a line. Continue sketching for a while!. Now press key P and the white marker will move back along your sketch. Press P again. Now move the white marker and press A - notice the line again starts from the dark marker and goes to the white one. Now press N a couple of times, move the white marker and press A. P=Previous, N=Next, to skip the white marker around already plotted points, leaving the dark marker on the last "from" point. Made a mistake? If it is a bad one, key R (rub out) as many times as are required. Each time the drawing will be redrawn with one less line. Tiny mistake - need to move the line just a little? Move the white marker a little, then press key F (fiddle!) and the previous line will jump to a new alignment. Finished? Press T and then save the data as required. To load data, from the start screen, press T, then load data as required.

Here is the program...

```
1 REM MAKE SHAPES
100 DIM C(100,2)
110 DEFINT DIM DM(101)
120 CALL SCREEN(15)
130 REM MYARC XB ONLY - NEEDS  BIT MAP and SPRITE!
140 REM
150 REM program to produce  vector drawings for use
      with auto-animation prog
160 REM original for apple   by Phil Cohen
170 REM for TI99/4A by          Stephen Shaw  Oct 1989
180 REM
190 CALL CLEAR
200 CALL SETUP
210 REM APPLE SCREEN =          280 (ti 256) x 160 (192)
    X             Y
220 YS=256/281 :: XS=192/161
230 Y=140*XS :: X=80*YS
240 CALL SPRITE(#1,42,16,X,Y)
250 P=1
260 CP=0
270 C(0,1)=X :: C(0,2)=Y :: DM(0)=1
280 O=1 ! ON
290 GOSUB 620
300 CL=3 ! (NON O=DRAW ON )
310 CALL KEY(5,@,@@) :: IF @@=0 THEN 310
320 X=X+(@=69)-(@=88)
330 Y=Y+(@=83)-(@=68)
340 IF Y>254 THEN Y=7 ELSE IF Y<7 THEN Y=254
350 IF X>192 THEN X=1 ELSE IF X<1 THEN X=192
360 REM
370 REM
380 REM
390 IF @=69 OR @=83 OR @=68 OR @=88 THEN 530
400 IF @=80 THEN GOSUB 970
410 IF @=78 THEN GOSUB 1060
420 IF @=82 THEN GOSUB 800
430 REM
440 IF @=84 THEN 1380
450 IF @=65 THEN GOSUB 650
460 IF @=70 THEN GOSUB 1140
470 IF @=79 THEN GOSUB 580
480 REM
490 REM
500 GOTO 310
510 REM
520 REM
530 CALL LOCATE(#1,X,Y)
540 CALL LOCATE(#2,C(P-1,1),C(P-1,2))
550 GOTO 310
560 REM
570 REM
580 REM NOTE USE OF LETTER O AS VARIABLE!
590 O=-(O<>1) ! neat trick this!
600 GOSUB 620
610 RETURN
620 IF O=0 THEN CALL WRITE(1,24,12,"OFF") ELSE CALL
    WRITE(1,24,12,"ON ")
630 RETURN
640 REM
650 REM ADD   A
660 IF P>100 THEN RETURN
670 IF C(P-1,1)=X AND C(P-1,2)=Y THEN RETURN
680 C(P,1)=X :: C(P,2)=Y
690 DM(P)=0
700 REM
710 IF O=0 THEN GOTO 750
720 REM
730 CALL DRAW(1,C(P-1,1),C(P-1,2),X,Y)
740 REM
750 P=P+1 :: CP=P-1
760 CALL WRITE(1,24,18,STR$(P))
770 RETURN
780 REM
790 REM ERASE     E
800 P=P-1 :: IF P=0 THEN P=1
810 CALL SETUP
820 REM
830 IF P=1 THEN 900
840 FOR I=1 TO P-1
850 IF DM(I)=0 THEN 880
860 REM
870 CALL DRAW(1,C(I-1,1),C(I-1,2),C(I,1),C(I,2))
880 NEXT I
890 REM
900 CP=P-1
910 X=C(CP,1) :: Y=C(CP,2)
920 CALL LOCATE(#1,X,Y)
930 GOSUB 620
940 RETURN
950 REM
960 REM PREVIOUS POINT  P
970 REM
980 CP=CP-1
990 IF CP<1 THEN CP=1
1000 X=C(CP,1) :: Y=C(CP,2)
1010 O=1-DM(CP) :: GOSUB 580
1020 CALL LOCATE(#1,X,Y)
1030 RETURN
1040 REM
1050 REM NEXT POINT      N
1060 CP=CP+1
1070 IF CP>P-1 THEN CP=P-1
1080 X=C(CP,1) :: Y=C(CP,2)
1090 O=1-DM(CP) :: GOSUB 580
1100 CALL LOCATE(#1,X,Y)
1110 RETURN
1120 REM
1130 REM FIX A POINT     F
1140 IF CP=0 THEN RETURN
1150 REM ERASE POINTER
1160 REM
1170 CALL LOCATE(#1,1,1)
1180 REM
1190 REM ERASE LINE
1200 CALL DRAW(0,C(CP-1,1),C(CP-1,2),C(CP,1),C(CP,2))
1210 IF CP=P-1 THEN 1230
```

```
1220 CALL DRAW(0,C(CP,1),C(CP,2),C(CP+1,1),C(CP+1,2)
1230 REM
1240 DM(CP)=0
1250 C(CP,1)=X :: C(CP,2)=Y
1260 IF 0=0 THEN 1290
1270 REM
1280 CALL DRAW(1,C(CP-1,1),C(CP-1,2),X,Y)
1290 IF CP=P-1 THEN GOTO 1330
1300 IF DM(CP+1)=0 THEN CALL POINT(1,C(CP+1,1),C(CP+1,
     2)) :: GOTO 1330
1310 REM
1320 CALL DRAW(1,X,Y,C(CP+1,1),C(CP+1,2))
1330 REM
1340 CALL LOCATE(#1,X,Y)
1350 RETURN
1360 REM
1370 REM
1380 REM
1390 CALL GRAPHICS(1)
1400 DISPLAY AT(3,3) : "S TO SAVE THIS DATA": "   R TO
     READ NEW DATA"
1410 CALL KEY(5,@,@@) :: IF @@<1 THEN 1410
1420 IF @<>82 AND @<>83 THEN 1410
1430 IF @=82 THEN 1570 ELSE 1460
1440 REM
1450 REM
1460 DISPLAY AT(5,12) : "SAVE": "": "": "SAVE TO:":
     "(ENTER DSK1.FILE OR PIO)" etc
1470 ACCEPT AT(12,5) : OUT$
1480 OPEN #1: OUT$
1490 PRINT #1: P-1
1500 FOR I=1 TO P-1
1510 PRINT #1: C(I,1) :: PRINT #1: C(I,2) :: PRINT #1:
     DM(I)
1520 NEXT I
1530 PRINT #1: -1,-1,-1
1540 CLOSE #1
1550 STOP
1560 REM INPUT DATA
1570 DISPLAY AT(5,12) : "INPUT DATA": "": "": "INPUT
     FROM:": "1. DISK": "2. KEYBOARD"
1580 CALL KEY(5,@,@@) :: IF @@<1 THEN 1580
1590 IF @<49 OR @>50 THEN 1580
1600 IF @=50 THEN 1700
1610 REM INPUT FROM DISK
1620 DISPLAY AT(12,3) : "INPUT FROM DISK": "(ENTER DSK1.
     FILE etc)"
1630 ACCEPT AT(20,3)SIZE(15) : IN$ :: OPEN #1: IN$
1640 INPUT #1: @
1650 FOR I=1 TO @ :: INPUT #1: C(I,1) :: INPUT #1: C(I,
     2) :: INPUT #1: DM(I) :: NEXT I :: P=@+2
1660 CLOSE #1 :: 0=DM(P-2) :: CALL SETUP :: GOSUB 800 ::
     GOTO 310
1670 STOP
1680 REM
1690 REM
1700 REM
1710 REM INPUT FROM SCREEN
1720 CALL CLEAR
1730 DISPLAY AT(1,1) : "INPUT": " X    Y  |1 ON 0 OFF|"
1740 DISPLAY AT(8,1) : "LAST ENTRY TO BE -1 -1 -1"
1750 P=1
1760 ACCEPT AT(3,2)VALIDATE (DIGIT) : C(P,1)
1770 ACCEPT AT(3,7)VALIDATE (DIGIT) : C(P,2)
1780 ACCEPT AT(3,15)VALIDATE ("10") : DM(P)
1790 IF C(P,1)<0 OR C(P,2)<0 THEN 0=DM(P-1) :: P=P+1 ::
     CALL SETUP :: GOSUB 800 :: GOTO 310
1800 SUB SETUP :: CALL GRAPHICS(3) :: CALL CHAR(42,"F08
     080") :: CALL SPRITE(#1,42,16,1,1)
1810 CALL SPRITE(#2,42,3,1,1) :: SUBEND
```

Having drawn our picture we can recall and redraw it at any time. We could scale or rotate it...

To SCALE the picture, the X,Y coordinates are adjusted- perhaps more easily with reference to screen centre (x=95, y=125 say). Thus to make the image twice the size say:

```
NEWX=95+(OLDX-95)*2
NEWY=125+(OLDY-125)*2
```

If we wish to reduce the image, the multiplier is a fraction such as 0.5 NOTE that although we can error trap plots outside the screen, the Myarc DRAW command will not properly draw any image which exceeds the size of the screen!!! There are ways of doing that by using CALL POINT should you wish to have a go!

For rotation, we use the general form:

```
NEWX= OLDX*COS(ANGLE)+OLDY*SIN(ANGLE)
NEWY= OLDY*COS(ANGLE)-OLDX*SIN(ANGLE)
```

To rotate around the central point 95,125, scaling by a factor S:

```
NEWX= S * (OLDX-95) * COS(ANGLE) + S  *  (Y-125)  *
SIN (ANGLE) + 95
NEWY= S * (OLDY-125)* COS(ANGLE) + S * (X-95) * SIN
(ANGLE) + 125
```

You can introduce these transformations in line 1650, eg INPUT #1:C(I,1) :: X=C(I,1) :: (transformation) :: C(I,1)=X , and similarly dealing with C(I,2) for values of Y.

OK now onto the harder stuff- transformations! You probably see these quite often on tv, as they are the stuff of computer animation- especially the Channel 4 logo!

We can take ANY two pictures prepared with the above MAKE SHAPE program, and let the computer transform one into another, automatically! One major rule: each picture MUST have the same number of points!!! That is, as you press T(erminate) from MAKE SHAPE, each picture must have the same number on the bottom of the screen. The points will be transformed IN THE ORDER THEY HAVE BEEN INPUT so you may have to think about your order of input! Point one of drawing one will become point one of drawing two. If you have used INK OFF at any time, the ink must be off between like numbered points in each picture (not a fatal error, it just looks wrong if you do not pay attention to this!). You can transform a shape with three points (a triangle) into a shape with four points (a square) quite easily, by adding an additional point somewhere in your triangle, either between points one and two say, or you can "overshoot" and add a 4th point after the third point- perhaps backtracking to do it. This gives you three essentially different transformations- they work, which do you prefer?

The computer cares nothing for shapes. It is merely taking points one and two of drawing one, and points one and two of drawing two, and moving them towards each other in a sequence of pictures. At each stage it will connect point 1 to point 2, which gives us, the viewer, the illusion of a moving line! The transformations can be viewed using the transformation program below, saved to printer using the Myarc Utility disk from the library, or saved to TI Artist format using JBM103 library disk, and then perhaps put into an animated sequence with library disk COMIC SHOW 4.0 - so instead of an animated Channel 4 logo, you could have an animated 4A logo!

```
1 REM VECTOR ANIMATION   FOR MAKE SHAPE PROGRAM
     MYARC XB ONLY
100 DIM C(100,2),C1(100,2),DM(101)
110 DISPLAY AT(1,1)ERASE ALL : "INPUT FIRST FIGURE
    DEVICE/  FILENAME:" :: ACCEPT AT(3,5) : ONE$
120 OPEN #1: ONE$
130 INPUT #1: @ :: FOR I=1 TO @ :: INPUT #1: C(I,1) ::
    INPUT #1: C(I,2) :: INPUT #1: DM(I) :: NEXT I ::
    P=@+1 :: 0=DM(P-1) :: CLOSE #1
140 PP=P :: DISPLAY AT(6,1) : "ONE MOMENT..."
150 FOR I=1 TO P-1
160 C1(I,1)=C(I,1) :: C1(I,2)=C(I,2) :: NEXT I
170 DISPLAY AT(6,1) : "INPUT LAST FIGURE DEVICE/
    FILENAME:"
180 ACCEPT AT(8,3)SIZE(15) : TWO$ :: OPEN #1: TWO$ ::
    INPUT #1: @
190 FOR I=1 TO @ :: INPUT #1: C(I,1) :: INPUT #1: C(I,2)
    :: INPUT #1: DM(I) :: NEXT I :: P=@+1 :: 0=DM(P-1)
    :: CLOSE #1
200 IF P<>PP THEN DISPLAY AT(2,3)ERASE ALL : "DIFFERENT"
    : "     NUMBER OF POINTS " ELSE 220
210 FOR @=1 TO 400 :: NEXT @ :: RUN
220 DISPLAY AT(12,1) : "IN HOW MANY STEPS?" :: ACCEPT
    AT(12,20)SIZE(2)VALIDATE (DIGIT) : S
230 FOR ST=0 TO S
```

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# PC-clone Power Supplies

by Tony McGovern
Courtesy Hunter Valley 99ers

This all came about because our Amiga A500 power supply was showing distress. The Amiga supply is a true successor to the old C64 supply in that it is on the edge of collapsing even with just the basic computer attached. Add another megabyte or two and external disk drives and it gets very dodgy indeed. So a new power supply was in order.

The logical choice by watts and amps for the buck has to be in power supply units for IBM PC clones. The typical XT supply already comes in a completely enclosed metal box with its own power switch and needs an IEC type mains power lead. A switched power outlet is usually used for mains power to the monitor in PC clones. Dick Smith carries both the lead and the special plugs for the extension power. What I did was remove the standard plug from a multi-way extension and replace it with this new plug. Now the monitor, modem, printer etc etc are all plugged in to this board, and the husky power switch on the XT supply is used as master control. That about completes the mains power side of things. These boxes are just installed as is in the main unit of PCs. One thing to watch for that a reputable supplier will have checked out is that the mains switch is 240 volt rated.

On the low voltage side the output comes on a number of flying leads with connectors attached. In normal PC installations the various low voltage leads are plugged onto the main circuit board or else into disk drives within the main enclosure. In our supply there were 4 disk drive power connectors and 2 with snap on connectors for the PC motherboard. It is easy to identify the ground return (usually black), 5V (usually red), and +12 volt (usually yellow) lines as these come out on the disk drive connectors. Other lines are not so easy to pick by inspection unless you have the detailed information. In the Amiga application only the -12V line is of interest also. You cannot however just turn it on and use your trusty voltmeter to pick which is which, because unlike linear supplies these do not even work without a load. Further if you run them without a load you may do subtle damage internally, because of excessive voltage peaks on the primary side components.

This problem has to be taken care of anyway, because if you are going to use this box as an external supply it will no doubt become detached from its load at some stage. The best solution is to install a power resistor load permanently connected inside the power supply box. The minimum load quoted for this supply was 6 watts, and it did not matter which output was loaded. The one to use is the 5V output as this has the most amps to spare. The supply in question will give 15A at 5V and the Amiga supply was rated at only 4A. A 3.9 or 4 ohm power resistor will do nicely on the +5V line. Its nominal power rating should be much higher than 6 or even 10 W so it does not run hot enough to do any local damage. The fan and air circulation will easily accommodate the extra 6W in a lightly loaded box. I mounted one on a bracket to a free stud inside the box. A better solution would be to use a chassis mounting power resistor and drill a couple of mounting holes in the box in a position which avoids fouling anything inside and is close to the main airstream. If you do this make sure no metal slivers fall on to the circuit board or are left floating around in the box.

Once the power resistor is mounted in place connect it to the 5V supply. The easiest way to do this is to take one of the disk drive connectors - usually you will not need all 4 of them outside the box - clip it off and solder the 5V and the ground return wires to the power resistor, and just tape up the other leads out of the way safely. How short you cut off all these wires depends on whether you will ever want to reconnect the lead outside the box. If a long length is left it clutters up the box inside. This avoids further disassembly of the power supply or soldering to the circuit board.

Now it is safe to turn on and you can double check the + and -12 on the mother board lines. There will be several wires in parallel for each of the 5v and ground leads. With everything turned off and unplugged again, clip off the mother board connectors, with the same compromise as before on length. You may wish to make a complete new lead to the Amiga plug, with heavy wiring for the 5v and earth lines, jointed to the existing wires to the PC motherboard connectors. What I did was to take a 6 hole length of plastic mains wiring barrier strip (terminal block), the kind where each wire can be brought into its own terminating hole, with a screw to hold it and make firm electrical connection to the wire coming in on the other side. Install this inside the box - it can float free and otherwise unsupported. Terminate all of the +5V wires into 2 of these, a couple more for all the earth returns, and one each for +12 and -12V lines. Tape up any unused lines safely out of the way (there may also be a -5V supply and a 5V supply ready line). The other side of this block is where you connect your external cable. Depending on the length of this cable you will probably want to use at least two 5V and two earth return lines up to where the power is needed to minimize voltage drops.

In the Amiga A500 application the plug at the computer end is hard to get hold of as Commodore refuse to sell it as a separate spare part, so I just cut the old one off fairly short. BEFORE you make this drastic step check and carefully record what voltages appear on what pins. Repeat the exercise using barrier strip at this end, with doubled wiring in between on the heavy current lines. Only a short length of the Amiga cable should be left on the plug as it is very light gauge and the original A500 supply was run well above 5V to allow for voltage drops. The drive power lines will be used for external 5 inch drives which the original supply could never support. Do a final check that the right voltages are on the right pins BEFORE plugging into the computer.

So there it is - power supply problems solved. Remember that any disasters are your own, and if you do not understand what it is about get someone who does to do the actual work. o

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Once loaded the program will ask you to "Enter minimum view time delay (0-10) seconds:" This is the time the instance is displayed, exclusive of file access time. I normally enter zero (0). The program will then display "Catalog a drive for txt filenames?". Enter a 'y' for yes or any other key for no. If you answer 'y', the program will then display "Drive Number:". Press the drive number of the disk that you want catalogued. After displaying the disk name and the txt filenames, the program will display "Another catalog? (y/n)". Enter a 'y' for yes of any other key for no. The catalog function will continue until you answer no. The program will next ask, "Enter TIPS txt filename:". A typical filename is "dsk1.grabtxt". Note that filenames can be entered in upper or lower case. The program will now open the designated file and display the first picture.

The automatic part of the program now starts to operate. The program will load the data for the next picture. It will then wait the minimum display time, before displaying the next picture. The program will not display the picture names. When the program reaches the end of the TIPS file, it will automatically reopen the file and start displaying the pictures all over again. The program will keep displaying pictures until control 'c' is depressed. The next line will read, "c99 Exit-Rerun (Y/N)". Depressing 'y' will rerun the program and depressing 'n' will take you to the title screen. o

# Configure Printer

for Funnelweb 4.10, by John Owen, JUDUG, TX USA

1. Make a copy of FWB. 4.10 Leave off the write-protect tab and place this new copy in #1.
2. Auto-load FWB up to the first menu (selection 1-9 and I)
3. Select option "I" (Configure). It may also be reached by selecting USER LIST from the Editor menu. DSK1.CF and CG will load and display "CONFIGURATIO" the prompts: (?) HELP, (c/C)BACK & (F-7)DIR.
4. Hit any key. First window: SYSINFO, QUIT, INSTALL.
5. HIT "S" (SYSINFO) and get the second window: LOAD, EDIT, SAVE.
6. Hit "L" (LOAD)
7. Hit (ENTER). (loads SYSCON FROM DRIVE #1).
8. HIT "E" (EDIT). This will display the third window: LOADING, DEVICES, COLORS, MENU, XB LIST and UL LIST.
9. Hit "D" (DEVICES). This will display the 4th. window: EDIT PRINTER, FMTR PRINTER, OBJECT FILE, WORK FILE, 7 PROGRAM.
10. Hit "E" (EDIT PRINTER): The following instruction window will appear: ENTER/FILE DEVICE.
11. TYPE IN YOUR PRINTER NAME: PIO or RS232.BA=####.LF ETC..
12. HIT (ENTER).

To change the formatter printer the easiest way is to repeat steps 10,11,12 as follows before going any further.

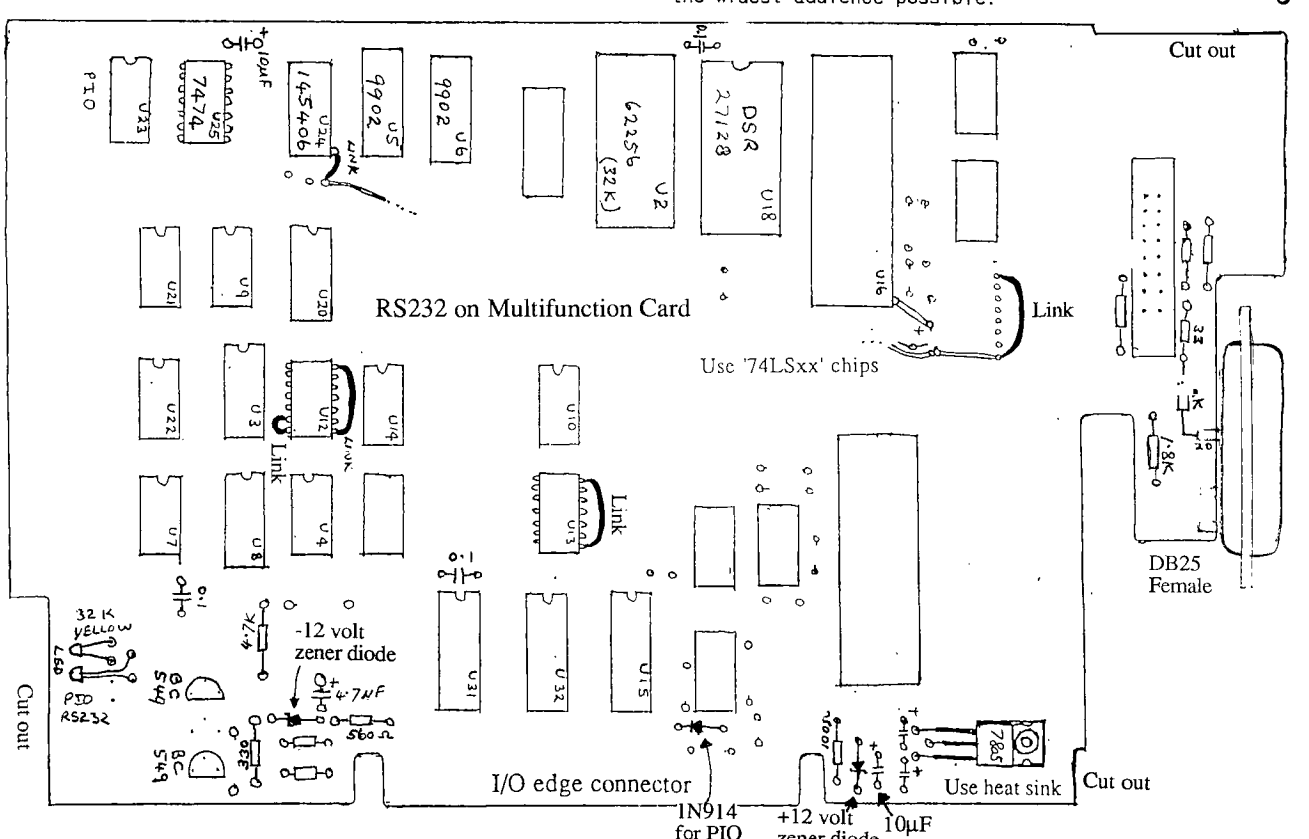
10a. Hit "F" (FMTR PRINTER)
11a. Type in :PIO.LF or RS232.BA=####.LF etc.
12a. Hit (ENTER).
13. Hit FCTN/9 (BACK) or CTRL/C.
14. HIT FCTN/9 or CTRL/C again.
15. Hit "S" (SAVE).
16. Hit (ENTER) to save the change in DSK1.SYSCON.
17. Hit FCTN/9 or CTRL/C to get back to the top of the menu.
18. Hit "I" (INSTALL). The sixth window gives two choices.
19. Hit "L" (LOAD-XB/XB11).
20. (ENTER) SOURCE program (DSK1.LOAD).
21. (ENTER) TARGET program (DSK1,LOAD).
22. Hit FCTN/9 or CTRL/C.
23. HIT Q (QUIT).
24. Test from scratch by reloading FUNNELWEB. o

# Advertising Really Works!

by Rolf Schreiber

Advertising really works! This may be an obvious statement to some, but in the past TIsHUG never advertised itself in order to attract new members. The time is now right for every individual member of TIsHUG to advertise the club to friends, neighbours and people they work with. The best way to advertise TIsHUG is to show people a copy of our club magazine, the TIsHUG News Digest, or TND for short. If they are a TI99/4A enthusiast, they cannot fail but to be impressed. In fact, Lou Amadio had shown our magazine to members of an IBM User Group at work, and they were impressed! The average newsletter from that particular User Group averaged 1 to 2 pages each month! The next step is to ask them to join if they own a TI99/4A, or just become an associate member for $10.00 p.a. if they do not own a TI99/4A, but just want to socialize with a great bunch of guys and girls. On the strength of that great writeup in MICROpendium, we have attracted some new members from the US already. I am sure that we will attract English speaking members from other countries as well, in due course, once people realize that we exist and that we offer tremendous value for the subscription price of $30.00 (Australian) plus the cost of the overseas postage.

I am appealing for surplus copies (or unwanted copies from past members) of the TND, preferably from 1987 to 1990, to be donated to the club (see either me or Percy Harrison about this), with the intention of making up complete yearly runs to be sent overseas to interested new members/user groups. I would like the wealth of information that was contained in those back issues (particularly 1989, our best year ever, when we published 12 issues running to 408 pages) to be read by the widest audience possible. o



# Braille'n Speak

by Irwin Hott, Spirit of 99ers, OH USA

I am actually beginning to write this article while riding a COTA bus downtown. I am using the Braille 'n Speak. It is about 8 inches long 4 inches wide and 1.5 inches high. It weighs less than 1 lb. The small size is made possible with use of a braille keyboard and a speech synthesizer for the "display". The Braille'n Speak has rechargable batteries as well as an RS232 port.

The braille cell is made up of 6 dots 1,2,3 from the top to bottom on the left, 4,5,6 on the right. The unit uses 7 keys (1 for each dot plus the spacebar). You simply press dots simultaneously to get the desired character. Dot 1 is A and 2 is B, dots 1 and 4 are C etc. I do not propose to go into the intricate patterns of Braille here except to say that there are different "grades" involving the number of contractions (abbreviations) used e.g. nec for necessary, AL for also and words such as WITH written as dots 2,3,4,5,6.

I am writing in grade 1 braille now. There are no contractions and I am writing in lower case most of the time. I can switch to upper case by hitting a U chord. That means pressing U and the space bar at the same time. That will give me the next character in upper case. If I hit U chord twice, upper case lock will be on. Most of the commands such as file, cursor and parameter are made by pressing a key combination with the spacebar.

The Braille 'n Speak has about 200k of RAM. About 180 of that may be used for file storage. Files may be as short as 1 page (4096 characters) or up to 45 pages. The maximum number of files allowed is 30. Right now I have 6 files open in Braille 'n Speak with 40 pages of memory remaining. I have a 2 page file for this article; notes from Lima, a phone list, a BBS list, a help file which is always resident and clipboard. Clipboard is a 1 page file that is used to house deleted material as well as data copied from one file to another. I just exited "art" and looked at clipboard. It contained a sentence I had deleted from this article. I could have deleted a line from this file and put it into another file. It is very easy to move from one file to another. When I do that I return to the exact place where I left the file. Many features such as these make the unit a joy to use.

There are several word-processing functions built in. Right now I have key echo turned on. However my brailling is faster and I am ahead of speech most of the time. There is a backspace command which is destructive. I can move through text, a paragraph, line, word or character at a time in either direction. If I do not understand a character as p or t there is a phonetic alphabet built-in. I can insert up to 255 characters from the keyboard. If I insert from another file I can add up to 4069 characters in one move. I can also delete anywhere from one character to the entire contents of the file. I can set a "mark" in text and delete to that "mark" in either direction. One of the minor drawbacks is in Replace String. I can overwrite a character or find a string but I cannot replace all occurrences of a string. It is very easy to transfer material to and from Braille 'n Speak. The RS232 port is controlled by software commands. I can set Baud rate from 75 to 19,200 set parity, duplex handshaking and stop bits. I can transmit complete text, text to "mark" a character, line or paragraph. If I want to receive text, all I have to do is open a file, set the parameters in the RS232 port and turn on the RS232 port. All incoming material will be stored in the open file.

I can listen to the material as it comes in or just let it build up in RAM. I frequently dump files from the TI so I can listen to them in the Braille 'n Speak. It is much easier to read text here because I can skip around in the file and carry the machine around with me. As an example I dumped a series of messages from HUG TI BBS in Houston about using 3.5 inch disk drives. I thought it would make an interesting file on Spirit of '99, so I edited it in the Braille 'n Speak. This took about 10 minutes to edit out all of the extraneous information. On the TI without being able to use TI-WRITER or the equivalent it would have taken at least 45 minutes. I was able to quickly search for key words to delete, such as message numbers. I entered a note at the beginning of the file, merged the new file description into the old description file dumped both from the Braille 'n Speak to the TI and I was ready to go. I can format the text I am sending from the Braille 'n Speak. It can be formatted as to page length, line length, left margin and top margin. There is no way in writing text (such as this article) to specify a line length. I will format the file when I send it to the TI. It would be nice if I could set a line length and have a warning if I was approaching the end of the line. However that is a relatively minor drawback.

The Braille 'n Speak has a clock built-in. The current time is 12:16. There is a calendar, a timer and a four function calculator. I can "paste" answers to calculations into a file such as I did with the time above. Now that I have the Braille 'n Speak I wonder how I ever got along without it. The program (using a 512k eprom) has been carefully written to make it as easy to use the device as possible. Much careful thought has gone into it. Not that it was easy to learn. I have not counted but I suppose there are at least 50 new commands I had to learn. For the first couple of days I wondered if I was ever going to master it. After that it started to get much easier. There were also some bugs in earlier versions of the eprom. I was one of about half a dozen people who helped test some of the up dates. That was for the most part a lot of fun. However it was not without dangerous moments. A couple of times I ERASED MEMORY! Once through my own carelessness, the other time an error in the program. Fortunately I had backup copies of most files on the TI. I have not found any errors in this new version of the eprom.

I am not really sure I can explain how nice it is to have a device such as this. The possibilities of use are just about endless. It can be used for phone messages, receipts, editing programs and so much more. The cost is reasonable at $US895.00, which for a high tech low production device is fairly unusual. As an example, the first talking calculator cost $495. Now for the first time blind people have a computer, at least, on a par with those used by their sighted counterparts. Previously, portable lap-top computers with speech cost at least $2000. This put it out of price range for many individuals. It is not absolutely necessary to interface Braille 'n Speak with another computer. There is a tape interface device available as an option. It works through the RS232 port.

I hope this gives you a little idea of just how I use the Braille 'n Speak.

CONTACT-: BLAZIE ENGINEERING
2818 COLLEGE VIEW DRIVE
CHURCHVILLE, MD 21028
UNITED STATES OF AMERICA.
0011 1 301 879-5504

I would also be glad to correspond with anyone who would be interested.

MY ADDRESS-:
Irwin Hott
1540 Northbridge Road
Columbus, OH 43224
0011 1 614 263-5319 o

# Hardware Corner

by Richard Roseen, NJ, USA

I finally received my TMS 99105 microprocessors from the TI distributor, so I will be busy for several months on building a computer with this chip. In order to run at maximum CPU speed for at least an unmapped or banked portion (256k bytes) of memory, I will use 120 nsec static RAM. Dynamic RAM commercially available will run up to about 100 nsec at the most not allowing enough refresh time for the dynamic RAM. Also dynamic RAM controllers for refresh and interface will run only at 50 nsec for TTL controllers to 150 nsec for LSI controllers.

I do not plan to use the memory mapper chip (74LS610) for 16 mega-bytes of memory in order to avoid delays in addressing the fast RAM (120 nsec). Instead I will use a CPU I/O bank switch to get memory size beyond the fast RAM, that is beyond 256k bytes of main memory (instruction and data) and the 64k bytes of macro store memory (some of which is already on chip). This will ensure that the computer will run with no wait states, full CPU speed of 167 nsec machine cycle time. Compare this speed with the 99/4A with a 9900 micro running at 333 nsec with 3 wait states for half the 64k memory space. Three wait states in a microprocessor will slow it down by integral multiples of the machine cycle time; in this case, the 9900 is slowed down 3 times or 999 nsec. This means that the TI99/4A is 6 times slower than a computer with a 99105; however, the 99105 has a prefetch which makes it even faster in comparison to the 9900. The prefetch means that the 99105 will be accessing memory at the same time it is decoding an instruction or doing an ALU operation, whereas the 9900 will never access memory at the same time it is doing something internally. I will go into detail on the 99105's speed and prefetch later when I compare the 99105's speed to the 9995, and the 68000 microprocessors.

When I learned that my order had reached the TI distributor, the salesman told me that he had received an order for 20,000 99105's recently. This may show TI that discontinuing the 99105, 9995 or the 9900 may not be worthwhile. In fact I was told by the person in charge of the 9900, 9995 and 99105 microprocessors at TI's semiconductor group in Huston, that they will not decide until the end of the year whether or not the micros will be discontinued. In fact, he was very indefinite. In talking with someone I see that one of the Japanese MSX computers includes a TMS9928A AVDP chip. Information showing a TMS9928A can be found in the August Computer Shopper in the CES article. The person I talked to at TI did say that the TMS9909 Floppy Disk controller was definitely discontinued.

To review the TMS9928A AVDP chip is the Advanced Video Display Processor designed by TI as an upward compatible video processor like the TMS9918A in the TI99/4A, but with 80 column and higher resolution display capability.

It is now known that a Japanese electronics company is making a 9938 chip that is a spin off of the 9928 AVDP chip. The 9938 is not an exact copy of the TMS9928 AVDP chip. The 9938 AVDP has extra features in comparison to the TMS9928. (The TMS9928A VDP chip is the same as a TMS9918A chip with different outputs. That is, it is the NTSC version of the TMS9929A that we have in our consoles. GWT)

What are the Features of the TMS99105?

>Third generation of single-chip 16-bit microprocessors.
>Uses N-channel silicon-gate SMOS technology.
>Unprecedented speed and a powerful instruction set.
>Opcode compatible enrichment of the TMS9900 and TMS9995 instruction set.
>Unique memory to memory architecture pioneered at TI with multiple register files resident in memory permitting faster response to interrupts and increased program flexibility. This type of architecture can provide an instruction set with power resulting in speed that coupled with the prefetch mechanism and machine state speed, can perform as well as the better known 32 bit microprocessor the 68000 by Motorola.
>Instantaneous access to 256k bytes of memory.
>Privileged mode.
>Macro store emulation of user defined machine instructions. This comprises 64k bytes of memory in addition to the 256k bytes. Once a user defines his instructions in regular machine code the machine code can be put in on-chip macro store for even faster execution or converted to microcode, since the 99000's are microcoded machines.
>Status signals to identify all processor activity.
>Interrupt acknowledge signal.
>Arithmetic fault interrupt.
>Illegal instruction interrupt.
>16 prioritized hardware interrupts. *
>16 software interrupts (XOPs).
>Programmed I/O.
>DMA compatible. *
>Bit, byte and word addressable I/O.
>Multi processor system interlock signal * (hardware support for indivisible semaphores shared in memory)
>Attached processor interface (multitasking). *
>167 nsec machine cycle time
>On chip clock generator and oscillator.

* Represents multitasking or multi processing operations. Two of the four indicated are already available in the TMS9900.

Unlike the TMS9900, the 99105 requires only a single +5 volt supply and is a 40 pin chip. Unlike the TMS9995, the TMS99105 has the full set of 16 vectored prioritized software (XOP) and hardware interrupts. o

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2) TI-99/4A MYARC MPES/50 with the following:
2 DSDD Disk Drives
128k memory

Files included with this release are as follows:

| | |
|---|---|
| *TIPSX | This is the TIPS program. |
| FONTTIPS1 | This is the original character definitions. |
| FONTTIPS0 | This is a dummy FONT file if you are not going to be using MSG HEADER commands to speed program start-up. |
| FONTTIPS2 | These are character definitions from 0 (zero) through Z enclosed in a ball. I do not recommend these for BANNERS etc. |
| FONTTIPS3 | Similar to FONTTIPS2 except a diamond shape. |
| FONTTIPS4 | Similar to FONTTIPS2 except a heart shape. |
| FONTTIPS5 | This is a new font file upper and lower case of hand printing characters. |
| FONTTIPS6 | This is a new font file upper and lower case of 3-D characters. |
| FONTTIPS7 | This is a copy of FONTTIPS0. |
| FONTTIPS8 | This is a copy of FDNTTIPS0. |
| FONTTIPS9 | This is a copy of FONTTIPS0. |
| TIPSDV80 | This is a dummy VERSE file. |
| TIPSSHOWX | A program to print mailing label size catalog of images in the TIPS library. This also uses TIPSOBJ and TIPSOBJ2. |
| TIPS2RD | A program to copy a TIPS graphics file pair to ram disk RD. |
| *LOAD | Irwin Hott's load program to load assembler routines. |

The above files should all be on TIPS program disk used for processing.

| | |
|---|---|
| TF2FT | A program to convert TIPSFONT files to FONTTIPS files. |
| *TIPSDOC | This file |
| *TIPSASM | Assembler source code for TIPSOBJ. |
| *TIPSASM2 | Assembler source code for TIPSOBJ2. |
| *TIPSASM1 | Assembler source that is copied by TIPSASM2. |

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# Regional Group Reports

Meeting Summary For DECEMBER

| | | |
|---|---|---|
| Banana Coast | 09/12/90 | Sawtell |
| Carlingford | 19/12/90 | Carlingford |
| Central Coast | 08/12/90 | Saratoga |
| Glebe | 06/12/90 | Glebe |
| Illawarra | 10/12/90 | Keiraville |
| Liverpool | 07/12/90 | |
| Northern Suburbs | 27/12/90 | |
| Sutherland | 21/12/90 | Jannali |

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BANANA COAST Regional Group
(Coffs Harbour area)

Regular meetings are held in the Sawtell Tennis Club on the second Sunday of the month at 2 pm sharp. For information on meetings of the Banana Coast group, contact Kevin Cox at 7 Dewing Close, Bayldon, telephone (066)53 2649, or John Ryan of Mullaway via the BBS, user name SARA, or telephone (066)54 1451.

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CARLINGFORD Regional Group

Regular meetings are normally on the third Wednesday of each month at 7.30pm. Contact Chris Buttner, 79 Jenkins Rd, Carlingford, (02)871 7753, for more information.

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CENTRAL COAST Regional Group

Regular meetings are now normally held on the second Saturday of each month, 6.30pm at the home of John Goulton, 34 Mimosa Ave., Saratoga, (043)69 3990. Contact Russell Welham (043)92 4000.

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GLEBE Regional Group

Regular meetings are normally on the Thursday evening following the first Saturday of the month, at 8pm at 43 Boyce St, Glebe. Contact Mike Slattery, (02)692 0559.

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ILLAWARRA Regional Group

Regular meetings are normally on the second Monday of each month, except January, at 7.30pm, Keiraville Public School, Gipps Rd, Keiraville, opposite the Keiraville shopping centre. A variety of activities accompany our meetings. The October meeting was a hardware meeting as we got a Multifunction card up-and-running and Geoff and Bob made some adjustments to their disk controller cards to have them work more efficiently. If Bob's copy of the 'Missing Link' arrives from Texaments (USA) in time then we might have a demo at the December meeting. All are welcome.

Contact Lou Amadio on (042)28 4906 for more information.

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NORTHERN SUBURBS Regional Group

Regular meetings are held on the fourth Thursday of the month. If you want any information please ring Dennis Norman on (02)452 3920, or Dick Warburton on (02)918 8132.

Come and join in our fun. Dick Warburton.

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SUTHERLAND REGIONAL GROUP

The October meeting of the Sutherland Regional Group was again well attended and enjoyable with the usual array of software reviews and problem solving exercises.

Derek Wilkinson returned from annual holidays in Queensland with plenty of stories to tell. Unfortunately our new member, Herbert Schade, got his calendar mixed up and arrived a day too late. No meeting on Saturday night.

My DSK2 is now in good working order thanks to the proficient repair service provided by the Club through Geoff Trott. Many thanks also to Robert Peverill for his assistance in re-inking a number of printer ribbons in recent months

All meetings are held on the third Friday of each month at 51 Jannali Avenue, Jannali unless otherwise advised.

Peter Young
Regional Co-ordinator

**********
*  *
*  LIVERPOOL Regional Group  *
*  *
**********

Regular meeting date is the Friday following the TIshug Sydney meeting at 7.30 pm. Contact Larry Saunders (02) 6447377 (home) or (02) 7598441 (work) for more information.

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All Demo programs are subject to Air Mail from U.S.A. some still waiting on.

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*** ALL WELCOME ***

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TIsHUG in Sydney

Monthly meetings start promptly at 2pm (except for full day tutorials) on the first Saturday of the month that is not part of a long weekend. They are held at the RYDE INFANTS SCHOOL, Tucker Street (Post Office end), Ryde. Regular items include news from the directors, the publications library, the shop, and demonstrations of monthly software.

DECEMBER MEETING - 1ST DECEMBER

The December meeting will be the AGM followed by a Christmas party. This is the last meeting for the year. Make sure you bring your November issue of the TND as it contains all the minutes and information you will need for the AGM.

The first meeting for 1991 will be the 2nd of February.

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The cut-off dates for submitting articles to the Editor for the TND are:

February 6 January

Russell Welham (Meeting coordinator)

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```
        MOV  *R2,R6
        MOV  *R1,*R2
        S    R6,R5
        DEC  R5
        SWPB R5
        MOVB R5,*R6
        MOV  R6,R5
        DEC  @BUFLEN
        JNE  AGAIN
*
FIN     LWPI >83E0
        CLR  R0
        MOVB R0,@>837C
        RT
*
USRWS   BSS  32
BUFLEN  BSS  2
ZERO    DATA >0000
BUFMAX  EQU  >1800
BUFF    BSS  BUFMAX
*
        END
```

A great deal faster! This machince code is for loading with ExBas ONLY! Why do we need to have the length right for editing? Because if the length byte is 255 bytes, when you delete (or edit) the lines, the computer will delete 255 bytes, and if the line is shorter, you are going to lose other data, probably partial lines, which will be very sad!

Oh yes... if the corrupted program comes from elsewhere, after making it listable, take a look for any lines that look like our first two lines above, if they are there you need to remove them or they will make the program unlistable once more! o