HUNTER VALLEY 99'ERS NEWS



TI 99/4A

MERRY CHIRISTMAS



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Allen Wright

ROGUES GALLERY

MOULD YOU SUY R USED COMPUTER FROM THESE PEOPLE



Jim Grimmand



Albert Anderson



Brian Rutherford



Alan Lawrence



Paul Mulvaney



Brian Woods



Bob MacClure



Gary Jones



Tony McGovern



Peter Coxon

Could this be Christmas with us yet again? My, how the year has rolled by. I remember in my younger days the "oldies" saying; "the years 90 faster with age". I simply could not see how that could possibly be true. Perhaps a form of senile decay which sets in around the 30-40 years mark? Now with quickly thinning and greying hair I CAN see the truth of that saying all to clearly. I don't WANT to see it, but, it is a fact which cannot be ignored.

I find the Christmas period very enjoyable. Old friends meet and relatives have a good reason to see each other at some place other than a funeral or a wedding. A general feeling of goodwill pervades. Onthe darker side though, Christmas, along with other annual festive periods are over commercialised, all in the name of profit, which is far removed from the true meaning of Christmas.

and look at the H.V.99'ers! Will Group. the Group still be functioning this interested and active member of the time next year. I certainly hope Group until such time as the Grou so! The ranks of T.I. Users must no longer exists but not in th now be some what like my hair thinning! It is because the ranks are thinning that we must use our best endeavours to keep this Group! We have a solid core of intact. T.I. users in the Group. It is to these Users that we turn to keep the Group alive.

The H.V.99'ers is 87 T.I. Users. all having a contribution to make to the Group in some YOUR way. thoughts, and information which you have gained (either through your own from other sources) efforts or should be shared in the group relationship with our fellow man through discussion or via the the creatures and the planet itself Newsletter.

Looking back over the Year some great contributions had been made by our members. Gary Jones still has his Extended Basic classes once a Peace on earth and goodwill to all week. Gary has been doing this now for 2 years. That in itself is a Allen Wright. major effort. I have a suspicion Pres. H.V.99'ers.

that Gary will still be having hi classes this time next year. Ton and Will McGovern have once agai made outstanding contributions t the Group. Our new Secretary Alber Anderson and Editor Brian Woods ar tireless workers for the Group Thank you.

These are just the tip of th iceburg of the list of members wh have made a large contribution t the Group. To ALL our Members than you!

As last year the projects which hav been mentioned as being in th melting pot are exciting. Each ne project which comes to fruitic serves to strengthen the Group These projects range from existin programmes being tailored to sui individual needs to creation of ne board programmes. With the P.C. for the Klienschaffer box no available we can expect so see quit a number of these being complete next year.

And now the Swan song. This will b my last Christmas Message President of the Group. I have bee involved in the Management of th Group for three years now. It i time for some new ideas and ne Time to get down off the soap box enthusiasm to be injected into th I intend remaining a Management.

> On behalf of all the Members of th H.V.99'ers. I wish all the Member of our sister User Groups all + would wish for ourselves Christmas and New Year.

> personally wish a very Merr the finest of No Christmas and Years to all the members of the H.V.99'ers.

> Christmas is the time of year ourselves, Oι reflect on All the good we have to give mustome from within. Put aside of self indulgences, jealousies become part of Christmas.

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IKRIFARSK

Hello once again for the last time I will take this chance guidance I along with our other columnists wish the readership of the HV99 newsletter, families their '86/87. and New Year season of is your interest and comradeship appreciate and thank you for it THANK YOU!!!

The past year for HV99 has been somewhat hectic and I feel that the whole membership of HV99 deserves to take a well deserved pat on the back as the group, through the work of its members continues to thrive and|now 1000km north just to meet throughout recognised the TI-99/4A community worldwide for its continuing and positive support of the 4A at all levels of its use.

The acceptance of HV99 however. could not have been achieved without information interchange which factor in the continuing use and kind at regular intervals so and I would like to personally thank is maintained between those concerned in this interchange groups. as well every other 4A benefit. small!(refer to the Chronicles by Don Albright).

write this after ٥f the pain due to my insistance that we have a holiday in the USA. These events have Queensland. help me be sunny Τo (something that doesn't happen on involvement the Gold Coast so we were told by gadgetry. seek

Brisbane and Caboolture area groups. This experience proved to be most fantastic. I would like thank one of our interstate members. Chas Bagley and his family for their hospitality during a stop-over on the journey north. Without would still be to!around in circles in a street mess called Brisbane. Thanks also and to the other Brisbane fellows friends the very best for the Xmas|travelled north on a miserable wet It afternoon so that I would have the pleasure to meet with them. Special that keeps us coming back month thanks from me go to John Piccinich after month and we here at HV99 and his wife Ruth who provided the venue, the food and refreshments and the atmosphere of a fantastic but short get-together. Ιn short, thanks to the guys up north from this HV99er.

> My wife has just reminded me that I have travelled 1000km south and that others 'play' with machine. I think that's neat but she thinks that it's about time that some-one found out where Newcastle So any-one going through the vicinity, get in touch.

With this in mind, undoubtedly the has taken place between our group|major event demonstrating support and our FRIENDS in similar 4A user for the 4A as far as Australia is throughout Australia, the concerned this year, was the TI-FAIR USA., Canada, the UK., West Germany put on by those terrific Melbourne and anywhere else that this machine users in June. As mentioned by our is found to exist. This information President, Joe Wright in a follow up interchange, I feel, is a major article on the Fair, a forum of some support of this unbelievable machine contact and face to face discussion the This being the the dormant and encourage ALL, I repeat ALL user season in the southern hemisphere groups to participate, for their own with regard to computing, I would users ask our counterparts in the other There is no room in this user groups around Australia to give community for closed-shop and profit!this some thought with a view to seeking attitudes - the shop is too|getting some organisation under way Orphan for sometime in 1987.

On the overseas front having like to congratulate both organisers withdrawal and participants of the families that have or are about to be held in the ultimate in information overcome this pain and due to 'rain' interchange and provide for hands on with the latest Also along similar the advertising people), my wife and our best wishes and total support family allowed me to travel north to are extended to the crew behind the out some members from the production of MICROpendium magazine

as they undoubtedly provide the very best in written back-up for both the 4A machine and its users.

In wrapping up I would like to personally thank the other committee members of HV99 for their assistance and support throughout the year. This aspect has made the secretarys position most enjoyable indeed.

To our exchange user groups, HV99 thanks you so much and all of here in the Hunter Valley of New South Wales, Australia look forward your continuing mutual exchange and support for our common interest the new year of '87.

Back in February '87 - Regards till then.

> Albert Anderson 4a4me

this Bumper I hope you enjoy Issue of the H.V. 99er Newsletter. Anyone who can't find something of interest is sure hard to please! well as our usual columns, this Year and please, drive carefully, issue we publish an article on LOGO the life you save might be mine. by Steve and Denise Taylor, our ex-Editor and his wife, now living in Tassie. It is the first of a series of articles (I hope!) on LOGO Thanks for by Steve and Denise. your effort - it's good to hear from you again.

This being the final issue for would take this this year opportunity to thank all those regular contributors, without whom the Newsletter would not be the much sought after publication that it is. It is very heart warming to receive praise from many quarters - locally, interstate and overseas - for our It makes all the hard work involved in both articles and the actual cutting and pasting that much more rewarding.

have not To those who contributed this year - why not make it one of your New Years resolutions to submit at least one item for the Newsletter next year - you will find it very rewarding.

As if producing 11 magazines a year isn't enough, yours truly has to prepare A GUIDE TO offerred BOOK 2 over the next TI-WRITER. months. All being well, couple of and subject to holidays and the cricket, it should be available by There the February meeting. still some copies of Book 1 and The McGovern XB Tutorials left, you missed out on them, they are available from the Secretary for \$2.50 each including postage. Bulk prices are available on request.

As you will have realised, is no January meeting or Newsletter so the dates of the next meetings are:

> General.....10/2/87 XB & BASIC groups.....17/2/87

copy for Deadline for February Newsletter is the night of the Committee meeting, but earlier submissions are more than welcome.

Finally I would like to wish all in the H.V. 97ers and indeed all those who read our Newsletter a As very merry Christmas and a Happy New

Brian Woods



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Dear Brian,

Contrary to popular opinion Denise and I havn't dropped off the face of the earth, but a word of warning when addressing any mail to us, just make sure that the correct post code is used, it's 7150; 7160 is ANTARCTICA!!!!

Anyway I feel I should apologise for taking so long getting around to writing, its going on six months now since we left Newcastle and I felt it high time I got my act together and renewed a few friendships with you guys in the Hunter Valley, besides El Presidente has been on my back to write. You know Joe, once he starts dropping hints he is about as subtle as a train smash.

Congratulations a certainly due to you and all your contributors for the consistently fine magazine that you are producing, believe me I can appreciate all the time and effort you are obviously putting into its production. Thinking back, I can remember some of the earlier issues in which we printed just about every snippet of hard information we had to hand. Consequently this invariably meant that the next issue was twice as hard to produce as we had to start from scratch chasing ideas for articles and hopefully not have to resort to too much padding. its obvious that you are not having this problem, and it is equally obvious that some other unnamed newsletters have noticed what you accomplished for they too have started to get their act together and produce thus newsletters rather that marely reproducing articles from

other sources.

I feel that your last issue, is proof that HV99 NEWS is getting stronger and stronger with each issue, is it true that you now have more material than you have space?

It may have taken 18 months to get the newsletter to this point but now that you are there there appeas to be no going backward. I have to admit it would have been nice to start off HV99 NEWS with the kind of articles you are presenting now, but they just didn't exist 18 months ago, the group in its present form didn't exist 18 months ago, I guess breaking away from the apron strings of the Sydney group was all the catalyst required to form what is unquestionably the most enthusiastic TI99/4A User Group in Australia, and boy do I miss not being in the thick of it with you guy's.

The group has not only survived but has also grown and improved over the last year, so to has the TI99/4A. There are still lots of great years ahead of us, and I'm sure each issue of HV99 NEWS will be better than the last.

Denise and I had intended commencing in the Christmas issue a series of LOGO articles, but lack of time and a faulty console 32K unit managed to put a spanner in the works. Jos has volunteered to investigate the 32K board for me and hopefully he will have it sorted out in time for us to get an article together for February issue. In the meantime we have knocked together a quick review Early LOGO Learning Fun module. I'm sure that parents of pre school children will find it vary interesting.

Well Christmas is just around the corner so I would like to take the opportunity to wish the HV99 members all the best for a safe and happy Christmas and New year. I would also like to offer a word of thanks to the committee for all the hard work that they put in behind the scenes. Since shifting to Tasmania I have come to realise what a great bunch of guys and a great club we left behind, I dont miss Newmastle all that much but I sure do miss those Tuesday hight get togethers.

Regards Steve and Denise Taylor

MANUALEZATEON

MIE NEW WREND

This article originally appeared in The Philadelphia Inquirer, 10 December, 1985, and is reprinted from "Information Transfer", July 1986.

Are you considering Manualization?

If you're like the thousands of businessmen, professionals and ordinary people who are beginning to think about the enormous potential of non-computerized systems, you are not alone! Thousands of others, through, are hesitant about taking this big step into the 21st century.

One aspect of the manual world that scares would be manualizers is Like iargon. field, any manualization does have technical terms. However, they are relatively easy to understand, particularly if mind that VOIL keen in manual instruments function much like computers, only better. Here is a brief glossary of the more important manual terms.

- * Pen Works much like the keyboard of a computer terminal. The pen point (cursor) can be moved across paper (monitor) to make letters, numbers and symbols in unlimited variations.
- * Paper A manual computer monitor.
 When interfaced with a pen, allows the user to store information and has a memory limited only by the size of the nearest stationery store. On a computer, one would issue a series of commands in order to retrieve information; in the paper world, one manually turns pages.
- Files Admittedly, this gets a bit complex. File 'cabinets' are

like disks of your computer. File 'folders' are like the containers that store related bits Folders can be accessed easily by opening a filing cabinet. These files disappear only through secretarial ineptitude and other acts of God, never through electrical means.

* Eraser Optional accessory to pen.

What, then, are the advantages of manualization? Pioneering research is just beginning to demonstrate manual's superiority in a number of fields, for example:

Word Processing: The manual buzz-word for this is "writing". The beauty of processing words manually is that there is no manual to read and no commands to remember. Errors can be instantaneously erased by crossing them out ("X" or "-") or by using the eraser (an optional accessory, see glossary above). Ιf fact, whole paragraphs can be exercised by using 'scissors' and 'paste' (also optional).

Most manual systems permit expansion to multi-copy capability with an accessory called 'carbon paper'. Large companies not yet willing to take a total plunge into the manual world might look into semi-manual photocopying machines. Some permit simple reproductions by pushing only five or fewer buttons.

- * Retail & advertising uses. The 9259 in correcting errors is manual's edge here, It is not necessary to run program in order to run a complicated to ensure that George McGeehan no longer gets mail addressed to George McGeeghan. An advantage is that Ed McMahon will no longer Ьe send huge to brochures announcing that he might present A CHEQUE FOR \$5 MILLION TO GEORGE McGEGHAN ON THE TONIGHT SHOW.
- * Personnel. A manual list of employees, their Social Security number and the hours they worked can be used to calculate payroll. This enables companies to cut costs by replacing the computer system, systems analyst and data processor with book-keeper.

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* Educational uses. Recent studies have shown that when students do not have to think about how to get the computer to work, they can think about the subject they are supposed to be studying.

* Home uses. Manualization is also discovering that they can actually print recipes on 3x5 cards and 'file' them in small metal containers. An individual recipe then be retrieved within can seconds, saving the time it takes to I've television monitor.

Christmas card lists can also be maintained manually. Columns for was each year are drawn on paper (using hassle-free. vertical lines), and check marks indicate gifts or cards received or given. codes, graphs, drawings, formats, computer system. lists can be updated (see "Eraser", above) and are accessed by taking them out of a file cabinet once a year.

In find that manualization can unneccessary waste and confusion, well save you some loot in the event thus improving productivity as well that you have to do likewise. as employee morale. (Many workers who lack computer engineering for hours. experiment called "mackers").

But the biggest reason processing unit, as it were: the asked about the problem... Oh boy. human brain. It has the capability of processing incredible amounts of may someday replace the computer!

The Committee of the HV99'ers is considering conducting a course in magnificent,

BU PETE SMITH

QUICK SERVICE PART I.

finding its way, albeit slowly, into Recently I had the misfortune the home. Housewives are to have to return my new 256 card to Recently I had the misfortune MYARC for service.I dreaded possible consequences and the time that I would be without my new toy.

"Oh no Smithy! What bad luck. heard about delays boot up the computer or boot in the service... " etc was all I heard BUT

> Thanks MYARC. Your response fast and courteous

So just to set the record This system replaces all straight and possibly set some of you at ease about buying from pests, bells and whistles of the overseas... you now have it from Manual Christmas one satisfied customer.

QUICK_SERVICE_PART_11.

facet οf sending parts general, businesses will overseas for replacement or repair manualization can cut came out of my experience and may

Having spent a great scad of degrees find the pen-paper-eraser money on the item in the first place environment fascinating, and will and then having to fork out more They are good loot to our government in the form of duties and taxes, I was reluctant to have to then pay the fur same duties when once again my card manualization is better lies at the came back into the country. To set heart of the system - the central my mind at ease I rang CUSTOMS and

Luckily I was on hols and the information in amazingly short trip to Newcastle was not too large periods of time. Some experts are an inconvenience, especially since going too far as to predict the mind the weather was beautiful and Bev looked forward to a drive around the beaches.

After waiting tall-ceilinged room the New Year on this new phenomenon, while official looking people in Anyone wishing to join this group is blue uniforms (what is there about asked to contact a committee-man those things which make you feel nervous?) ambled about business, I was referred to a small

room where two blue-clad officers checked out my story and examined my receipts and surveyed books and lists to ensure that the correct number for the category of import classification was written on each of the five forms I had to fill out.

rampant Talk about bureaucracy..

These guys were great. After filling out the forms and using carbon paper it was decided the forms weren't legible enough so the photo-copier was used on the top one | alterations made for the remaining 4 copies. Oh boy!

One form was enclosed in the envelope accompanying the card, one was for me, one was for the postmaster, one was for the customs clearing-house/post- office and one was spare. (I don't know what eventually became of that!!)

cap off the act I was escorted (by one very distinguished, blue uniformed officer) to the post-office where he witnessed me hand the parcel to the postmaster.

must admit I was a bit frazzled at the red tape but it did its job 'cause the card was returned to with delay and me no no duties or taxes to pay again.

Quite an experience I thought.

FULLIS MAMIS

BH BRIAN RUTHERFORD

Just when I thought I knew most of the features of Extended BASIC, I find I still have more to learn. After working out what was happening а particular programme recently, I realized the programmer was using a pair of redefined characters to store a disk name,

which (s)he then passed tο RUN programme with another "DSK1.PROGNAME". Because this means that if you redefine a character in one programme, and that programme RUNs another programme the redefined characters stay redefined. A point quite a few other people did not realize either.

This feature not only can be used to store file names, but if you have a large programme that redefines a lot of characters, the character redefinitions could be done in one programme and used in another, or different levels of the same game, or different games using the same redefined characters. Does this offer console only users with cassette away of squeezing more out of their machines?

But back to the file name idea. I have written two subprogrammes, one to take a disk file name and store it in characters 142 and 143, and the other to get the disk file name out of the two redefined definitions. When you character have a number of programmes that work interactively and that use the same file they can transfer that file name that is embeded in the character codes from programme to programme.

To put a file name into a character definition.

10000 SUB PN(N\$) 10010 A\$="" :: FOR I=1 TO LE N(N\$):: A\$=A\$&STR\$(ASC(SEG\$(N=, I, 1))):: NEXT I 10020 IF LEN(A\$)<=16 THEN CA LL CHAR(142,A\$,143,"")ELSE C ALL CHAR(142, SEG\$(A\$, 1, 16), 1 43, SEG\$(A\$,17,LEN(A\$))) 10030 SUBEND

2. To get a file name out of character definition.

10000 SUB GN(N\$) 10010 FOR J=142 TO 143 :: CA LL CHARPAT(J,A\$) 10020 IF LEN(A=)=0 THEN 1004 10030 FOR I=1 TO LEN(A#)STEP

2 :: N==N=&CHR=(VAL(SEG=(A=, I,2))):: NEXT I :: NEXT J

10040 SUBEND

TECHNEGAL TALK

BY PETER COXON

A tale of woe or how to replace a blown P.E. BOX transformer.

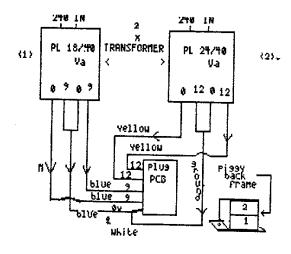
After buying a second disk drive with no power supply, I got to thinking, "How can I do this??". BRIGHT IDEA - tap into the D.C. supply. First make up a small board to hold the components, wiring right, volt regulator o.k. Switch on, everything looks o.k. Sniff? Whats burning? "Oh No" - 115v fan gone, main transformer burnt out. I found out later a screw on my little board was touching the chassis of the P.E. box.

Now were will I get a new transformer from? Give TEXAS a ring in SYDNEY. *\$70 plus postage said the man. "Far to dear" said I thinking "Did'nt I see an article in a user groups newsletter?". After ringing around, YES, came my answer this is what you'll need:

1 X PL 18/40Va TRANSFORMER. 1 X PL 24/40Va TRANSFORMER. A COUPLE OF PIECES ALUMINUIM. A NEW FAN IF REQUIRED 4inch.

Transformers will cost around 10 to 20 dollars, shop around as prices vary greatly. Fan around the same price. The only problem I had was getting the frame size right to mount the transformers on, in the small hole left by the original transformer. You mount the transformers on top of each other with a space between to let the air circulate & mount the fan on the outside of the box. (you'll need to drill a few extra holes in the back plate).

After you've gone this far nothing seems to worry you until the time comes to put it all together and switch on. The diagram with these notes is very easy to follow (I hope). Now comes the moment of truth; switch on, nothing works. Get the tester out - two burnt out resisters on the D.C. board. Once these were replaced, switch on again bingo, it was like music to my ears. All my cards worked & my disk drive was doing as it was told. If your ever in this predicament 1 hope your as lucky as I was with it. My thanks to Pete Smith , John Payne, Ron in the opal fields and the boys from the HV97er's. Now about my second disk drive - but thats another story.



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This article was written by Earl Hall and was down-loaded from CompuServ.

The following is a complete and, to the best of my knowledge, accurate description of the Disk Directory format and file storage allocation used by the TI-99/4A.

SECTOR 0 - Volume Information Block

ADDRESS	CONTENTS
*****	*****
0000-0009	Disk name - up to 10 characters
000A~000B	Total number of sectors on disk
	(0168=360, 02D0=720, 05A0=1440)
000C	09 (number of sectors per track)
000D-000F	'DSK' (44534B)
0010	50=Disk back-up protected, 20=not
0011	Number of tracks/side (28=40, 23=35)
0012-0013	Number of sides/density
	(0101=SSSD, 0201=DSDD, 0202=DSDD)
0038~END	Sector allocation bit map - see note below.

NOTE on 0038-END:-

This is a sector by sector bit map of sector use; 1=sector used, 0=sector available. The first byte is for sectors 0 through 7, the second for sectors 8 through 15, and so on. Within each byte, the bits correspond to the sectors from right to left. For example, if byte 0038 contained CF00 then the first byte equals 1100 1111. This means that sectors 0 through 3 are used, sectors 4 and 5 unused and sectors 6 and 7 used. Information for the second side of a DS/SD disk starts at byte 0065 and ends at byte 0091.

SECTOR 1 - Directory Link

Each 16-bit word lists the sector number of the File Descriptor Record for an allocated file, in alphabetical order of the file names. The list is terminated by a word containing 0000; therefore, the maximum number of files per disk is 127 [(256/2)-1]. If the alphabetical order is corrupted (by a system crash during name change, for instance), the binary search method used to locate files will be effected and files may become unavailable.

SECTOR 2 TO 21 - File Descriptor Records

ADDRESS	CONTENTS
****	** ***
0000-0009	File name - up to 10 characters
000C	File type: OO=DIS/FIX, O1=PROGRAM (memory-image)
	O2≃INT/FIX, 8O=DIS/VAR, 82=INT/VAR
	File deletion protection invoked by Disk Manager
	2 will be shown by 08 added to the above.
000D	Number of (MAXRECSIZE) records/sector

ded

dge, rage 000E-000F

Number of sectors allocated to the file (Disk Manager 2 will list one more than this number, thereby including this sector in the

sector count)

0010

For memory-image program files and variable length data files, this contains the number of bytes used in the last disk sector. This is

used to determine end-of-file.

0011

Q01C-END

MAXRECSIZE of data file. 0012-0013

File record count, but with the second byte

being the high-order byte of the value.

Block Link (see note).

NOTE on file storage: Files are placed on the disk in first come first served manner. The first file written will start at sector 0022, and each sebsequent file will be placed after it. first file is deleted, a newer file will be written in the space it occupied.

If this space isn't big enough, the file will be 'fractured', and the remainder will be placed in the next available block of sectors. The Block Link Map keeps track of this fracturing. Each Block Link is 3 bytes long. The value of the 2nd digit of the second byte followed by the 2 digits of the first byte is the address of the first sector of this extent. The value of the 3rd byte followed by the 1st digit of the 2nd byte is the number of additional sectors within this extent.

Sectors 2 through 21 are reserved for File Descriptor Records and are allocated for file data only if no other available sectors If more than 32 files are stored on a disk, additional File Descriptor Records will be allocated as needed, one sector at a time, from the general available sector pool.



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HUNTER VALLEY 99'ERS USERS GROUP LIBRARY SOFTWARE GUIDE

THIS MONTHS DEVIEW BY PETER COXON

BOXES - YOU AND A FRIEND CAN PLAY THIS ONE - OR FOR A QUIET MOMENT, PLAY THE COMPUTER. YOU HAVE A GRID 12 AND ALL YOU DO IS MAKE UP A BOX - SOUNDS EASY - TRY IT.

FUNCTION ANALYSIS. WILL GRAPH, INTEGRATE, DIFFERENTIATE, OR FIND ZERO'S FOR YOU. IT'S HARD TO FIND A USE FOR THIS ONE UNLESS YOU'RE WORKING WITH IT ALL THE TIME.

GRAPMSG. THIS ONE CAN BE VERY HANDY! A TEXT-MESSAGE BAR GRAPH ROUTINE, YOU HAVE UP TO FIVE PAGES WITH 20 LINES WITH 28 CHAR PER LINE PLUS PAGE NO, DATE AND TITLE. THE PLOTTING ROUTINE HAS GOOD GRAPHICS AND YOU CAN SWAP FROM ONE TO THE OTHER. THE ONLY THING WRONG WITH IT IS THAT THERE IS NO PRINTOUT FACILITY BUT THAT COULD BE YOUR CHALLENGE OVER THE HOLIDAYS - SIT DOWN AND WRITE A ROUTINE FOR IT.

THIS WILL AVERAGE YOUR INCOME OVER A PERIOD OF YEARS FOR TAX INCOME. PURPOSES TO SEE IF YOUR ELIGIBLE FOR CONCESSIONS.

MADONNA. THE KIDS WILL GO FOR THIS. THEIR VERY OWN POSTER OF THE FAMOUS SINGING STAR! ALL THE KIDS IN SCHOOL WILL WANT ONE.

PRINTSTRIP. THIS IS A MUST FOR YOUR UTILITY DISK. IT WILL REPRODUCE THE PLASTIC STRIPS THAT SIT ON TOP OF THE COMPUTER. INPUTS ARE KEYBOARD, DISK, COMPRESSED LETTERING (12 CHAR) OR NORMAL SIZE (6 CHAR) AND YOU CAN MAKE AS MANY AS REQUIRED WITHOUT HAVING TO START ALL OVER AGAIN.

*** NEWS FLASH *** AS WITH MANY PROGRAMMES. THIS ONE HAS ALREADY BEEN UPGRADED. SEE GARY JONES ARTICLE EARLIER IN THE MAGAZINE.

DECIDE. THIS ONE IS FOR THOSE WHO CAN'T MAKE UP THEIR MIND, SO SIT BACK AND LET THE COMPUTER DO IT FOR YOU. AFTER ANSWERING SOME QUESTIONS YOU'LL BE ABLE TO MAKE THE RIGHT DECISION.

SIXTEEN. THIS GAME ORIGINATED IN AMERICA AROUND 1870. TO SOLVE THIS PUZZLE YOU MUST MATCH THE PATTERNS ON THE INNER AND OUTER SQUARES, NOT AS EASY AS IT LOOKS, YOU MAY HAVE HAD ONE OF THESE GAMES BEFORE THE EXISTENCE OF COMPUTERS (THAT SEEMS A LONG TIME AGO!)

Q*BONO IS ANOTHER NAME FOR QBERT OR SIMILAR GAMES. GOOD ONE FOR THE KIDS TO PLAY. GOOD GRAPHICS AND GOOD USE OF THE COLORS.

STOCKMARKET. THIS ONE COULD HAVE MADE MY FORTUNE FOR ME, BUT I THINK I'LL STAY WITH ROCKING HORSE RACING.

HERE IS ONE TO REFRESH THE MEMORY. IT WILL PRODUCE A TABLE FROM 1 TO 99 SHOWING YOU EITHER THE ANSWERS OR LETTING YOU ANSWER THEM. IF YOU MAKE A MISTAKE, BE CAREFUL, AS THERE IS NO PROVISION FOR YOU TO RETURN TO THE QUESTION YOU LAST ANSWERED AND IT'LL BE OUT OF WHACK WITH whi THE TABLE.

*** HELP! *** IF ANYBODY HAS A DECENT GOLF GAME COULD YOU PLEASE LET PETER COXON KNOW ABOUT IT. THERE WAS ONE (WE THINK) RELEASED IN THE U.S.A. IN CARTRIDGE FORM.

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BY CARY JONES

you ever tried to use FUNLWRITER or DM1000 and each time a function key is needed you have to chase a scrap of paper with the key definitions on around the table?

OR, you have been a little more diligent and transferred the definitions onto one of the spare plastic overlays which came with the machine, but because you did this in on file. pencil, over a period of time the definitions are so badly disfigured that it's back to the old scrap of paper on the desk?

you have been very industrious and designed your own programme which requires а new overlay for the keys?

Then have we a programme for YOU!!

The programme was originally extracted from MICROpendium August 1986, and is the work of MICHAEL MACHONIS of MARYLAND, USA. Michael has come up with a programme which allows the user to print their own overlay strips. The printing is in 2 formats, one being normal print size and spacing, accommodating up to $\mathcal I$ characters per key definition, and the other is in compressed mode which will allow up to 12 characters per key definition.

This was exactly what been looking for in a programme, but after typing in and running programme I found a couple of small areas that could be improved. First, there is no editing facility which allows me to correct my typing errors after operating the ENTER key. Also, after loading one of the stored strips from the disk, there is no review option to allow for checking and/or alterations before printing the strip.

After running in mode I found the two puter keys did not line-up with the definition. closer examination of the programme I found the column setting was for printer will columns. Му support 142 columns so by adjusting "Q(1)" to 142 in line 230 and increasing some field sizes in line 800 I was able to pad out the key fields to match up with the keys.

With, hope. Michael's indulgence, these areas have now been improved and if I may suggest a very useful programme to any users library.

Following is the listing of the programme which you may type in or if you find this task a daunting prospect, then our club librarian has a copy plus the 9 strips stored

These are: -

- (1) DISKPATCH (6) MULTIPLAN
- (2) DM1000
- (7) STANDARD
- (3) EDIT/ASS
- (8) TE-II
- (4) FORTH
- (9) TI-WRITER
- (5) GRAPHX

HINT: - After printing your required overlay strips stick CLEAR CONTACT ADHESIVE VINYL to the front and back of the paper then cut out the strip.

PROGRAM LISTING BEGINS NEXT PAGE



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STREEP PREINT PROGRAM

100 !**PRINTSTRIP** by MICHA EL A. MACHONIS, SEVERNA PARK. MARYLAND 110 !MODIFIED by GARY JONES, HUNTER VALLEY 99'ERS, NEWCAST 120 !DELETE LINE #510 IF YOU R PRINTER DOES NOT SUPPORT S UPER-SCRIPT 130 !IF YOUR PRINTER IS 137 COLUMN IN COMPRESSED MODE, 140 !CHANGE LINE #230 - Q(1) =137 | #800 - DATA 11,11,13,11,12,12,11,12,12, 11,11 160 CALL CLEAR 170 CALL CHAR(100, RPT\$("0",1 2)&"FFFF") 180 CALL CHAR(104, "FFFF") 190 CALL CHAR(101, RPT\$("03", 200 CALL CHAR(102, RPT\$("30", 8)) 210 DISPLAY AT(9,1):RPT\$("d" ,28):" e fPRINT-A-STRIPe e":RPT\$("h",28): :RPT\$("d ",28): " eby fMICK MACHONIS e e":RPT\$("h",28) 220 DISPLAY AT(24,3):"PRESS ANY KEY TO CONTINUE" :: CALL KEY(0,K,S):: IF S=0 THEN 22 230 CALL CHARSET 240 DIM A(11), A\$(2,11), B\$(2, 11),E\$(13),G\$(99) 250 P\$(2)=CHR\$(27)&*@"&CHR\$(27) & "E"&CHR\$(27) & "G"&CHR\$(27)&"-1" :: Q(2)=80 :: W\$(2)=RPT\$("#",6) 260 P\$(1)=CHR\$(27)&"@"&CHR\$(15) &CHR\$(27)&"G"&CHR\$(27)&"~ 1" :: Q(1)=142 :: W\$(1)=RFT\$ ("#",11) 270 OPEN #1: "PIO.CR" 280 K=0 :: C\$="UPPER" :: RS\$ =" " 290 DISPLAY AT(12,1)ERASE AL L: "1> INPUT FROM KEYBOARD": :"2> INPUT FROM DISK": :"YOU R CHOICE ? 2" :: ACCEPT AT(1 6,15)BEEP SIZE(-1)VALIDATE(" 12"):IN :: IF IN=1 THEN 320 300 GOSUB 700

310 OPEN #3: "DSK1. "&F\$:: IN PUT #3:P :: FOR I=1 TO 2 :: FOR J=1 TO 11 :: LINPUT #3:A \$(I,J):: NEXT J :: NEXT I :: CLOSE #3 :: GOTO 930 320 DISPLAY AT(12,1) ERASE AL L:"1> COMPRESSED PRINT": :"2 > NORMAL PRINT": : "YOUR CHOI CE ? 1" :: ACCEPT AT(16,15)B EEP SIZE(-1) VALIDATE("12"):P 330 IF P=1 THEN RESTORE 880 ELSE RESTORE 890 340 FOR I=1 TO 11 :: READ A(I):: NEXT I 350 K=K+1 360 DISPLAY AT(1,8) ERASE ALL :"INPUT "&C\$&" RÓW" 370 FOR I=2 TO 18 STEP 2 :: DISPLAY AT(I+1,1): "GVER KEY" ;I/2 :: NEXT I :: DISPLAY AT (21,1): "OVER KEY O": : "OVER KEY =" 380 IF RS\$<>"1" THEN 400 390 FOR I=2 TO 22 STEP 2 :: J=I/2 :: DISPLAY AT(I+1,12): A\$(K,J):: NEXT I :: GOTO 410 400 FOR I=2 TO 22 STEP 2 :: J=I/2 :: ACCEPT AT(I+1,12)BE EP SIZE(A(J)):A\$(K,J):: NEXT Ι 410 !DISPLAY AT(24,1): "ANY C HANGES ? N" :: ACCEPT AT(24. 15)SIZE(-1)VALIDATE("YyNn"); CG\$:: IF CG\$="Y" OR CG\$="y" THEN 840 420 DISPLAY AT(24,7): "ANY CH ANGES ? Y/N" :: CALL KEY(O,K K,S) 430 IF S=0 THEN 920 ELSE IF KK<>78 AND KK<>89 THEN 420 E LSE IF KK=89 THEN 910 440 IF K=1 THEN C=="LOWER" : : GOTO 350 450 DISPLAY AT(12,1) ERASE AL L: "HOW MANY STRIPS ? 1" :: A CCEPT AT(12,19)BEEP SIZE(-4) VALIDATE (DIGIT):S 460 IF P=1 THEN RESTORE 880 ELSE RESTORE 890 470 FOR I=1 TO 11 :: READ A(I):: E\$(A(I))="!"&RPT\$("#",A (I)):: NEXT I 480 PRINT #1:P\$(P) 490 FOR C-1 TO S 500 PRINT #1:RPT\$("-",Q(P)); CHR\$(13);CHR\$(10)

510 K=1

520 FOR I=1 TO 11 530 IF LEN(A\$(K,I))(A(I)THEN B = (K, I) = RPT = (" ", (A(I) - LEN(A\$(K,I)))/2)&A\$(K,I)ELSE B\$(K, I) = A \$ (K, I) 540 IF I<>1 THEN 550 ELSE PR INT #1,USING W#(P):B#(K,I);: : GOTO 540 550 PRINT #1, USING E\$(A(I)): B\$(K, I); 560 NEXT I 570 PRINT #1:CHR\$(13)&CHR\$(1 580 K=K+1 :: IF K=2 THEN 520 590 PRINT #1:CHR\$(27)&"-0";C HR\$(27)&"J"&CHR\$(1);CHR\$(27) &"SO"; RPT\$("-",Q(P)); CHR\$(27)&"T";CHR\$(27)&"-1" 600 PRINT #1:RPT \$ (CHR \$ (10), 2 610 NEXT C 620 PRINT #1:CHR\$(27)&"@" 630 IF IN=2 AND RS#="2" THEN 640 DISPLAY AT(12,1) ERASE AL L: "SAVE TO DISK ? Y/N" 450 CALL KEY(0,K,S):: IF S=0 THEN 650 ELSE IF K=89 OR K= 121 THEN 440 ELSE 480 660 DISPLAY AT(12,1) ERASE AL L: "ENTER FILE NAME": : : "DSK 1." :: ACCEPT AT(15,6)BEEP S IZE(9):F\$:: F\$="DSK1."&F\$&" ¥π 670 OPEN #2:F# :: PRINT #2:P :: FOR I=1 TO 2 :: FOR J=1 TO 11 :: PRINT #2;A\$(I,J):: NEXT J :: NEXT I :: CLOSE #2 680 DISPLAY AT(12,1) ERASE AL L:"QUIT PROGRAM ? Y/N": :"YO UR CHOICE ? N" :: ACCEPT AT(14,15)SIZE(-1)BEEP VALIDATE("YŸNn"):Y\$ 690 IF Y=="N" OR Y=="n" THEN 280 ELSE 900 700 OPEN #4: "DSK1.", INPUT ,R ELATIVE, INTERNAL 710 FOR L=1 TO 127 720 INPUT #4:FN# :: IF FN#=" " THEN 750 730 IF SEG\$(FN\$,LEN(FN\$),1)= "*" THEN F=F+1 :: G\$(F)=FN\$

740 NEXT L 750 CLOSE #4 760 CALL CLEAR 770 FOR M=1 TO F 780 DISPLAY AT(Z%2+1,N):USIN G "##> ######### :M, SEG\$ (G\$ (M),1,LEN(G=(M))-1) 790 Z=Z+1 :: IF Z=11 THEN Z= 0 :: CK=CK+1 800 IF CK/2=INT(CK/2)THEN N= 1 ELSE N=16 810 IF M/22=INT(M/22)THEN 82 0 ELSE 840 820 DISPLAY AT(24,1): "DISPLA Y MORE FILES ? Y/N" :: CALL KEY(0,K,S):: IF S=0 THEN 820 830 IF K=89 OR K=121 THEN CA LL CLEAR ELSE 850 840 NEXT M 850 DISPLAY AT(24,1): "YOUR C HOICE ? 1" :: ACCEPT AT(24,1 5) BEEP SIZE (-2) VALIDATE (DIGI T):CH :: IF CH<1 OR CH>F THE N 850 860 F==G=(CH):: F,CK,Z,N=0 870 RETURN 880 DATA 11,12,12,12,13,12,1 2,13,12,12,11 890 DATA 6,6,7,6,7,6,6,7,7,6 , 6 900 END 910 CALL HCHAR(24,1,32,28):: FOR I=2 TO 22 STEP 2 :: J=I /2 :: ACCEPT AT(I+1,12)BEEP SIZE(-A(J)):A*(K,J):: NEXT I:: GOTO 410 920 FOR DL=1 TO 140 :: NEXT DL :: CALL HCHAR(24,1,32,28) :: GOTO 420 930 DISPLAY AT(12,1) ERASE AL L:"1< REVIEW STRIP": :"2< PR INT STRIP 2" :: ACCEPT AT(14 ,16)SIZE(-1)VALIDATE("12"):R SS 940 IF RS\$="1" THEN 330 ELSE 450



DESK PROFEGTEON SMERRERS

BH WILL MCGOVERN

Now. I will get straight to the point. This article will be dealing with the methods of disk protection on the TI system. With occassional references to IBM PC schemes.

In my opinion, any user should have the right to back up an important piece of software which they have ourchased. However, many software distributors believe that copy protection is the only way to prevent large monetary losses due to unauthorised copying, better known as software piracy. You must feel a tinge of sympathy for the authors who have worked long and hard to prepare a product for marketing and two weeks after its release find the program on a public BBS, free for all to download. I dislike people who would do such a thing to an author. Many, such as myself, feel a great sense of achievement when they have 'cracked' a program, and feel no urge whatsoever to give out the program to all takers. I consider cracking a personal challenge of ME VS 'PROTECTION SCHEME', with the cracker always coming out the victor, mainly because of the fact that you can't give up once you have started. (Maybe other people can but I sure can't). But software protection lives on. Many users now refuse to buy copy protected disks because of the principles involved. These principles include such reasons as inability to make backup copies. and having your entire investment depending on the reliability of one circular slice of magnetically coated plastic which can be erased by stray magnetic fields or

rendered completely useless by a single fingerprint or spill of coffee. Once the disk goes, your investment is gone.

To overcome this problem disk copiers were invented, which gave the user the ability to backup these protected disks. (The copiers were more often than not copy protected against themselves which pretty well defeats the principle of the copier). Over the years the protection techniques used on the TI have become more advanced but the disk copiers have advanced to match the new standard. After a while this just becomes a vicious circle with breakthroughs on both sides.

PROTECTION AND COPIER DEVELOPMENT

The first, and and most hopelessly ineffective protection technique was that employed in their Disk Manager 2 module. This is the proprietary protection which is obtained by entering the disk manager and pressing FCTN X ten times when the main menu comes up and then formatting a disk. The disk will then have a proprietary protection installed which will not allow cataloging or file copying of the diskette using the DM module. This system relied on the total ignorance of the users to the 'secrets' of the operating system which TI believed no one would ever figure out.

The next step up from proprietary protection was the fiddling of sectors O and 1 on the master disk to disquise where files were and what was being loaded. This was usually done with a sector editor. Another famous technique was the use of control characters in filenames and disknames which stuffed the disk managers around. These protection techniques was employed to stop the 'file copy' users who did not use more advanced disk copiers.

The official release of the sector copier (eq. Mass Copy, Nibbler etc.) gave all these aforementioned techniques a swift kick into insignificance. Sector copiers made exact duplicates of disks like these and therefore foiled all these schemes. ie.

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swift ector es of ore Control characters on master disk are duplicated on the copy disk.

Then the protection war escalated to disks with a non-standard number of formatted tracks. That is, the 'protectors' use a program, or more rarely the widget, to format less than 40 tracks on the disk and so decreasing the total number of sectors accessible on the disk. Then all they did was check to see if these unformatted tracks were present on the disk every time it ran. If they weren't then the program knew that the disk was a copy and locked up the computer. Some of the nastier ones even formatted the copy disks if they were detected, totally destroying the unauthorised duplicate.

This technique was foiled when people discovered that if they counted the head step clicks of the drive when it was formatting the disk they could abruptly cut off the format routine by pressing the reset button, and if fast enough, could stop it on the right track. They then used a sector copier and copied the accessible sectors normally.

THE LATEST IN DISK PROTECTION

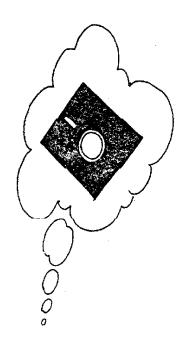
A while ago Miller's Graphics released its first contribution to the TI software market, Advanced Diagnostics. This program was exceptionally well written and far ahead of its time. However, the disk containing Advanced Diagnostics was also EXCEPTIONALLY well protected. The technique was, like the program, way ahead of anything yet employed on the TI system. Miller's graphics later followed up Advanced Diagnostics with two more advanced programmers utilities, namely Explorer and DISKASSEMBLER. The protection on Explorer was about on the same level as that used on DIAGS. A completely new style of protection has been used on the DISkASSEMBLER disk. As far as I know I have written the only program capable of backing up the DISKASSEMBLER disk.

DIAGS and Explorer are readily backed up using the 'track copiers' currently on the market, however

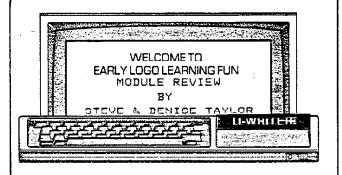
these copiers have no chance of backing up the DISkASSEMBLER disk.

The next article in this series will explain these 'special protections and give an accurate description of how they are created and what they consist of.

Bye for now, Will McGovern







OK, let's be honest, think back to when you first bought your TI99/4A, what was the strongest argument you could put to your wife to loosen the purse strings? childrens education, right?. Come on be honest, I'm sure we all used it for an excuse to get our hands on one of the greatest adult toys ever invented!

Now think back, how often have we actually used the computer to help our kids learn something, most of us have some of the early education modules, and these are without doubt some of the best available for any computer, but in my opinion I found them a little restrictive.

The concept of a module based perfect for program is young children, giving them the independence to be able to change and select their own programs without any possibility of them damaging the software as is the case with purely disk or tape based The biggest drawback I software. have found is that none of these modules allow your children to actually make something happen on the screen, sure there are all the flashy reward graphics and happy music, but this eventually wears off and the novelty of the program begins to fade and eventually the module is relegated to the back of a draw until rediscovered later on.

Well there is a module that combines the best of both worlds for not only does it provide an imagination provoking educational environment but also lets your children exercise their creative abilities and see the results on the screen.

The title of the module is EARLY LOCO LEARNING FUN and as far as I know it was never released in Australia. My module was obtained courtesy of a friend in America, but f_1 , according to the latest issue ol SEQ MICROpendium TexComp now have the the available for approx \$US12.00.

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If you are after a module that will scr excite your young children and set pic them on a path of purposeful selfthe directed learning and also develop app skills which will ultimately help. them cope with problems they will The eventually come up against at On I school, then this is the module for on you.

Why LOGO?, well for starters it ii for is a computer language that uses hor commands which are already in your try as hor childrens vocabulary, such FORWARD, BACK, RIGHT, LEFT, etc. At dis result, your child can make #14 graphical events occur simply by 11, pressing a single key. Keys and a σf pictorial presentation the It results of each Logo activity are of thoughtfully provided by TI on a set app "cue cards" which you can for photocopy and keep a set of spares, col Unfortunately with our recent shift of from Lake Macquarie to Tasmania our scr set has been lost, no doubt they Thi will turn up again one day when we had finally get around to unpacking all sin our boxes, what are the odds that ind they will be in the last box!!!. shd

pre The early Logo Learning Fun modul(use LOG(ase a selection of contains procedures in a format designed for ind children. preschool Ιt will introduce your child to computer to literacy and guide him or her intocar the world of LOGO proper. the tex

WELCOMETO EARLY LOGO LEARNING FUN

PRESS	
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FOR 1 **DIRECTIONS FOR PARENTS**

BUILD

جعب 3 PARK

PEOPLE Ø.

5 DRAW Δ

DALLAS

★★ TITLE SONG REPLAY

Upon selecting Early LOGO Learning**The** Fun you are greeted with a colourfulch: title screen and some cheery musiclet to the tune of Incy Wincy Spider, one this is a real attention grabber forwhe ore school children, next comes thecar menu screen and your activities car bagin.

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Early LOGO Learning Fun contains 4 iva activities: BUILD, PARK, PEOPLE, DRAW and DALLAS as well as the MOVE and HALT commands. Each activity involves moving various objects to different areas on the screen to make a unique design or When an activity begins, the first object on the screen appears in the home position.

These objects are called "sprites." Only four sprites can be positioned on a horizontal line. For example, in the BUILD activity, where the sprites are squares or blocks, only four blocks are able to stay on one horizontal line. If your child tries to place a fifth block on a horizontal line, the first block disappears from the line until the fifth block is moved to another

It is possible to change the colour object by pressing the of the appropriate key. ie. R for red, B for Blue etc, altogether there are 7 colours. It is then a simple matter of moving the object around the screen by using the arrow keys. This is where the cue cards come in handy because the cue cards are a simplified set of instructions indicating what keys your child should press and the result of pressing those keys. They can be used to introduce an activity or to assist your child in working independently.

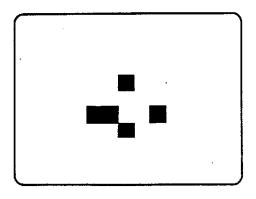
To assist your child with the cue cards it is a good idea to colour in the crayons on the cue card with texta colours to match the colour with the appropriate letter. TI has wisely left the crayons on the cue cards blank so that they would photocopy better.

Any mistakes, and there are bound to be many by younger children, can simply be erased by using the normal Erase function.

BUILD

When the Build activity is started a black square appears in the centre of the screen, the HOME position. Learning The colour of the square can be changed by pressing the appropriate letter key. The square can then be positioned by using the arrow keys. When the child is happy with this he can select another square simply by

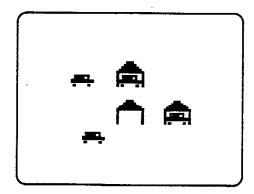
pressing the A (for Another) key. If the square is not moved away from the home position and another square is selected it will not be visible because each new square selected always appears in the Home position.



It is possible to have 31 squares on the screen before the activity runs "OUT". When your child is tired of playing BUILD it is simply a matter of pressing Q for Quit. A Question mark will then appear in the top left hand of the screen allowing the child to type in the name of the next activity

PARK

The PARK activity involves moving cars and garages to make picture on screen. This activity encourages decision making skills introduces the concept of assigning colour and direction to a sprite.

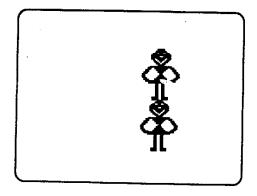


The PARK activity lets your child pick a car or garage simply by pressing C for car and G for garage If your child presses C a black car appears at HOME, changing the colour and position is exactly as described for the BUILD activity

PEOPLE

The PEOPLE activity lets your child build "People" on the screen by placing body parts together.

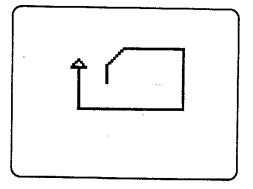
encourages your child to make small task part of a larger one by placing body parts together to make a "person".



In the PEOPLE activity, a black face appears at the HOME position, the colour and position can be changed in the normal way. The remainder of the body parts (the head, torso, left arm, right arm, legs and feet) appear on the screen one at a time by pressing the A key. It possible to have up to 4 people on the screen before the sprites run out.

DRAW

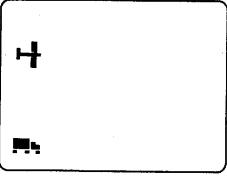
The Draw activity involves making a design or picture on the screen by moving a small triangle called a "TURTLE." Your child can tell the Turtle in which direction to move by pressing the F (forward) or R (backward) key, and it draws a line. The Draw activity also introduces directionality. By pressing the R (right) or L (left) keys, these turn the turtle through an angle of 45 degrees.



This activity also provides readiness for commands in TI LOGO II Turtle mode, such as FORWARD, BACK, RIGHT, and LEFT commands and also the PENUP and PENDOWN commands which are catered for by using the D (draw) and N (no draw) keys.

DALLAS

The Dallas activity involves moving planes and trucks on the screen t a colourful, graphica "picture." Your child can change th colour, position, and speed of each object on the screen. This activit can help your child develop numb: recognition and skills in cause ar effect relationships (ability predict what will occur whe something is done to an object (thing).



The Dallas activity lets your chil twel press P key for a plane, or the key for a truck. The exciting thin The about this 'activity is that th planes and trucks move. Your chil can make them go slow or fast simpl post by pressing a number between 1 an mate 10. Nine(7) is the fastest sped_into One(1) is the slowest. If you chil This wants a truck or plane to stop grou simply have him or her type zero(Ø) in

_{th} next Your child can also change direction in which the sprites mov on the screen. The sprites can mov up, down, left or right simply buth pressing the arrow keys.

MOVE

The word MOVE makes objects mov ... across the screen and the word hal 120 makes the objects halt their 130 movement

The MOVE and HALT commands can bis applied to your childs design in al the activities.

In concludion I would like to so that the Early LOGO Learning Fu 200 module is well worthy of you ass consideration if you have your children as it will provide them wi 220 stimulating and rewarding compute 230 time, as well as giving them gentle introduction to a compute "3"; language they may wish to persue a "(23 a later date.

Well arti no J as arti than aliv ten hous star comp

that phon

SOLU

"RES 150

160 170

ASSE

movins screen td raphical hance the each activity lity to lir. wher bject G r

107Ø FOR I=1 TO 3 138Ø CALL SOUND (200.550.2) 1390 CALL SOUND EXPLORING BAS 141Ø CALL HCHAR

142Ø CALL HCHAR 143Ø GOTO 187Ø 144Ø TOTAL-TOTAL

1870 CALL HCHAR (19, 22+1, ASC (SEG#(STR#(TOTAL).I.1)))

TO LEN(STR\$(PLA

HAR (21, 22+1, ASC (AYS), [, 1)))

145 146: (T) 147

1480 TALL SUUND (200,440,2) 149Ø CALL HCHAR(17,23,51) 1500 CALL HCHAR (17,24,48) 151Ø GOTO 187Ø

197Ø IF K=78 THEN 112Ø 198Ø IF K<>83 THEN 194Ø 199Ø CALL CLEAR 2000 END

Well its time to write the last 260 PRINT SCORE(A,1); TAB(5); SCORE article for the year and as there is (A,2); TAB(10); SCORE(A,3); TAB(15); no January issue, we have to make it SCORE(A,4); TAB(20); SCORE (A,5) as big and as interesting as two 270 NEXT A articles. First I would like to 280 END thank Joe for keeping the article alive. I have been trying to squeze SOLUTION 5-2 ten days into a week to extend my I think it is finaly starting to look like it might reach 110 CALL CLEAR completion sometime in the twelve months. Anyway, enough on 130 PRINT "ENTER that subject but thanks again Joe.

ng thing The direction Joe stated we were NAM\$(ZN) headed in the last article has been 150 PRINT : "EXAM RESULTS" t simply postponed till we put together the 160 FOR A=1 TO 10 material we have already covered 170 INPUT SCORE(A,ZN) into some sort of working program. 180 SCORE(0,ZN)=SCORE(0,ZN) This was a unanimous decision by the (A, ZN) 190 NEXT A group so if anybody shows interest 200 SCORE(0, ZN) = SCORE(0, ZN) /10 in a program to record addresses, phone numbers, etc we can work on it 220 NEXT ZN next.

Now for anyone who had a play around 250 PRINT "EXAM RESULTS FOR": NAM\$ with last months problems - here are (ZN) the solutions we arrived at. SOLUTION 5-1

rd half 120 FOR TUEST their 120 FOR ZN=1 TO 2

130 PRINT "ENTER STUDENT"; ZN: 320 PRINT

"RESULTS"

can be 150 INPUT SCORE(A,ZN)

160 NEXT A

170 CALL CLEAR

"{5 SPACES} STUDENT 390 NEXT ZN

them wit 210 PRINT "{9 SPACES}STUDENT NO."

them a 240 PRINT " 1"; TAB(6); "2"; TAB(11); computer "3"; TAB(16); "4"; TAB(21); "5":

"(23#'S)" 250 FOR A=1 TO 10

100 DIM SCORE(10,5), NAM#(5)

next 120 FOR ZN=1 TO 5

STUDENT"; ZN; "DATA":: 140 INPUT "NAME (5 SPACES)"

+SCORE

210 CALL CLEAR

230 CALL CLEAR

240 FOR ZN=1 TO 5

260 PRINT

270 FOR A=1 TO 10

290 PRINT TAB(10); SCORE(A, ZN)

290 NEXT A

300 PRINT

310 PRINT "{7 SPACES} AVERAGE"

330 PRINT TAB(10); SCORE(0,ZN)

340 PRINT "PRESS

ANY

KEY

TO

350 PRINT CONTINUE"

360 CALL KEY (0,K,S)

370 IF SK1 THEN 360

380 CALL CLEAR

400 END

Now the problems for this month are aimed at further improving In our program, next article we hope to add a title screen.

the hat the ur child ren 1 and it sped; kou child

o stop, zero(Ø).

inge the es move can movel imp1y by

to say 180 NEXT ZN 190 CALL CLEAR 200 PRINT ASSESSMENT 210 PRINT 210 PRINT 49 1

PROBLEM 6-1

Modify solution 5-2 to allow any number of students up to a max of 30 to be entered.

PROBLEM 6-2

Further modify program to allow any number of exam results up to a max of 10 to be entered.

avoid NOTE: The intention is to having to enter non existant names and results.

Finaly on behalf of the group and myself I would like to wish everyone

Alan Franks.





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WITH "THE ADVENTURER"

article of the PLA For my last I brief will give a year. popular_{exp} description of the more Adventure Games. str

ADVENTURELAND

This game has the distinction a merry Christmas and a Happy New of being the first of the good cle puzzle games. Thirteen treasured com lie above and below ground. COM

DEADLINE

You, the detective, are called upon to investigate the apparent the σf wealthy and suicide a You**so** industrialist. philanthropic encounter no monsters or wizards, hur just 7 characters you can talk to question or watch as they move about independently. You have 12 hours to unravel the mystery and arrest suspect. SOR

ENCHANTER

You, the neophyte wizard, are Bel charged by your wizened mentor, mig Belboz, to sek and destroy the eviltor wizard Krill. Find out what it's Jes like to be sacrificed!

GHOST TOWN

The locale is an old Westernwhe town, complete with saloon, hotel, you telegraph stations, jail, Boot Hill,und an indian and a piano playing ghost cur YOu must find and stash away 13 treasures. eff

GOLDEN VOYAGE

dea You have three days to find the potion from the Fountain of Yout) rel required to restore the aged King tre To help you accomplish this mission, ^{bu}**STR** you receive enough gold to various supplies and sailing ship threta d needed to shuttle between All three seelis different islands. som(rep to contain fountains and magical stones with which you musto contend. Then, if you are lucky of enough, you get to meet clever Cyclops.

INFIDEL

not You are а to bright vast treasures of an Egyptian Queens of a planet - that's you. have to cope with some devilish traps that the Queen has set for you.

brief PLANET FALL

Inction good asures

called parent and You lzards, ilk to, about urs to est a

d, are mentor, e evil it's

lestern hotel, Hill, ghost. way 13

nd the Youth King. ssion. buy g ship three e seem some u must ky or meet

After surviving an interstellar popular explosion you find yourself on a VOODOO CASTLE strange pinet, deserted except for a robot named Floyd, who friendly gives you his utmos devotion. clear until well into it, when you Castle. You encounter a come across the computer within a computer.

STRANGE ISLAND PART I

You try in this game to obtain the Password that permits you to noted millionaire businessman enter Savage Island Part II. mysterious looking pirate, cope with life. a Neanderthal looking man and push investigation, the right buttons.

SORCERER

Sequel to ENCHANTER, it seems that your mentor, the aged and wise ZORK I Belboz, has gone off on a secret mission to rid the world of an evil over You must find him and do in underground force. Jeearr.

STAR CROSS

It's long ago and far away, when suddenly the strident alarm of ZORK II your spaceships advises you of an uncharted mass in space. Naturally off. Beware the Wizard... curious (if not, it would make a very short game!), you rendezvous, ZORK III effect an entrance, turn on some lights and encounter both living and dead remnants of preceding alien civilizations, advanced technology, religous superstition and tragedy.

STRANGE ODYESSEY

a damaged spaceship, your only hope Christmas and a Happy New Year. lies in finding objects needed to repair your ship, figuring out how to do it, obtaining the planets five treasures and returning home.

SUSPENDED

It starts as just another day archaeologist bent on finding the in the life of the central mentality Normally pyramid, rumoured to lie not far three computers maintain stability from your camp in the otherwise and equilibrium in the weather, food endless sand. Before it's over, you growing and transportation systems but everything goes wrong, so you must use your wits, manual over-ride capabilities and six independently controlled robots to right the wrongs.

Yours is the not so simple task removing a curse from the Count The Cristo. The game takes place amid purpose of the game doesn't become the rooms and hallways of Voodoo doll, a Jutu man, a book for removing curses and more.

WITNESS

In L.A. in 1938 the wife of has To do committed suicide. You are so you must survive a tropical detective assigned to investigate hurricane and a sickly bear, find a his concern over threats made on his In the midst of your is shot! Whodunit? - the butler, the daughter or the wife's lover, and how?

You start near a deserted house a huge and wonderous cavern. Nineteen treasures await discovery. You will meet and deal with a Troll, a thief and Cyclops.

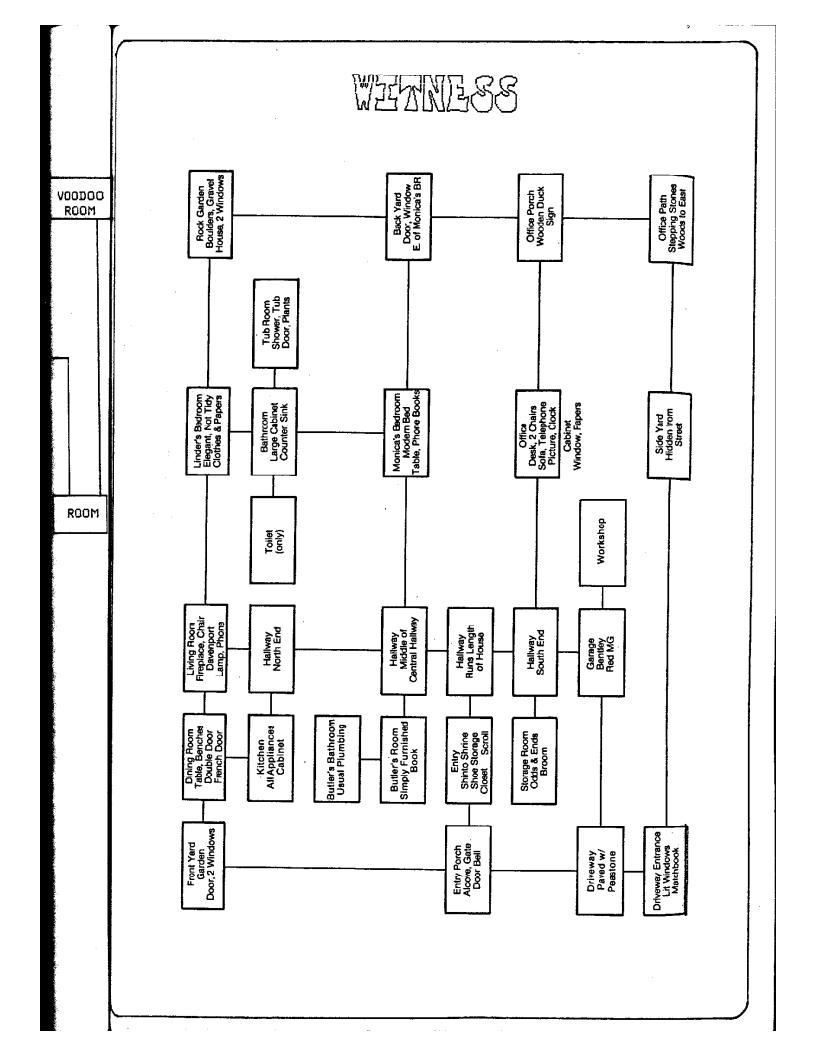
You start where ZORK I left

The best of all!!!

Well, that's it for past year, but keep those tips and hints rolling in. H.H.G.T.T.G.-2 is out but I have not obtained it yet, but again, any hints would be welcome. Stranded on an alien planet in I wish all Adventurers a merry

Rodney Gainsford

VOODOO GASTLE NARROW PART OF CHIMNEY VOODO LEDGE CHIMNEY ROOM ROOM CHIMNEY TUNNEL DRAWING CHAPEL ROOM ROOM ROOM CELL CAST IRON LAB ANIMAL PARLOR FLYER POT AHEAD ROOM ROOM STAIRS DUNGEON KETTLE MAD ROOM TORTURE ROOM GRAVE ROOM YARD CHAMBER ARMOUR The ADVENTURER



ASSEMBLY LANGUAGE

FOR THE LAYMAN

Hello once again, it's good to be be saved because it will be lost on inc Australian summer. Well we have not RETUR2 coast. Cold southerly winds, rain into RETUR2 on line 33. that the flies are so friendly, 31 after clearing the particularly at picnics.

This month I have included a cursor I have made the comments in routine to type in. It requires the programme as useful as I could. to be set before BRANCHING to it.

Before BRANCHING to the Register 3 should be loaded with the this is BRANCH AND LINK. length of the input to be accepted. Register 4 has the screen position The Cursor routine is from lines the at which displayed loaded into it.

In the programme this is done on if not line 28, length of input and line 29 135-140. the screen position. Note of course counting from zero actually gives 10 after enter has been pressed. characters in the input stream.

Lines 14 to 20 are the character codes for special keys which are searched for by the routine.

Line 21 sets aside 2 bytes for a screen default value.

Line 22 set aside 32 bytes for my work space.

Lines 23 24 sets aside two bytes character each for return addresses to be alternately RETUR1 has the into it on line 26.

Last month you will remember the within a routine which has already 52 tests for a key press. been branched to. address of the original Branch must

back. Last month I mentioned the the second branch. This is what not is used for, the return**not** had much summer yet here on the east address of the first branch is saved tio It is the and overcast skies - sounds a bit reloaded into R11 on line 65 after lin like Melbourne to me! - All this has the ENTER key has been detected. ret not done a thing to discourage the Then to complete the stepback to the bush flies. Mind you, I don't have E/A module the E/A module return If anything against insects, it's just address in reloaded into R11 on line tha STATUS to 500 Register. is

Aft lin tha the TF

dis dis lin las

the Con Thepro screen position and length of input operation is as follows, the main calling programme in on lines 26-32.Lin After loading R3 and R4 the routinifun routine is Branched to on line 30. Noticha

> input is to be through to and including line 134, det That is assuming you have a DELA routine already in your programme, Five lineinc then also include are RIGH

that the length loaded into R3 is 9. The return address is saved on limins Since the register is cleared and 33 and is reloaded to R11 on line 6:DELE

> sel/The few lines are The next explanatory. Line 39 adds screen position and the length of a This leaves input required. holding the last screen costion thallimi tithe the cursor will be allowed 2000 advance to. deta

Line 42 reads any character whic**sim**s may be occupying the screen positiodecr which the cursor will take up. This flashe**The** then is cursoline with the t i m**BO** Obviously first return character. address for the E/A module saved into the routine that will be theurs blank character >20. This is don Line on lines 44-50. 0051

discussion on BRANCH and LINK from Line 51 branches to KSCAN and linkhen mext Line The return completes the loop if no key irout pressed by returning programme figthe time to line 44.

line 54 tests for a character less screen position determined by If it is less than >20 length incrementing the cursor address is current cursor position. tion is incremented on line 61 and When the character count incremented on INSERT routine is completed line 60. Programme returns to key press detect again.

is load into R11 from Control then returns to the calling originally defined in R3 and R4. programme.

function characters. character detected appropriate routine is BL to, after left. the routine is completed line 82 JUMPS programme flow back to the key The remainder detect part of the programme.

included in the programme. They are; LEFT ARROW RIGHT ARROW

INSERT

DELETE

ERASE

The LEFT and RIGHT ARROW routines are similar. When the arrow routine is BRANCHED to the cursor position A NUMBER? is tested against the left and right ******** limits for the cursor. Lines 83 for What would happen if we typed in a arrow. If the end position detected the simply not incremented decremented.

cursor postion in R4.

Line 94 checks for the position, if it is the last position is in actual fact; then the routine returns for the next key. The remainder of the ONE HUNDRED routine lines 96-108 simply shuffle TWO TENS the characters along by one each THREE UNITS time INSERT is pressed. The

a key press has been detected characters disappear after the last criginally loaded R3. then it is a special function key. This is done by reading the second If it isn't then it must be a last character position allowed on displayable character. It is then line 99. It is then written to the displayed on the screen by VSBW on last character position on line 101. line 57. Line 58 checks for the This process continues until on line last screen position, if it is then 103 the position read equals the When this not done. If the last position is is reached a blank is written to not reached then the cursor posithat screen position on line 107. this point is reached the and flow then programme flow returns to the key detect section again.

If the character detected is less The ERASE routine starting on line than >20 then programme flow JUMPS 109 and ending on line 118 simply to EVALK3 on line 63. If ENTER has writes character >20 the blank into been pressed then the return address all the character positions between RETUR2. | minimum and maximum positions

DELETE in some what similar Lines 67-81 tests for any of the INSERT except that it deletes the If a special character under the cursor and the shuffles all characters one position

of the programme is the delay loop lines 135-140. This routine counts to 2000 to cause a Five function character routines are delay so that the cursor can be seen.

> The next step is to use that data Which has been typed in and onto the screen. The information would be read from the screen image table to a buffer area in CPU ram and then processed as required.

the left arrow and 87 for the right number? Lets assume a simple number is like 123. We think that we have cursor address is typed in ONE HUNDRED and TWENTY or THREE. The computer thinks you have typed in characters (HEX), >31,>32 and >33. They have no numerical The INSERT routine which starts on value at all to the computer. What line 91 uses R2 R3 as accumulators we would have to do is write a short so as not to destroy the original routine to convert that data into a number we can add, subtract etc. As you will remember from an earlier last article that number we have typed in

st on what **e**turn saved t is after cted. o the eturn line

TATUS

the The main 4-32. utine Note

33 134. DELAY amme, lines

line ne 65

self the th of R6 that

to

which ition This ashed ursor

time e the done

line 53 PY 15 flow The characters 123 are evaluated individually. We know that character >31 is the hundreds digit, the process is as follows.

- Subtract >30 from >31 this leaves
 >01.
- 2) Now multiply that number >01 by 100 and place the result on an accumulator.
- 3) Sunsbtract >30 from the second or tens digit then multiply it by ten.
- 4) Add this value to the accumulator which will now have 120 in it.
- 5) Subtract >30 from >33 the third value or units digit.
- 6) Add this value to the accumulator giving a total in the accumulator of 123 or >78.

THE OTHER WAY.

To convert a number from a value to displayable characters is the oposite to the above. Assume >7b or decimal 123 is still held in our accumulator.

- 1) Divide 123 by 100. This gives the answer 1 and remainder 23.
- 2) Add >30 to the value 1 giving >31. Now display it on screen.
- 3) Divide the remainder by 10. This gives 2 and the remainder 3.
- 4) Add >30 to the value 2 which gives >32. Then display it in the next screen position.
- 5) Add >30 to the value 3. this gives >33 which is displayed in the next screen position.

THE END.

That is all I have time for this month. Dead line for articles is in one and a half hours. Next magazine which will be the February issue, some numbers will be input using our cursor routine added then displayed on the screen.

To everybody a Very Merry Christmas and a delightful New Year.

ALLEN WRIGHT

0002 * 17-11-86 FILENAME SOURCE-EA/PROG/4 00x)3 * OBJECT=EA/P/40BJ 0004 * LOAD LENGHT OF INPUT INTO R3 COUNTING FROM ZERD 0005 * LOAD POSITION ON SCREEN INTO R4 0006 * LAST SREEN POS R3+R4 PLACED IN R6 0007 * SCREEN POSITION SAVED IN R7 0008 * RES R9 HAS CHARACTER COUNT ON EXIST 0009 DEF START PROGRAMME NA 0010 REF KSCAN, VMBN, VSBN, VMBR, VSBR REFERENCES 0011 STATUS EQU >8370 STATUS REG ! KEYBOARD DEV 0012 DEVICE EQU >8374 KEY VALUE RE 0013 KEYVAL EQU >8375 ENTER KEY 0014 ENTERK BYTE >0D LEFT ARROW 0015 LEFTK BYTE >08 RIGHT ARROW 0016 RIGHTK BYTE >09 INSERT 0017 INSERK BYTE >04 DELETE 0018 DELETK BYTE >03 0019 ERASEK BYTE 207 ERASE 0020 SPACE BYTE >20 SPACE BAR 2 BYTES FOR DEFI 0021 DEFDAT BSS >2 SPACE FOR W/SPA 0022 MYMSP 8SS >20 FIRST RETURN AM 0023 RETURN B55 >2 SECOND RETURN A 0024 RETURZ 9SS >2 EVEN PROG COUNT 0025 EVEN SAVE RETURN ADDR 0026 START MOV R11, ARETUR1 LWPI MYWSP CREATE MY M/SPACE 0027 i.ľ LENGTH OF INPUT R3,00009 0028 SCREEN INPUT POS R4, >0104 0029 LI BRANCH TO CURSOR ROL ∂6ETKE1 0020 BL CLEAR STATUS REG 0031 CLR **OSTATUS** DRETUR1, R11 RETURN ADDR 0032 800 0033 RΤ BACK TO E/A 0034 SETKEL MOV RILL PRETURZ SAVE RETURN 2nd ADM CLR DDEVICE LOOK AT WHOLE K/BOAM 0035 CLR OSTATUS CLEAR STATUS 0034 CHAR COUNT 0037 CLR R9 MOV R3:R6 LOAD ACCUMULATOR 0038 MOV R4,87 LOAD ACCUMULATOR 0039 LAST POS INTO RA R7, R6 0040 SAVE POS INTO R7 MDV R4-R7 0041 0042 GETK1 NOV R4,80 CURSOR POS READ EXISTING DATA BLWP DVSBR 0043 SAVE EXISTING DATA 0044 MOVE RI- SDEFDAT WAIT FOR A WHILE 0045 BETKE2 BL DDELAY1 NEW CURSOR POS. MOV R4,R0 0046 LOAD CURSOR DATA R1.)1E00 0047 LI BLWP 2VS8W WRITE CURSOR 0048 0049 BL DDELAY1 WAIT FOR A WHILE LOAD DEFAULT DATA 0050 MOVE ODEFDAT, RI WRITE DEFAULT CHAR BLWP DVSBW 0051BLUP OKSCAN **GET GEY STROKE** 0052 DI ANY KEY PRESSED DSPACE, DSTATUS 0053 CB -01 NO KEY GO BACK JNE GETKEZ 0054 LESS THAN >20? Ď1 0055 EVALKI CB OKEYVAL, OSPACE JLT EVALKS TO SPEC KEY ROUTINE 01 0056 01 0057 HOVE OKEYVAL, RI KEY VAL INTO RI 0058 BLWP DVS6W WRITE CHAR TO SCREE 0059 C R4-R5 LAST POSITION? JEO EVALKZ YES DON'T INCRM RAN 0660

0001 * FOURTH TUTORIAL PROGRAMME

		0061	TAIC	R9 R4	INCREMENT CHAR COUNT
			INC		INCREMENT CURS POS
3 0		0063 EVALKZ	JMP	BETK1	BACK FOR NEXT KEY
		0084 EVALKS	CB	OKEYVAL, DENTERK	ENTER PRESSED?
		0065	u NE	FVAI 1	NO GO TO GOED YEV OTHE
		0066	MOV	ORETURZ, R11	RELOAD SECND RETURN ADDR
			RT		RETURN TO CALLING PROG
IE NAME		0068 EVAL1 .	CB	OKEYVAL, DLEFTK	LEFT ARROW PRESSED?
ES CONAT		0069	JNE.	EVAL2 OLEFT1	NO NEXT KEY CHECK
REG EQUATE					BRANCH TO LEFT ROUTINE
DEVICE				OKEYVAL, ORIGHTK	
JE RETURN		0072	JNE	EAHE?	NO NEXT KEY CHECK
		0074 EUA4 T	8L 20	AKIDNII	BRANCH TO RIGHT ROUTINE INSERT PRESSED?
		0074 EVHES	59 116	EVAL4	NO WEXT KEY CHECK
		0074		LTDLT	BRANCH TO INSERT ROUTINE
				OKEYVAL, ODELETK	
		0078			METER LUESSEN.
		0079	BI BI	EVAL5 DDELETT	NO NEXT KEY CHECK BRANCH TO DELET ROUTINE
DEFAULT			ΓA	DKEYVAL, DERASEK	EDAGE DEFCEEDS
/SPACE		0081			NO GO BACK
N ADDR		0082			BRANCH TO ERASE ROUTINE
RN ADDR		0083 EAMTP	JAP		
COUNT		AAAA : CET!			BACK FOR NEXT KEY LEFT MOST POSITION?
		0085	JFO	FFT2	YES ST ROLK
Œ		0086	DEC	R4	DEC EUR POS
		0087 LEFT2	RT		BACK FOR NEXT KEY
		0088 RIGHT1	C	R4,R6	LAST SCREEN POS?
ROUTINE		0089	JFD	RIGHT2	LEFT MOST POSITION? YES GO BACK DEC CUR POS BACK FOR NEXT KEY LAST SCREEN POS? YES GO BACK INC CUR POS BACK FOR NEXT KEY
6		0090	INC	R4	INC CUR POS
		0091 RIGHT2	RT		INC CUR POS BACK FOR NEXT KEY LAST SCREEN POST INTO ACCUMULATORS LAST POSTION?
		0092 INSER1	NOV	R6.R3	LAST SCREEN POST
ADDR.		0093	HOV	R6, R2	INTO ACCUMULATORS
/BOARD				R4+R6	LAST POSTION?
		0095		INSER2	
		0094	RT		YES GD BACK SECOND LAST POS ADD ONE TO CHAR COUNT
R		0097 INSER	z dec	R2	SECOND LAST POS
R				. R9	
b `		0099	MGV		LDAD RO
I		0100		P avser	GET SECOND LAST CHAR
		0101	MGV		NEXT POS
PATA		0102		P DVSR4	WRITE TO LAST POS.
MTA		0103 0104	DEN.	R3.F4	NEW POS FOR CHAR AT CURSOR POS YET?
Ē	1	0105		INSER2	NO 60 AGAIN
FA		0105	u rc KQV		CURRENT CURS POS
H	1	0107	LI		LOAD BLANK CHAR
LE	1	0108		P 2V58#	WRITE BLANK TO CURS POS
ATA	l	0109	RT	. 4.054	GD BACK FOR NEXT KEY
CHAR		0110 ERASE		R9	CLEAR CHAR COUNT
e ins	1	0113 20002		7 R7 - R0	FIRST POSTION
•	1	0112	LI		BLANK CSHAR
ľ	1	OLIJ ERASE			WRITE BLANK TO FIRST POS.
	1	0114 Canac	i L		LAST POS YET
UTINE	1	0115		ERASE3	SO AGAIN
i) n) 1167	1	0116	HOV		ORIGINAL SCRN PDS
r Sebeen	1	****	:191	HITT	AUTOTWHE SOUN LAS

SCREEN

N 84,R9

0117		RT		GO BACK FOR NEXT KEY
0118	ERASE3	INC	RO	NEXT SCRN POS
0119		JMP	ERASE2	DO IT AGAIN
0120	DELETI	NOV	R4,R3	STORE CURSOR POS
0121		DEC	K9	DEC CHAR COUNT
0122		Û	R3,R6	LAST POS?
0123		JEQ	DELET3	LAST POS ROUTINE
0124	DELET2	MOV	R3.R0	LOAD CURS POS
0125		INC	Rú	NEXT POS
0126		BLWP	DVSBR	READ NEXT PATT
0127		MOV	R3, R0	NEW POS FOR PATT
0128		ELMP	OVSB#	WRITE IT
0129		INC	R3	NEXT SCRN POS
0130		E	R3,R6	LAST POS?
0131		JNE	DELET2	DO MEXT CHAR
0132	DELET3	ΗÛV	R3,R0	LAST POS
0133		LI	R1,>2000	BLANK CHAR PATT
0134		BLWP	DVSBW	WRITE IT
0135		RT		RETURN
0136	DELAY1	LI	R8,2000	LOAD DELAY COUNT
0137		ELR	R3	CLR ACCUN
0139	DELAY2	INC	R3	INC ACCUM
0139		€	R3,R8	ACCUM=2000?
0140	i	JNE	DELAY2	NO THEN 60 AGAIN
0141		RT	•	RETURN
0147	!	END	**	



EPSON PRENTER CODES

BY PAUL MULVANEY

This is a quick program to run to set up your printer to the Whenever I switch on my printer it starts in draft mode required mode. which is almost unreadable as the ribbon gets a bit old. As a minimum I run the printer in Emphasized mode and for a final print I add Double Strike to provide Near Letter Quality. The problem was how to set-up the printer without looking up the manual each time. Originally I had a whole heap of individual programs on a disk and I selected the required file then continued on. Because I used these programs so often I decided to combine them into a selection screen to allow the selection of a number of options. The turn off for the options is not. included as the program is designed simply to set the printer then go on with whatever programming, etc you want. To cancel the codes I simply turn the printer off and rerun the program to set new codes. you find you always use a combination of the codes combine the PRINT #1: lines in one of the subprograms. This program could easily be added to a LOAD program to allow automatic setting of the printer upon power up

```
100 REM* OPEN PRINTER FILE *
110 OPEN #1: "RS232"
120 CALL CLEAR :: CALL SCREEN(12)
130 REM * DISPLAY OPTIONS *
140 DISPLAY AT(1,4): "EPSON PRINTER CODES"
150 DISPLAY AT(3,2):"1 CONDENSED" :: DISPLAY AT(5,2):"2 EMPHASISED" ::
DISPLAY T(7,2): "3 DOUBLE STRIKE" :: DISPLAY AT(9,2): "4 UNDERLINE"
160 DISPLAY AT(11,2):"5 WIDEPRINT" :: DISPLAY AT(13,2):"6 ITALICS" ::
DISPLAY AT (15,2):"7 SUPERSCRIPT" :: DISPLAY AT(17,2):"8 SUBSCRIPT"
170 DISPLAY AT(19,2): "9 ALTER LINE SPACING"
180 REM * TEST SELECTION IS BETWEEN 1 AND 9 AND SEND TO THE APPROPRIATE
SUBPROGRA M *
190 DISPLAY AT(24,4): "ENTER SELECTION " :: CALL KEY(0,KY,S):: IF S=0
THEN 190 EL SE IF KY<49+KY>57 THEN 190
200 KY=KY-48
210 ON KY GOSUB 500,400,700,800,900,1000,1100,1203,1300
220 REM * SELECT EXTRA OPTIONS *
230 DISPLAY AT(24,4): "ANY MORE CHANGES? Y/N " :: CALL KEY(0,KY,S):: IF
S=0 THEN 230 ELSE IF KY=89 THEN 140
240 IF KY=78 THEN 250 ELSE IF KY<>89 AND KY<>78 THEN 230
250 CLOSE #1
260 END
500 REM * CONDENSED *
510 PRINT #1:CHR$(15)
520 RETURN
```

700 REM * DOUBLE STRIKE * 710 PRINT #1:CHR\$(27);"G"

600 REM * EMPHASIZED * 610 PRINT #1:CHR\$(27);"E"

720 RETURN

620 RETURN

800 REM * UNDERLINE *

810 PRINT #1:CHR\$(27);"-";CHR\$(1)

820 RETURN

900 REM * WIDEPRINT *

910 PRINT #1:CHR\$(27); "W"; CHR\$(1)

920 RETURN

1000 REM * ITALICS *

1010 PRINT #1:CHR\$(27);"4"

1020 RETURN

1100 REM * SUPERSCRIPT *

1110 PRINT #1:CHR\$(27); "S"; CHR\$(0)

1120 RETURN

1200 REM * SUBSCRIPT *

1210 PRINT #1:CHR#(27); "S"; CHR#(1)

1220 RETURN

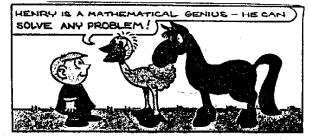
1300 REM * ALTER LINE SPACE *

1310 PRINT #1:CHR#(27);"1"

1320 RETURN















SMARSIAR SITE

REVEEN

HI 99'ers.

Some more Fairware and Public Domain disks arrived to review and release to anyone interested.

*** USABLE DISK CATALOGER ***

While Another good disk cataloger. not as fast as Marty Kroll Jrs. (only because you have to each file is information and presented for inclusion/comments), it is more useful in some respects. If a game has lots of files, the comment and would be great for a available from the Club Library. smaller number of disks than the 150+ disks that the Hunter Hunter Valley 99'ers Library has.

Disk name has to be PGM/CAT and 300 disk/file records can be kept on SS/SD.as well as the program.

It has 4 Files included in the program:

LOAD, DOCS, PRINTZ, SORT.

DOCS. Can be viewed on screen or dumped to printer via the program. FUNNELWEB or TI-Writer.

Runs Correction Utilities, LOAD. Cataloger, Instructions Printout.

sort alphabetically the catalog by Filename, Keyword or Category if desired.

SORT. Is an ASCII M/L sort from New Horozions Group and sorts over 400 files in less than I minute!

It is more a Data Base, in that some information is user input and some taken automatically from the disk.

the final printout contains The following information ...

- Category (game, utility etc.)
- Keyword (how you search for the 2. program, name, use or whatever)
- File name (the real name of the Program taken from the disk)
- 4. Disk name.
- 5. Number of sectors used the program.
- Kind of program (D/V, I/F, PROG, etc)
- Access (E/A opt 3, XBasic, TI-Writer)
- 8. Your comments

The program outputs records to the screen or a printer

So if you want to add comments and more information about the files first one is all that is needed with this is the one for you and is now

MUSIC LOVERS.

Have you ever wanted a Hammond organ or a piano but now, because you have just expanded your system, have no room?

Well your worries are over!

SORGON II is the answer and is the available disk in now on Library.

What is SORGON II? you may well It is a new Public Domain Assembly Programme that turns your TI99/4A's keyboard into musical (if you can play that is) keys to play sounds like a Yahama or Hammond at PRINT2 is a stand alone program to less cost. (\$3.00 or \$4.00 p/p). Get one now if not sooner!

and Assembly Disks ** ** 4th.

2 Freeware disks by Col Christensen of Redcliffe Qld.

DISK AID+ V.1.5

includes full Disk Fixer in FORTH

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documentation on the disk, explains disk layout, prints a report of the directory, bit map, delete/install pointers and is an invaluable tool in helping you understand more about the disk contents. Takes you step by step in easy to follow guidelines on disk sectors.

ASSEMBLY UTILITIES

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trying to understand it.

Col has sent these in the form of a Groups/people who are interested. chain to the User Groups to pass on. Thank you Col.

XMAS SPECIAL Funnelweb. V. 3.4

Record counter to assist in easier hacking of your disks as well as DIRECTORY as Option #3.

Lots of other refinements make this the Number One, most USEFUL UTILITY as far as the web has spread and it has far .outgrown it's early XBasic TI-WRITER loader origin.

Just in - DM1000 V3.5. stand alone version at the moment but including all the documentation to get the full use of this fantastic extra, and the Melbourne Users Group FAIRWARE disk from the Ottawa will be putting a surcharge on the from the 99'U.G.and Bruce Caron.

All the Club Software is available on request.

Merry Christmas to ALL our READERS, and Happy Programming for YEAR.

Al Lawrence.



NEWS FROM

Peter Gleed of the Melbourne A disk full of routines for use of Users Group has advised us that they programmers into Assembly or those will be importing hardware from the German firm, MECHATRONICS, and will accept orders from

Peter will telex the supplier with an order a few weeks goes to Germany and he personally brings the goods back. An order will be placed at approx. 3 month intervals. If you require FUNNELWEB V.3.4 is now available in anything during his next trip, have 10 living colours, no spiders, and, your order to Peter by 20th January, as an extra bonus, a modified DISK 1987. He intends going over early EDITOR with auto-repeat cursor. Byte in February. On his return he will post your hardware in Melbourne.

> Prices shown are in German DM. a current exchange at rate 13DM=\$A10:-

128	3K RAM Board	199DM
128	BK GRAM Card	349DM
	Mouse + Disk	
TI	Intern (book)19	.95DM
XB	II Flus	. SODM

Postage from Melbourne Ottawa will be putting a surcharge on the cost of the hardware to cover telex costs and make a small contribution to Group finances. The surcharge will probably be in the order of 5-7.5%.

The German firm hopes to have the NEW an 80 column card (349DM), and an IBM Card & keyboard {640K on 499DM) available board! for delivery sometime in February. of these items require a Monitor.

> You can get in touch with Peter Gleed to place your order at:

> > 88 Main St., BLACKBURN VIC. 3130 Phone 03-8774790

Ron Kleinschafer HV/99ers.

*IT HAS TO GO !!! That black hole is still laying in wait for some poor unsuspecting soul blunder into, possibly never to be seen again!!

Well at least that was FREDS statement after his last encounter with that menace that is still out there somewhere in the bush. If you get out of it intact, after which he spent several weeks meditating and, coupled with liberal amounts of balm trademarked XXXX) finally came to an they both agreed that they would try! to work together.

It I had to agree with him. was not very safe to have such a his I somewhere out there, besides, thought of the enormity of the scientific interest that would be locate, gould aroused 1+ we catalogue and map its position, maybe even have it named after its creators ???

1 [YES!! YES!! Find i t decided. It would become the nineth wonder of the world. What's the eighth you ask ?? Come on now, everyone knows that's the TI.99/4a (it's still working, isn't it??).

I decided that I would need a lot of help and because FRED had favourite nerve balm.

BY THE WAY, THIS IS ALL TRUE !!

After that FRED did recall after his about dawn, he started to stir previous encounter was that when he in his condition he was not exactly that BLACK occasionally saw what appeared to be happened to look up and, through a hazy circle of light that appeared bleary eyes, saw a HAZY circle of at regular intervals. Maybe it was light that seemed to come and go at the entrance to another dimension, perhaps we will never B--- BLACK HOLE know I remarked. So down to work.

could get our hands on, and then gathering as much data that could. such as LANDSAT COMPUTER ENHANCED IMAGERY photographs of the area showing ground LINEAMENTS plus TOPOGRAPHIC, GEOGRAPHIC, and FIELD SURVEY maps and documents, we set to about compiling this data into usable information that could be computed and plotted in an attempt find some vagaries that may suggest the location of the ERRANT NON ENTITY.

Night after night computations recall his experience in September's were carried out, with sheet after issue, FRED was lucky and managed to sheet of plotted curves, graphs and mathematical analysis printed out for study but very little being found. One thing I will say for (I think it was FRED is that he tried very hard. I suspect that he might have lost ACCORD with his nervous system and couple of dollar coins when he fell in last time and would like to try and get them back !!. Since the work was very tiring FRED decided to give up for a while and relax with and medication meditations dangerous phenomenon idling around (remember the XXXX ??). Now FRED was not one for doing things by half, when he decided to have some medication he really dosed himself up!

is where more trouble This started - we never seemed to be out of it. FRED started to unwind early one morning and stayed at it until late that night. Now having what some may call a SHIRT FULL, he decided to go home and rest, so he set sail for his quarters. I should say here that to the inexperienced, travelling by foot through the bush late at night is not recommended, but FRED has been doing it for years already had some experience with it so nobody took any notice. After I enlisted his help, although at several near mishaps with fences etc first he was a little reluctant and he finally crashed through his front had to be bribed with more of his door and passed out in his large open fire place.

Under normal circumstances that much talking one thing early hours of the morning, just and HOLE he sure as to his whereabouts. When he time|regular intervals. "INSIDE AGAIN !!" muttered. Although he seemed to be floating he didn't panic, he just Reading as much material as we started to twist and squirm his body

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towards that hazy circle of light. For what seemed an eternity he For what seemed an eternity worked hard at trying to get to that other time dimension at least. Then he passed out !!!

Did he make it? you ask. say, what happened is that 1'11 that he scrambled up his own chimney, fell off the roof and BROKE HIS BLOODY ARM !!

PROBLEMS, PROBLEMS, PROBLEMS. There seems to be no end of them. At least I had the good fortune to locate my truck again, albeit it being parked in the main bar of a very popular hotel, the problem being that I was threatened with legal litigation if I did not remove To make matters worse it was being used as a large garbage can and ash tray and the local council was threatening other action if I did not empty it. What to do ???

Pouring out my dilemna to some acquaintances they rallied around and formed a working party to go and get the truck out of the hotel. GREAT !! Maybe that would be the end to it. Not to be so.

After studying the situation it was decided to remove the back wall and park the truck in the vacant lot at the rear of the hotel, besides it cause many traffic would not problems and the wall would be easy to refurbish as every one of my helpers was an EXPERT brick layer (or so they said). So to work. The wall was knocked down in no time at all, the whole execise taking about ten minutes (maybe it was because of the chilled 375ml aluminium encased lunches waiting on the bar ??)

Since the truck had run out of petrol we had to push it out, besides, it would not be fair to all swirling liquids seem to ave start it and wake the other hard workers that were having a quiet the floor. Sweating C2,H2,OH1 profusely, we pushed and heaved till the truck rolled out into the vacant lot then we returned to replace some of the lost After several hours we C2,H2,OH1. regained our strength then I went out back to the truck ** IT WAS GONE XXX, no wheel tracks, nothing !! Talk about luck! It rolled out of the hotel and disappeared straight but its rainin look ell outside. into that BLOODY BLACK HOLE AGAIN. When the news first spread there was

panic amongst the townspeople, until someone pointed out that it's just was needed. WHAT what asked?? The reason was that now the townspeople didn't have to worry about the BARWON river flooding the excess water would anymore, disappear into that BLACK HOLE and cause no more damage.

think I had better get a letter off straight away to others.

> TO THE FARMER, BUTTERCUP FARM, LITTLE WIDLECOMB HARDY. SODS COUNTRY.

\{crook word processor? (Atrax Robustus indeed. Ed.!!) Dear sir.

I ave to inform ee that ee had better get in good stock of that cider ee seem to be so fond of an store it at considerable altitude along them wee there valuable colonial books, also oi suggest that ee check plumbin oh that small room in back, I ave feelin that ee will need it in urry soon. Now the nex toime the groun starts rumbling and eaving ee had better keep your eyes open and don't shut em.

If ee can, tell Ole John to start praying harder and perhaps depart for another Monastery, also while ee are at it ee might (if time permits) tell widder woman to get married and move to 'nother county.

0i ave to inform ee that 'orrible contraption is on loose again only this toime if the BARWON river overflows (BARWON'S a bit like stretch of water tween ee and Froggys) all 'ells gunna loose, the problem stems from fact that us ere in banana republic unusual physical phenomena whereby habit of turning clockwise, what happens when it gets to ee at sods country where it swirls anti-clockwise direction, LORD only knows, so if ee hear a noise in small room at back that sounds like sewer backing up, all Oi can say is look sharp loik an get to ell out thar.

> REGARDS, RON.

P.S. Oi don't want to worry ee

BH TONH MCGOVERN

It was recently pointed out to me that a spider is not a bug, and that this column should be called Arachnid Corner or some such name. Well, I was conscious of the distinction from the start, but this series started out being about bugs, not written by bugs, so the name seemed entirely appropriate for the subject matter. Still does Long daylight savings ton. evenings have been spent clearing out the jungle that had grown up during the preoccupation with programming Funnelweb. Lots of the little critters' holes out there where the Tradescantia grows -over everything. No punishment is too cruel or unusual for the moron who introduced that noxious weed to the area. The same goes for privet too.

First I'll continue with the hardware review from last time. have accumulated more experience with the Myarc 512K RAMdisk card and now are running a HORIZON RAMdisk as well, which arrived in from Bob Boone just after last month's article was written. That makes it a computer with over 700 Kbytes of RAM and 130 Kbytes of ROM that I'm using right now. That's right - my lil' old 99/4a. could take 3 more Horizon cards for another 576 Kbytes without either physical or logical distress. would happily have one more, but 3 more would be sheer excess.

Word is filtering in on the auxiliary power situation for the Myarc - the undocumented socket at the rear of the card. My summary of the San Diego experience is that unless you do it properly don't bother. Let's interpret that.

Initial inspection showed the the external line coupled to the on-card regulator through a diode for reverse isolation. The obvious source of power is a plug-pack in a mains socket which remains switched This has the problem that there is very little filtering in such gadgets of rubbish on the mains - just look at all the extra components TI put into the PE-box I think the real for this purpose. problem is that there is almost no protection against mains dropouts, as there are only small capacitors in the plug-pack and in the card. The card regulator would provide some protection against spikes, but is helpless if the supply drops So you either have to use a better supply or float rechargeable batteries across the supply as one San Diego user has done with success so far. This news is encouraging in that it means that it isn't affected by the PE-box Myarc advise that the correct bus. power up/down cycle should be observed. These aren't CMOS RAMs so a isolated battery would be good for only a short life without mains charging unless of substantial A/h capacity. Another solution to the short term mains drop-out problem would be a large capacitor, but I'm not sure what the rectifiers in a typical plugpack will handle and I wouldn't want to go squeezing more into the card itself.

Anyway we are not worrying too much about all that because we now have an Horizon card as well. How do they compare ? Installation is easy in either case if the card is the only one in the system. Only one Myarc card may be used, but several Horizons may be installed. If so, or if the Horizon is in addition to a Myarc card its address switches must be set. circuit detail to note is that the Horizon uses CMOS memory. goes this is both good and bad. The good news is that the standby power requirements of these are so low that some on-card Ni-Cads are enough to retain memory without any worries about external supplies. The board can be removed, stored and replaced without losing its (We know because our contents. PE-Box self destructed (a shorted power rectifier diode) and the

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Horizon card contents were still there when replaced after repairs. Just don't remove it with PE-Box power on !!) The bad news is that they are considerably more expensive than dynamic RAMs of similar capacity. The Horizon card is limited to 180K (DSSD equivalent) by the physical size of the 8Kx8 RAMs. 32Kx8 are now available but are still expensive, and Dave Romer figures they will have to come down to \$A12 or so to be viable in this application. They would certainly make the board less crowded, even if its present design limits it not much more than DSSD size.

Unlike the Myarc which bank switches the 32K memory expansion. the Horizon stays entirely within the confines of the assigned DSR space. It does this by bank switching the upper 2K of this space (>5800 - >6000) by CRU addressing. Since only 128 CRU bits are available for each DSR a little arithmetic gives the estimate above. On the Myarc scheme, 32K at a time, much larger sizes could in principle be handled, but it is much trickier to deal with from a programmer's point of view because it is switching the RAM in which the normal assembly programs reside. The Horizon in this sense remains truer to the original TI concept of peripheral devices sharing a predefined address block. The Horizon DSR is also in CMOS RAM, occupying the lower 6K and some of the 2K blocks. This means that the programmer can alter the DSR or install new versions from disk , and complete source code and auxiliary programs are provided. A welcome contrast to the traditional TI approach which Myarc also follow. This is why I said 2 Horizons would be quite a thinkable prospect. you have one there is the temptation to experiment, but neither do you want to surrender the existing RAMdisk function. card has DIP switches which allow the CRU base address to be set. The normal disk controller resides at CRU base >1100. The first address >1000 is normally vacant (I think TI used it for production test equipment according to the Technical Manual) and is usually taken by RAMdisks because it gives

the quickest response. The Myarc device hogs this address, while the Horizon can be switched to any vacant CRU base. So ours is set at >1200.

So how does it handle. Basically like a charm. It is a little slower than the Myarc because it uses VDP in the same way as the TI disk controller, but both are so much faster than physical disks that it hardly makes any difference. So far neither has lost any data because of a machine lock-up. I have identified only one bug so far and this I expect will soon be fixed. This stems from the TI DSR system design which never envisaged that there could be more than one disk card in a eystem. As you recall it works, the DSR LinKing process that is, by searching through the DSRs until it matches the device name being requested. Now we accept the limitation that if two devices call themselves DSK1. that the one earliest in the search path is the one that will always end up doing the work. The problem comes with routines not normally visible to the Basic programmer which of necessity have the same name for all disk cards, such as sector read or write. The present problem with Horizon is that it doesn't scream loudly enough if asked to do one of these, but at a disk number other than the one it is currently emulating. This means that sector reading routines unless specifically designed to recognize the Horizon currently terminate at the first Horizon card in the system, whether or not they actually worked properly. The special routine used in the Horizon auxiliary programs works fully but is too lengthy to use in FUNNELWEB and assumes all sorts of internal details of the Horizon ROS. current issue of FWB has routines that will find the first Horizon card in a system, and will find all of them when the Horizon ROS (RAMdisk Operating System) is updated. Edgar Dohmann of the JSC UG in Texas has run into the same problem in developing Super-Forth, as TI-Forth makes heavy use of sector accessing.

Now these comments could equally well apply to the Myarc,

but the designers of that had thought about and circumvented it in an entirely transparent fashion. I'm somewhat chagrined that we had the Myarc operating for a couple of weeks without realizing that there might have been a such a problem. I guess that's some sort of tribute. What happened was that as soon as the Horizon was installed at CRU base >1200, sector accessing routines like QD, SD and so forth just ignored it. A little detective work revealed the sector routine common name problem, and also that even physical disk sector access was occurring at the CRU base >1000 for the Myarc card rather than at the disk controller CRU base of >1100. I haven't gone into it at all but I expect it is doing the same sort of thing as Will found last time for the print spooler function, namely going out into its own private 32K bank and driving the regular disk controller from there, returning all error codes correctly. This method is all right as far as it goes, but there is no way that the Myarc knows about any other disk emulators at higher CRU bases. could of course search for them in the same way that FWB now does, but its DSR is in ROM so there is no way of making changes when it is found to be inadequate for purposes beyond those it was designed for. The Myarc does appear so far to do correctly everything it was intended to do, but its designers never allowed for more RAMdisk cards in the system. A shade arrogant perhaps, but no program can ever take care of every eventuality.

The signals we get on the new Myarc computer continue to be mixed. News from Ottawa dated a couple of months ago was that costs had been cut by redesign and the operating system was bug free. Initial production run was to be for 2300 with 1000 sold already. The Nov 86 Ottawa Newsletter says one was received there, but without any operating system as yet. The most recent letter from the US said it was still not out, and that word was that the DOS was rather skimpy with some big drawbacks, details unspecified. Look how long it took for software to appear that used the 99/4a to anywhere near its

notential. You might say that was because of TI's self defeating secretiveness, but if you find consolation in that thought remember that Myarc seem to be just as secretive about details as TI That doesn't augur well ever were. for a machine that by its nature will sell only in limited numbers to the existing 99/4a user base. certainly don't think we are interested in the machine at all if its architecture is not completely And if only the same open. proportion of Myarc owners respond to "fairware" as ever did of 99/4a full system owners, then there will be very little incentive to add to A liking for TI the curiosity. 9900 family assembly code can stretch only so far when it comes to spending real money on a successor machine.

A simple hardware modification I have done on E/A and XB cartridges is to add a reset button. All that is involved is to install a pushbutton switch on the name-plate end of the cartridge. Essentially it does what the reset button on the Widget does, but then you don't have to have that thing in the road of your right hand. The act of inserting a cartridge into the console slot causes a computer reset. The 99/4a was always designed so that you could hot plug cartridges (unlike some other machines) and the purpose of the reset was to make sure that the GROM address in the cartridge was reset or the machine would lock up. We also all know now that the cartridge slot is the weak point of the machine and should be used as little as possible, so that removing and re-inserting a cartridge id not a good way to reset the machine. TI on the other hand did not supply any other form of reset other than switching off and back on (I believe IBM did the same with the PC at the behest of software manufacturers to make it difficult to find out what the software was doing). If you are developing assembly code where lockups are likely to happen a reset is much preferable to cycling the power because it gives you a chance to find out what happened.

The cartridge reset is by a resistor which discharges an RC

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network connected to the 9904 This recharges oscillator chip. when the cartridge and its resistor is removed (it takes a while which is why rapid re-insertion can fail to reset the machine). What you need is a momentary contact normally open spst switch. I used Tricky Dick's S-1102 plastic push button type which I had around. These are as physically large as can be tolerated, and I filed the ridge flat on one side so it would fit closer to the top of the cartridge case. Mount the switch in a hole made in the front of the cartridge, making sure it doesn't foul circuit board components. This is a lot trickier with XB. Solder two wires to it and wrap with insulating tape. On the circuit run from the end contact on the lower side of the circuit board (in E/A, a GROM only cartridge there are contacts only on the lower side) you will find a resistor, probably 100 ohms. Lift one end of this resistor and solder the wires from the switch to the free end and the hole it was lifted from. Use a little more insulating tape and carefully reassemble the whole thing. If you have mounted the switch properly there should be no unexpected mechanical interference. I first did it to a Carwars module which had had a brain transplant with a E/A GROM sent over by a friend in the US of A, and then I did it to the spare XB module. These are the two that we are likely to lock up the machine with.

We now also have a "Cache Card" made by Tom Spillane in San Diego. This has a E/A GROM and an 8K CMOS RAM with lithium cell battery backup. Very handy, either for FWB with CTRAM or for DEBUG or SBUGA. I gather that a model with CRU addressable 32K RAM is to be introduced by DataBiotics in California. This could make an interesting combination with the Myarc 512K card used as memory expansion. This same outfit has brought out Super-Forth by Edgar Dohmann and friends which loads in the 8K. It is basically TI-Forth revamped with all that extra space available for the user program.

A little bit of bug-squashing to fit the title of the column There is a bug before we leave. which can be fatal in the first issue of Vn 3.4 of FUNNELWEB. This can cause a crash because the system thinks QD is loaded when it may have been overwritten. Use Disk-Patch to look at the sector >10 after the start sector of LOAD (if LOAD starts at sector IED then it will be found on 1FD or very close by and comes about half a sector after the ASCII messages cease, the last being DSKO.UTIL). Look for the hex word FF20 (about a line or two after 9FFF which is easier to spot). The word preceding FF20 should be C810. In LOAD these may or may not be word aligned, depending on the length of the XB part of LOAD. Either make a similar correction to UTIL1 or more easily run UPATCH as prescribed in the documents. Before doing any of this check your FWDOC/REPT file to see whether it has already been attended to.

That should be enough for now. A merry Xmas 86 to everyone and may you get at least as much fun during the frustrations of our TI-99 computer hobby in 87 as you did in 86.

