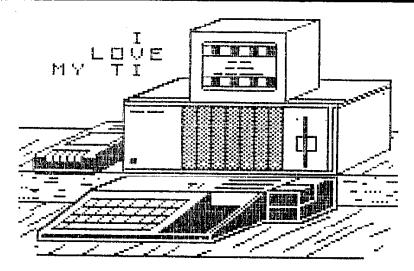
HUNTER VALLEY 99ERS USERS GROUP OME GOMPUTER ZEWSLETTER







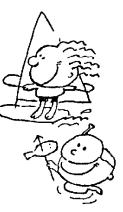


APRIL 1989











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Members and non members are invited to contribute articles for publication in HV99 NEWS.

Any copy intended for publication may be typed, hand written, or submited on tape/disc media as files suitable for use with TI Writer (ie. DIS/FIX 80 or DIS/VAR 80). A suitable Public Domain word processor program will be supplied if required by the club librarian.

Please include along with your article sufficient information to enable the file to be read by the Editor eg. File Name etc. The preferred format is 35 columns and page length 66 lines, right justified.

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Articles for publication can be submitted to the Editor, ALL other club related correspondence should be addressed to The Secretary.

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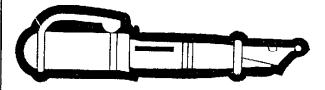
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PRESIDENT'S



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Al Lawrence

Now that we are in new rooms at the High School for the monthly meetings, don't overlook the small room next to the main meeting area. After the main demo newcomers and all interested in whatever can grab a cup of coffee, pop in and see what is going on. Someone will always be available to assist you get the most from your investment - set up your module or RD200 ramdisk, customise F'Web, set up and show you how to use TI Artist, Printers Apprentice and anything else you did not know and were afraid to ask.

If anyone would like to see again the imprompts demo of the 3 RD200's in February, this is the place to see it.

WE NEED YOUR HELP to survive !!!

See next month's position vacant column to find out more. NOW is the time to start thinking of standing for a position on the Committee and having a say on how the HV99'ers is run. So why not consider helping your group to continue successfully?

If you are a GUNNER why not be a DOER? This can be challenging and also very rewarding.

ON THE GRAPEVINE

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QED/SUPERSPACE-QUEST RD200/HORIZON

I have on beta test for owners the above a Moader to overcome the volatile DSR links (well at least on tao! Ι'n the Module instantaneous reloading, formatting This very versatile QED 4.4 very hard working, underground mole at the black hole, merrily nibbling away to make life a breeze for the TI'ers with combination of the above. Anyone with all or part mix of them will soon be able to obtain a copy from the HV 99'ers library.

EPROMMER V3.Ø

Now in the HV 99'ers library is the latest version and thanks to the interested EPROMMER's feedback to Ron, all known bugs have been zapped and the ozone layer is save.

See article by Ron in October HV99 Newsletter for full review. THANKS RON.

GRAPHICS and QUEST RD200

Just imagine if you had about 10 disks with TI ARTIST, TASS, GRAPHX, PICASSO, MAXRLE, DISPLAY MASTER, CSGD, LABELING, PRINTERS APPRENTICE, FONTS, MACFLIX etc all the shuffling loading of disks, wear and the time consumed.

Well if you have all the above and a QUEST RD200 as well you can have them all running from the RAM disk with a master menu and some mods to the loaders using a sector editor such as DSKU 4.2 or DPATCH. Garry Jones and Larry Reid have done so with great success. You can back it up compressed with Archiver onto a backup disk.

Nothing is faster than a speeding QUEST!!!!!



random bytes

BOB CARMANY

A few months ago, I wrote a about "rolling your own" ---nat 'locoweed' cigarettes but your own minor hardware projects. Well, here is "The Adventure of the Long Cable" as Sir Arthur Coman Dyle would write. I finally decided to move my disk drives from the "porch" they were sitting on to a more secure place in mУ home-made computer hutch that sits on my desk. The only problem was that the cables that I had were all too short --made really for connecting a second drive to a P-Box I presume. After much self-debate, I decided to "take the plunge" and put together a disk drive cable of my own. The result was a trip to Radio Shack (Tandy) to the necessary parts. Three edge-card connectors (34-pin) and a 6' length of 36 strand flat cable and I was in business. The cable, I found could be easily cut to length (44") with a pair of scissors and two un-needed wires were stripped off in one smooth pull after making a small cut between the second and third wire in one side of cable. Next, the three edge-card connectors were carefully placed in the appropriate positions (for two drives) and seated into place with a pair of pliers. The edge-card connectors Tandy are re-usable unlike some others and very easy to line up correctly. The most anxious moments were lining the tiny insulation "spades" up so that they wouldn't accidentally sever a wire when they were crimped into Testing was easy --- just attach the cable to the controller and drives and load and save a couple of programs. Another victory for computer self-sufficiency --and it only cost \$12 and 10 minutes to make!

Oh yes, it appears that the Geneve 9640 has the infamous "Myarc disease". You remember back when Myarc introduced Vn 1.xx of the XBII (later XBIV), There was so much confusion over which version was the most recent and which version worked with this or that program that the BBS's here literally 'lit up' with traffic. You guessed it--the Geneve is worse!! Plaintive messages like "I'm running GPL Vn 1.05 and DOS Vn 4.01 and I can't get this

program to run correctly". Answered by " you need GPL Vn 1.08 and DOS Vn 4.02 to run that particular program but keep the versions of each that you have to run this other program". I guess if you have a Geneve you need an different operating system for every program that you have. The dialogue is really quite amusing—— unless you happen to have spent \$500 for a Geneve. As a sidelight, Wayne Stith (HYPHENATOR, KWIKFONT, TRIAD) has had his back to Myarc twice for repairs and it isn't even a year old. Be careful!

Here is a little "beauty" I ran across in my browsing through newsletters that might make life easier for those of you with contacts in Europe. Basically, European Vn 2.0 of TI-writer appends some strange tabs when files are saved with the SF option (PF to disk is no problem). These tabs render the files un-readable with Vn 1.0 of TI-Writer (or the FWEB This short conversion appeared in the EAR99'ers newsletter and will solve the problem that you have with Vn 2.0 files and the appended tabs. I have left the attribution in the program to give the author full credit.

100 REM MAKE VN 2 TI WRITER FILE ACCEPTABLE TO VN 1 based on an idea by Peter Walker. UK 1988

110 DISPLAY AT(2,2) ERASE ALL: "INPUT NAME OF FILE TO BE": "MODIFIED:"

120 DISPLAY AT (6,2): "DSK1."

130 ACCEPT AT(6,5)SIZE(~12):FILE* :: FILE***DSK*&FILE*

140 OPEN #1:FILE*,DISPLAY,VARIABLE 80,APPEND

15Ø A\$=CHR\$(128)&CHR\$(134)&CHR\$(1 28)&CHR\$(212)&RPT\$(CHR\$(213),16) &CHR\$(128)&CHR\$(136)

16Ø PRINT #1:A\$

170 CLOSE #1 :: PRINT "DONE"

18Ø END

Essentially, what this does is to replace the Vn Z.Ø tabs with the ones that are saved by Vn 1.Ø.

Let me close this column for now and start thinking about what to write for next month. 'Til then...

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compiled by BRIAN WOODS

Another month passes, bringing us even closer to the all important Annual General Meeting. It is of vital importance to the future of the Group that EVERYONE in the Group contributes something to the Group, otherwise there is NO future!!

PUBLICATIONS LIBRARIAN

Thanks to Ken Lynch we now have Publications Library under control again. In the near future we will have The Greatest Mailout see Bits & Pieces for details. to the loss of our photocopying facilities, we are unable, future, to copy the newsletters we receive from other groups. Instead the original copy will go in the library, so all members are asked to be careful with them when they borrow them, and make sure they are returned promptly. If you want to any newsletters, books, magazines etc see Ken at the meetings or phone him on 585983 after hours.

SOFTWARE LIBRARIAN

Stewart Bradley, ably assisted by his father Jim, has offerred to look after the software library. Stewart is in the process of

completing the sorting out of the library begun by John Paton. If you want to be of assistance to Stewart come along to the Great Software Sortout to be held at the school on Saturday 15th July. Further details of this event will be announced as the date draws nearer, but make a note on your engagements calendar now.

SOCIAL EVENING

Following on the success of year's night out with the ladies at the Lake Macquarie Yacht Club, another has been organised for Friday 26th May, commencing 7.00pm, at the same place. The night is being organised by Noel Cavanagh and seats are strictly limited so book your seats with Noel on 373317 (business hours) or 333764 at home as soon as Children are welcome to attend the evening but remember that this is a registered club, so they are not allowed out of the restaurant.

ADVENTURE NEWS

Rodney, our mad adventurer has received news that will gladden the hearts of all you like minded people. Infocom has announced that they are going to re-release their Adventure Series for the TI. All adventures released since their closure that can be converted (memory permitting) to the TI will also be released.

MICRO-EDUCATIONAL CATALOGUE

Micro-Ed's Autumn catalogue was recently received and there is one item in it that may be of interest. They are offerring a KX-Pi081 printer for \$399. This is budget, 12Øcps parallel printer... features Near Letter Quality, dot addressable graphics, ribbon long life, friction and tractor feed and a 12 month warranty." For those with a little more to spend they offer an Epson LX-800 for \$525. "Clocking in at 180cps draft, making the ideal for low cost, high volume printing. Also features 2 Near Letter Quality fonts, and Panasonic features."

HARDWARE HACKERS TAKE NOTE

In the February issue of MICROpendium there is a review on a PBox Prototype Board that is available from L L Conner Enterprise

1521 Ferry Street Lafayette IN 47904 USA

"If you have toyed with the idea of developing a new drop in card for the PE Box, your choices of media until now have been perfboard or make it yourself PCB's."

"The new PBox prototype card is a professionally designed PCB, double sided, with plated through holes and gold plated edge connectors...The card fits great into the box, and can be used either bare or with a clamshell cover...there is plenty of room for various chips. A 'memory' section allows for up to 8 RAM/ROM chips, with individual chip selects; next to this is an area for about 15 20-pin general purpose chips."

The price is \$US35 each. If you are interested in further details contact me and I will get a copy of the article for you.

FAIRWARE NEWS

Very little software has come to the club in the last few months. Two items that appeared in other newsletters detail some of the new fairware currently doing the rounds in the States.

1000 WORDS is written ЬУ Normann Rokke. According to the Feb/Mar issue of the East Anglia Region 99ers Newsletter is "a utility program for use with TI-Writer/Funnelweb which converts picture files from TI-Artist Display/Variable 80 files. Files created by 1000 words can be printed from the Formatter of TI-Writer and gives you the capability of using! TI-Writer to print documents which contain both text and graphics... Create a designed text with text and graphics."

Sounds like an interesting program, doesn't it? Another program receiving rave reviews is FLYER bу Rodger Merritt Θf California. The following details come from Tom Arnold of Channel 99 Users Group and appeared in the February issue of the melbourne group's newsletter:

"One of the 'gems' I picked up in Chicago was a program called Jiffy Flyer. This program allows you to create flyers, notices, signs, etc using fonts and pictures. One of the best features of this program is that it allows you to design your flyer on screen so what you see is what you will get. Due to memory limitations the page is shown on screen as the top half of the page or the bottom half. You can toggle between either half so this is not a problem."

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"As usual I booted up the program and started designing my first flyer without reading the documents. Most steps to be taken were obvious so not reading the docs didn't matter much. However you may never learn how to go from the top half to the bottom half of the page if you do not read them. Your first decision is how you wish to lay out your graphics. These are 'GR' graphic which have been used with CSGD, TI Artist and Graphic Labeler programs. All are interchangeable and many are the same graphics."

"All in all this is one of the best programs I have come across to print out a notice quickly with little effort." Jiffy Flyer sells for \$US10 and is available from: Rodger Merritt 1949 Evergreen Avenue Fullerton CA 92635

From Chick De Marti's 'Did you know that..?' column in the January issue of the LA User Group newsletter comes the following info:

Loading Programs Type Size 33 May be E/A option 5 PROG D/V 8Ø Text - TI-Writer n D/V 163 n Merged file PROG 48 (or larger) Basic or XB D/F 128 or probably Archived D/I 128

Note: some D/V, I/V or I/F could be DATA files.

From the same column comes this PR-Base hint:
"Sorting and so on are based on an ASCII string and everything works according to the ASCII values of the characters. Thus while 4 comes after 2, 22 will come before 4. Use leading zeros on numbers you are sorting by, then you will correctly

find the sort as $\emptyset 2$, $\emptyset 4$, 22. Also...

Selective Indexing search works on your input UP TO the first space, so that 'good day' will only work on 'good'. To use the whole thing, you must insert a question mark, thus: good?day."

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From the Sydney UG Bulletin Board and reported in the April issue of their newsletter comes this information about PRESS.

"Phoned over to Asgard Software today at 10.30am 25th February to check on Press and other programs. All programs but Press will be sent early nest week, but Press will take (estimate from Asgard) 2 weeks to 10 weeks or maybe more before it will be ready to ship.

From Dick Beery, writing in the President's column in the March issue of the 'Spirit of 99' newsletter comes this timely piece:

"What excitement have you generated with your TI lately? Tried using any new programs? Found a new way to use your wordprocessor? Tried writing some programs within your range of capabilities? Gone back and rediscovered some of the wonderful 'oldies' of several years ago? Try your hand at writing an article for the newsletter - a review of some program you like - or didn't, or maybe some special use you have for the computer that others might like to hear about, etc.

As the soon-to-retire Editor of the HV99ers Newsletter, I, like Dick, would like to see some input our members to newsletters. The articles appearing each month usually come from the same band of faithful contributors; Joe, Al, Tony, Bob and Jack (the last 2 being overseas members), so why don't YOU give it a try? The newsletter this month is not smaller just to save postage you know!

BEDEEQ & BT08

from Joe Wright

This month I have tried to find suitable quotation to summarise the damage we humans have done to this planet's environment but I couldn't find one to put my feelings in plain words. As an alternative a short silence for what this planet used to be before we humans really got our act together and started destroying Then another short silence for what the planet will do to us if we don't stop the act! As sure as eggs earth will make us pay dearly if we don't, maybe not this generation or the next but it will catch up with us THAT'S FOR SURE. Planet Earth would go along just fine without us humans - it doesn't need us but we need it. I'm certain that majority of the other creatures we share this planet with would heave a collective sigh of relief if we were to "disappear", assuming we leave any.

MINI MEMORY AGAIN!

Did you try the programme last month? Hope so and hope it prompts you to write something for the newsletter. To continue here is a description of the remaining VDP Registers.

REGISTER 3

The default for Register 3 is >ØE in the Editor/Assembler, >ØC in TI Basic, and >2Ø in TI Extended Basic.

Defines the base address of the Colour Table. The Colour Table base address is equal to the value of this register times >40.

REGISTER 4

The default for Register 4 is >01 in the Editor/Assembler and >00 in TI Basic and TI Extended Basic.

Defines the base address of the Pattern Descriptor Table. The Pattern Descriptor Table base address is equal to the value of this register times >800.

REGISTER 5

The default for Register 5 is >06 in the Editor/Assembler, TI Basic, and TI Extended Basic.

Defines the base address of the Sprite Attribute List. The Sprite Attribute List base address is equal to the value of this register times >80.

REGISTER 6

The default for Register 6 is >000 in the Editor/Assembler, TI Basic, and TI Extended Basic.

Defines the base address of the Sprite Descriptor Table. The Sprite Descriptor base address is equal to the value of this register times >800.

REGISTER 7

The default for Register 7 is >F5 in the Editor/Assembler and >Ø7 in TI Basic, and TI Extended Basic.

BITS Ø-3 The colour code of the foreground colour in text mode.

BITS 4-7 The colour for the background colour in all modes.

Harking back to that article by Stephen Shaw; he had included a second program. This showed that the sprite attribute list could be relocated.

Before looking at the programme, a look at the sprite attribute list is in order. The list is described on page 338 of the Editor/Assembler manual.

The Sprite Attribute List defines the position and colour of each of the 32 possible sprites, numbered \varnothing through to 31.

For sprites the screen is divided into 192(>CØ) rows of 254(>100) columns. Each of these locations is called a pixel, the smallest dot that can be displayed on the screen. The top row of pixels is designated >FF, then following by >00, followed by >00, >02 and so forth up to >FF.

Each sprite definition takes up 4 bytes in the Sprite Definition List. The first byte is the vertical (Y) position of the sprite and starts at >FF, followed by >00 through to >BE. The second byte is the horizontal (X) position of the sprite, which can be from >00 through >FF. The third byte is the pattern code, which can be >ØØ through >FF The fourth byte is the early clock attribute which controls

the location of the sprite and the colour of the sprite.

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Y locations with values >CØ to >FE are effectively off the bottom of the screen. However, a Y-location of >DØ causes that sprite and all following it in the Sprite Attribute List to be undefined. For example, if the Sprite Attribute List starts at >0300 and no sprites are defined the value >DØ should be placed at address >0300. If the fifth sprite is the last one active, a value of >DØ should be placed at address >Ø314. You can leave all 32 sprites active and the ones you do not wish to appear located off the bottom of screen. However iŧ recommended that you cause the final unused sprites to be undefined with a Y-location of >DØ.

The third byte of each entry of the Sprite Attribute Table defines the character pattern to use for The pattern can be from >ØØ sprite. to)FF and corresponds а character defined in the sprite descriptor table. For example, in the Editor/Assembler addresses >400 through >407 contain the entry for character >8%.

The four most significant bits in the fourth byte control the early clock of the sprite. If the last of these 4 bits is 0 the early clock is turned off. the sprite's The location is it's upper left-hand corner, and it fades in and out on the right edge of the screen. Ιf the last of these 4 bits is 1, the early clock is on. Then the sprite's location is shifted 32 pixels to the left, allowing it to fade in and out on the left edge of the screen.

The colour of the sprite is specified in the four least significant bits of the fourth byte of the sprite description. The values used are the standard colour code available on the TI99/4A.

Here is Stephen's programme; type it in & try it.

100 REM MOVE SPRITE TABLE
110 CALL PEEKV(-31476,A)
120 REM
130 CALL CLEAR
140 PRINT " HOW MANY SPRITES DOES
A": "T199/4A HAVE?"
150 FOR RT=1 TO 120

160 FOR SP=0 TO 31 178 CALL POKEV (1536+SP*4,RT+3*SP,2Ø+SP*5,159+SP,15) is loaded eg. when RT=1 and SP=1; 180 NEXT SP 19Ø NEXT RT 200 GOTO 140 21Ø REM 220 REM TO RESTORE SYSTEM 230 REM KEY IN 24Ø REM CALL PEEKV(-31482,A) 25Ø END

Register 5 defines the start address of the Sprite Attribute List. The SAL normally resides at address 768 VDP RAM. Unfortunately this address also corresponds with the Colour Table when TI Basic is in use so the SAL must be shifted.

The basic address for VDP Register 5 is -31488. The SAL must be moved in 128 byte steps, eg. 768/128=6. So when a new address for the SAL is to be determine it must be evenly divisible by In the above 129. programme the SAL i s moved to address 1536. The value to PEEK into Register 5 is worked out as follows. Firstly 1536/128=12. This is then added to the TI Basic base address for Register 5, -31488+12= -31474

This is the value PEEKED on line 110.

As an interesting aside change the following programme lines and the programme again to see run the effect on the Colour Table.

110 CALL PEEKV(-31488,A)

170 CALL PEEKV(768 (leave the rest as is)

Some explanation of LINE 170 is in order here. This programme line enters the data for each sprite into the SAL. For example take the case where RT=1 and SP=Ø. Line 17Ø will load into address 1536 and the following 3 memory locations (4 in total) the following data:

RT+3*SP=1+3*Ø=1 (Sprite Y pos) 2Ø+SP*5=2Ø+Ø*5=2Ø (Sprite X pos) 159+SP =159+Ø =159 (Char No.) -15 =15 (Calour)

This is the first 4 byte entry on the SAL starting at 1536 (1536+0*4= 1536) and describes sprite 1.

As the variable SP increases each of the 32 4 byte block for each sprite

1536+1*4=1540 (Sprite 2 block)

The 4 values loaded are: RT+3*SP=1+3*1=4 (Sprite Y pos) 20+SP\\$5=20+1\\$5=25 (Sprite X pos) 159+SP =159+1 =160 (Char No.) 15 =15 =15 (Colour)

variable RT increases the Y As the position for each sprite increases moving line of sprites down the screen.

You no doubt are wondering why they were not set in motion. Well I have not been able to achieve that as yet. The problem I have encountered and not yet overcome is that the Sprite Motion table must reside at address >780. A look at the VDP map in the Mini Memory manual appendix F tells us that >780 looks to be somewhere which will interfere with the area set aside for use by Basic. I have tried to run the sprites using the motion table at >780. All I managed to do was corrupt the Basic program. If some kind person has found a way around this please write an article for the newsletter and tell us all.

One last and final word from me on this topic, I did find one other area to put the SAL which did not crash anything. Right at the bottom of. the crunched programme address 16256. Alter these lines to try it:

11Ø CALL PEEKV(-31361,A)

170 CALL POKEV(16256 (leave the rest as is)

FORTH

The Forth S.I.G got together a 5 planned during March. At this point the group has decided to meet again and look further at the language. The get together for April will be used to set up a disk for each of those attending to match his or her system. There are many articles floating around on how to do this the first of which to my knowledge appeared in the Smart Programmer years ago. So! I will not burden you with a repeat of this information in this newsletter unless asked to do so.

We will be using the Brodie book 'Starting Forth' as our text. We will spend the next 5/6 months progressing through the exercises in it. That will be the basis of the Forth section of Bits and Pieces for the immediate future.

BASIC

Here is a short programme I noticed on a back issued from TIMES once again - gent by the name of Graham Baldwin had it in his article. The routine will extract a month number 1 to 12 when the first three letters of any month are entered. It uses POS, a dazzlingly fast device for this sort of job. Try writing the routine in a different way with out using POS, and ponder the speed difference.

100 INPUT "MONTH?":Ms
110
M=(POS("JANFEBMARAPRMAYJUNJULAUGSEPOC
TNOVDEC",Ms,1)+2)/3
120 IF M<>INT(M) THEN 100
130 PRINT "MONTH NUMBER IS ";M

PUBLICATION LIBRARY
The publications library is now
being look after by Ken Lynch. It
has become quite large so Ken is now
in the process of trying to
re-organise it. This will result in
a lot of left over newsletters books
etc which leads to the next item.

THE **CREATEST** MAIL OUT
Because of the above no great mail out has occurred since last year.
WELL! get ready you "out of towners" I am just sorting through the address lists again. Some people have told me previously not to include them & this will be respected. If you live out of the local Newcastle region you will be included. If you live in the local region and can't make it to meetings let me know, a local mail out is not impossible!

THAT'S ALL
That's it for this month. On the
matter of game scores the only
letter I have received on this topic
is from Geoff Phillips down Adelaide
way. His son Simon scored 695,720
on BARRAGE. Well done Simon, look
forward to something even better
from you soon!

Joe Wright

(Now back to Genealogy for a couple of weeks!!!)

FORTH TOOLBOX

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BOB CARMANY

FORTH, as you probably know, is a fully-configurable language. That is, you can create just about any word that you wish and name that word any name that you wish. With that in mind, let's set about to make things easier for us when we are typing application screens.

If you are like me, typing in an application screen (or screens) is difficult enough without typing extra characters that really aren't necessary. So, we are going to shorten some of the standard words to make them quicker to type and conform with Brodie's STARTING FORTH book. In some cases, we are going to re-define them so that they will be more like the XB equivalents.

GOTOXY is one word that we can shorten. An equally descriptive word would be "AT". It is just as descriptive and is several characters shorter! Besides, the re-definition is VERY simple.

: AT GOTOXY ;

In this case we have just directly re-defined the word. So, "5 1 GOTOXY has become "5 1 AT".

Now let's take the process a step further. Brodie uses the PAGE word to "home" the cursor to the top of the screen and clear everything from the screen at the same time. We have all of the information that we need to create the word from the existing vocabulary. We are going to use our newly-created "AT" word and go from there.

: PAGE CLS Ø Ø AT ;

CLS is the only addition --- it comes from -SYNONYMS on screen #33. Of course, we could have called our new word "TOP" or anything else that we wanted to same an additional keystroke.

Now, here are a couple of words to just make your FORTH programming a bit easier. The first will give you the amount of free memory space available. It has been around for quite some time and it comes in handy from time to time.

: FREE SP@ HERE - . ;

FREE calculates the amount of memory space from the last vocabulary entry to the top of memory and prints it on the screen.

Next we have "BYE" which is a good way to leave FORTH and make sure that all of the updated buffers have been saved to disk. If you have ever forgotten to save an edited screen and lost everything, this will solve the problem.

: BYE FLUSH 32 GPLLNK ;

Now we come to a series of stack manipulation words. "PICK" copies the n-th value to the top of the stack without removing it and "ROLL" moves the n-th value to the top of the stack.

: ROLL (n -- n) DUP 1 = IF DROP ELSE DUP 1 DO SWAP R> R> ROT >R >R >R LOOP 1 DO R> R> R> ROT ROT >R >R SWAP LOOP THEN ;

: PICK (n1 -- n2) 2 * SP@ + @ ;

When using these two words it should be noted that that following are equivalent statements:

1 PICK = DUP 2 PICK = OVER 2 ROLL = SWAP 3 ROLL = ROT

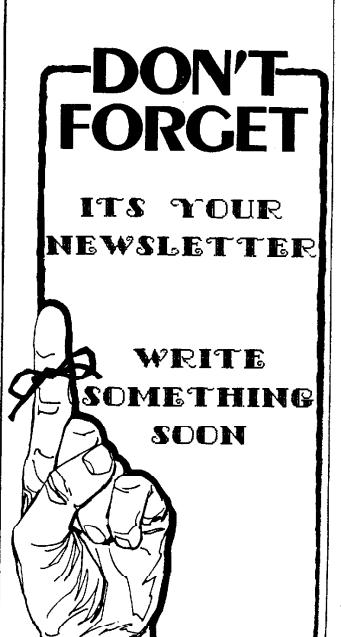
Finally, here are some words for handling arrays in FORTH. These are for handling two-dimensional and three-dimensional arrays.

- : 2AIM (n n -- adr) ROT i- SWAP DUP @ ROT * ROT + i+ 2 * + ;
- : ZARRAY (n n --) <BUILDS OVER OVER , , * Ø DO Ø , LOOP DOES> ZAIM ;
- : 3AIM (n n n --) DUP DUP @ >R 2+ @ >R >R ROT ROT R> 2AIM SWAP 1- R> * R> * 2 * + 2+ ;
- : 3ARRAY (n n n --) (BUILDS >R OVER OVER , , R > DUP , * * Ø DO Ø , LOOP DOES > 3AIM ;

All of these FORTH words have

been floating around and I have seen them in various publications and various sources. I hope that you have taken the time to find a blank screen and type the definitions in for later loading and use. You could even create an -AUX/WORDS menuentry and load the lot whenever you need them.

Until next time, as a lisping Luke Skywalker once said: "May the FORTH be with you!"



THE INFORMATION PAGE

IN YOUR NEWSLETTER THIS MONTH

Random Bytes
In the News - a round-up of TI happenings
Bits n Pieces
FORTH Toolbox

B. Carmany

B. Woods

J. Wright

B. Carmany

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PLUS MUCH MUCH MORE!!!!!

COMING EVENTS

Next Committee Meeting: Tuesday 2nd May, 1989 General Meeting: Tuesday 9th May, 1989 ** ALL MEETINGS AT WARNERS BAY HIGH SCHOOL **

AGENDA FOR MAY MEETING

"Program Writer" Fairware demonstration

CLASSES AVAILABLE FOR MEMBERS

XB Learners Group Tuesday 18th April 7.00pm Warners Bay High.
Tuesday 16th May 7.00pm
FORTH Learners Group Tuesday 25th April - contact Joe Wright.

ANNUAL SUBSCRIPTIONS

Subscriptions to the Group cover the period 1 July to 30 June following year. Membership enquiries are welcome; please address all enquiries to the Secretary.

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