

HUNTER VALLEY 99ERS USERS GROUP

HOME COMPUTER NEWSLETTER



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Koalas

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Brian WOODS REPORTS

from the SECRETARY'S DESK

Bob Carmany's Visit

Well, those members who met Bob & participated in some of the activities that were organized around Bob's visit are of the same opinion - a great time was had by all, BUT thank goodness he's gone - much longer & we would have all needed a holiday to get over it! It was a very hectic week for all involved but we managed to show Bob some of the Hunter Valley & gave him (and us) the opportunity to try some local ales & wines.

As well as attending the monthly meeting on the Tuesday & showing us his Program Writer program, Bob presented the Group with a ribbon re-inker that he & another Guilford member, George Von Seth, donated to us. Many thanks Bob & George, it is sure to get plenty of use. (Bob, Albert Anderson promises to use it once he gets his printer fixed, and Richard Terry wants to borrow it when he can afford a ribbon!).

At the meeting Bob met, amongst others, Tony & Will McGovern, Richard Terry & Ron Kleinschafer as well as many members who normally cannot get to the meetings - thanks fellers.

It was not all formal stuff during his stay. Bob managed to get onto Lake Macquarie with Al Lawrence for a few hours of sailing, drinking & prawn eating. It's a hard life... After a visit to the Newcastle Police Station, a few beers, a feed of prawns (again) & a few beers, Bob was guest of honour at the restaurant at the Lake Macquarie Yacht Club, where members & wives dined on the finest seafood in the district.

The weekend saw us travelling to Morpeth & Maitland for a look around. Who could forget the home made scones & damper provided by Noel Cavanagh & his wife Ruth - thanks for your hospitality Noel & Ruth. Sunday we went to the Deer Park at Cessnock. If you didn't make it & have never been there make a point of getting there sometime. It was especially interesting as the owner took us on a guided tour of the park, which is home to deer, snakes, kangaroos, koalas and birds of all types. Definitely a good day out for all the family.

No visit to the Hunter could be complete without spending at least a couple of hours at the Vineyards. At each of the vineyards we visited a couple (or twenty) varieties were sampled and, as the day wore on, were purchased. If I had had a few more, my American Express card would have got a REAL workout.

Bob left (escaped?) to stay with Larry & Gaye Reid in Brisbane on Tuesday and was spending some time with them visiting the highlights of Queensland &, from what I could gather, sampling some Power's Bitter.

The Committee would like to thank Bob & George for their kind gift to the Group, and the pleasure of meeting Bob in person. Thanks also to those local members who helped out with accommodation & entertaining Bob - I am sure he had a trip Down Under that he will long remember.

THANKS, MICHAEL R McCASLINE

An avid Tier from California, Michael has sent the Group a list of User Groups from around the world, as well as vendors of TI-related

goods. The list runs to some 30 pages!! There are Groups listed in almost every country, so there is obviously plenty of interest still in the ol' TI. If you want to see the list, write to another Group or contact one of the vendors mentioned, give me a phone call or see me at a monthly meeting. THANKS MICHAEL, it's obviously a labour of love!

ANNUAL COMPUTER EXHIBITION

The computer exhibition held at the University is again to be held later this year. We have been invited to attend and set up a stand. Your Committee feels that we should have a stand at the exhibition to show that the TI is still alive a kicking. Your ideas are requested regarding the format of our display & any suggestions for the type of things we should show the computing world. PLEASE give the Committee some ideas we can present at the Exhibition.

GET WELL SOON, STEWART

Our Software Librarian, Stewart Bradley, has recently spent some time in hospital. He is home again now, and hopefully should be back in the thick of it soon. Joe Wright has temporarily taken over as Acting Software Librarian till Stewart is able to get back into it again. Joe is currently sorting & updating the Library, and tells me that there is some you-beaut software that will be demo'ed over the next few months. The updated database should be finished in a month or two, then all members can get a disk-copy of all the software currently held by the Group.

SOCIAL ACTIVITIES

Following the success of the social activities organized for Bob's visit, the Committee feels that we should have more family oriented social activities on a semi-regular basis. It is proposed that such activities could be held every two or three months thereby allowing members & their families the opportunity of enjoying a wide variety of excursions. If you know of a place to visit or some other activity that might appeal to our members, please let our Social Organizer, Bob MacClure, know as soon as possible. If you feel that you could organize such an outing, please come forward NOW!

GROUP MEMBERSHIP

Some members have asked how many members we currently have. As of 1st March we have 65 paid up members and exchange with 25 other User Groups in Australia, USA & England. If you are interested in reading some of the Newsletters we receive, see Ken Lynch at one of the meetings or give him a call. There is a wealth of information in the library, so make use of it.

ANNUAL GENERAL MEETING

Yes folks, that time is rolling around again. Your involvement in the Group is vital if the future of the TI in the Hunter is to be assured. If you can volunteer for a Committee position, please don't be backward in coming forward. Input of time & new ideas is necessary for the well-being of any club, so don't let your Group die through lack of interest.

I GET A BREAK!

That's all for this month. Again, thanks for coming, Bob, and to all who helped organize the activities, a BIG thank you.

My regular article will not appear next month - since Bob could come out here for a holiday, my wife & kids figure that it is only fair that we go to America for a holiday. By the time most of you read this (if anyone reads it, that is!) I will be in California. Thanks to Earl Raguse I will be attending the monthly meeting of the BREA Users Group in Huntington Beach & meeting some of those people I have only read about Earl, Lutz Winkler & Jim Swedlow to name a few. A full report of TIing in that part of the US will appear in my next column. Till then...

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RANDOM BYTES

Bob CARMANY

What is a SMARTKEY? Basically, it is a single keystroke that takes the place of several keystrokes. For example, FCTN-1 might print OPEN #1:"PID" in a line of code. The idea is to get more out of very little. There have been several programs written for the TI that allow the user to substitute a single keystroke for many --including some programs that allow the luxury of programming in your own options.

A nice concept. Did you know that your lowly TI had some SMARTKEYS inadvertently built in? I bet you didn't!! I'm getting ahead of myself, though. So let's start at the beginning.

Let's look at the CALL KEY statement. It takes the form of CALL KEY(mode,key,status) or CALL KEY(O,K,S). The mode can be any number between 0 and 5 and it determines how the keyboard is mapped out (see your XB manual for a full explanation). Key is the value of the key (or keys) that was pressed and status is whether or not a key was pressed (either 0 for no key pressed or 1 for a keypress).

With the assistance of a program by Ray Kazmer, let's poke around and see what the value of K will be for any single keypress or any combination of keypresses. Here's the program:

```
100 CALL CLEAR :: CALL SCREEN(13):: CALL INIT :: CALL LOAD(-31806,16)::  
ON BREAK NEXT :: FOR D=0 TO 12 :: CALL COLOR(D,16,13):: NEXT D
```

```
110 CALL HCHAR(24,1,126,64):: DISPLAY AT(3,2):"" "KEY-CODES" BY RAY  
KAZMER":;" SAN FERNANDO VALLEY 99'ERS" :: T$="" :: GOTO 170
```

```
120 ACCEPT AT(11,16)SIZE(-1)VALIDATE("012345"):T$ :: IF T$="" THEN  
CALL SOUND(175,220,0):: GOTO 120 ELSE L=VAL(T$)
```

```
130 DISPLAY AT(9,1):"" :: DISPLAY AT(13,1)BEEP:"PRESS ANY KEY OR  
COMBINATION" :: FOR D=1 TO 100 :: NEXT D
```

```
140 CALL KEY(L,K,S):: IF S=0 THEN 140 ELSE DISPLAY  
AT(13,1)BEEP:"":;"TAB( 12);" K = "&STR*(K)
```

```
150 FOR D=1 TO 400 :: NEXT D :: DISPLAY AT(22,1)BEEP:"PRESS ANY KEY TO  
REPEAT TEST"
```

```
160 CALL KEY(O,K,S):: IF S=0 THEN 160 ELSE DISPLAY AT(16,1):"" ::  
DISPLAY AT(22,1):""
```

```
170 DISPLAY AT(9,1)BEEP:"SELECT CALL KEY TYPE # (0-5)":;" CALL  
KEY("&T$& ", K,S)":;" AND PRESS ENTER" :: GOTO 120
```

This program will give you something to experiment with and see exactly what the value of "K" is for various keys and combinations of keypresses. Not only is it valuable to use when contemplating further action in a CALL KEY statement (ie IF K= THEN) but it becomes a real eye-opener when we look at what comes next!

I'm going to take a break and rest while you play around with the program for awhile.

Using the standard CALL KEY(O,K,S), you might have noticed some interesting "K" values when you press CTRL and one of the letter or number keys. The "K" values were all K=129 or higher. Gee, that's in the range of ---you guessed it TOKEN values for TI XB reserved words!!! Aha!! We might be on to something!

Let's play around with what we have so far. Type in a line number, a space, CTRL-U, and <ENTER>. Nothing there or so it seems but at the same time there was no error message. Now, type in 'LIST'. What do you see now? A genuine SMARTKEY!! Interested in some more?

I'll make things a bit easier for you. CTRL-A through CTRL-Z correspond with the token values 127 through 154 respectively. CTRL-> is 155, CTRL-: is 156, CTRL-+ is 157, CTRL-8 is 158, and CTRL-9 is 159. From there, there is an unexplained jump in the token value table. CTRL-0 through CTRL-7 correspond to token values 177 through 183 and CTRL-(minus) is token value 188.

Before you start making plans to write a program using your CTRL keys, there are a few things that I have to warn you about. First some of the keys work fine and some don't work at all. In fact, they generate

a syntax error message when you use them. Why? I'm really not sure. Second, I have found that you can't use more than one of them in a program statement which is a decided disadvantage. Third, TI never intended you to write programs this way because when you press a CTRL key and a letter key, there is nothing visible on the screen. Just the same, if you enter: 100 (space) CTRL-7 (space) #1:"PIO" <ENTER> and then 'LIST', the resultant line of code will be:

```
100 OPEN #1:"PIO"
```

I'm not going to do all of the work for you and tell you which of the CTRL key combinations work and which ones don't. This has just been enough to pique your interest and get the ol' gray matter awake. What you do with thi information is up to you!!!

EDITORS LAMENT.

You might well have noticed that the newsletter has a different feel to it this month. Some of the articles this month are from other newsletters, as a policy I try to always use material only from our group members. Sometimes this is not possible, I then pick articles which I think will be of interest. A short article on 'C' from Boston is an example. I know some of our members are getting interested in 'C'. Over the next few months I will try to include an article or two on this language. I will also use others that I find in the library and think you would find interesting.

I had something of a minor catastrophe last week end, I was playing around with some loaders and did some damage to the DSR on my Horizon which could only be called a mutation. For some reason the light on my TI disc controller would light when I tried to access one of my drives but the drive would not run. A.Franks happened in late on sunday night and by removing cards we traced the trouble to the ramdisk. I can tell you I was worried thats for sure!. I had visions of trying to explain to my wife why I needed to spend a heap of money buying a new controller card.

On the bright side, Ron Pratt's cartoon which appeared before christmas has appeared on the cover of an American newsletter, well done Ron, your two test offerings in last months newsletter were of similar quality, thanks!.

Tony McGovern has been working feverishly on the latest version of Funnel Web. Tony's dedication to this utility is remarkable in the extrem. I believe that we can't thank Tony long and loud enough for this tool he has created from which we all gain a great deal of pleasure.

Editor.

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VIDITEL REVIEW

Ron KLIENSCHAFFER

Viditel and Viditel2 are programs for use with Graphics mode or any standard Viewdata databank by Modem, EG: Discovery (formally Viatel), and any other Viewdata databank that operates at the baud rates of 1200/75.

The Disk came from our friends in Holland and until now has been unused because it's Document files and screen text displays have been in Dutch, the whole disk has been interpreted into English and is now back in the library.

On the disk are loaders for the programs from just about any Module, the programs can be loaded with the XB, EA, TI-Writer or Minimem modules and naturally Funnelweb.

There are three main programs on the Disk, these being, VIDITEL, VIDITEL2 and ROTOR. To load via the above Modules requires that the Disk be named VIDITEL, but any of the three Programs can be loaded as separate programs by filename in EA option 5 format.

VIDITEL is the standard Graphics communication program that has been around for some time. It was written by Rob Templemans Plat.

VIDITEL2 is a modified version of VIDITEL that allows screen dumps in either ASCII text only or in bit map graphics. The dumps can be made to printer or Disk as required, with increasing costs of phone time Viditel2 comes in on its own (it has been modified by the reviewer to allow the use of Ramdisks), when a particular screen of data is required a simple press of CTRL-A dumps text only files to the drive of your choice and by pressing CTRL-B bit map graphics screen dumps are made to Disk. The dumps to Ramdisk are very fast and saves a great deal of phone line engagement time.

After logging off the terminal any screens that have been saved to disk can be viewed or printed at leisure. ASCII text only files can be viewed or printed with TI-Writer. Graphics dumps must be reloaded from Disk with the program ROTOR, this program is very versatile, single screens can be loaded, viewed and printed. If there are many screens saved to Disk they can be loaded and viewed one after the other with a continuous recirculation of the nominated (by the user) series of files, after the last screen has been displayed the program starts back at the first screen and continues displaying until Enter is pressed. During the displays if a particular screen is wanted on paper it can be printed then the program continues on displaying the screens.

Dumps to printer can be in four different styles, these being standard small 101x67mm, standard small 101x67mm but inverted print, a larger dump of 202x135mm and an inverted print of the same size.

The use of the programs are very easy, the dumps to Ramdisk very fast and the quality of printed dumps are excellent, I personally have found that on line time has been drastically reduced and recommend to anyone that accesses Discovery or any Viewdata databank to get a copy now.

The only bug encountered is with the program ROTOR, there is no easy exit, pressing FCTN= to try to quit will cause lockup, and the only exit attempted should be by either using a reset switch or power down the console, apart from that : Excellent.

Ron Kleinschafer.

THE KIDDIE CORNER

This article originally appeared in The PUG Peripheral, February 1990. The author is Sue Harper...

Really, it is speech that set the Texas Instruments apart from all the other companies in the beginning, and still does. This month I am giving you a little program which will play games with the speech patterns...

```
10 CALL CLEAR
20 OPEN #1: "SPEECH".OUTPUT
30 PRINT #1: "//05 016"
40 PRINT #1: "GOOD MORNING JOHN"
50 PRINT #1: "//60 192"
60 PRINT #1: "GOOD MORNING MARY"
70 STOP
```

When you run this program, and please type carefully, folks, the computer will talk to you. Remember to insert the Terminal Emulator Command Module and select BASIC. What this program does is change the defaults on the speech voice. The normal voice you hear is set at "//43 128".

The first two numbers refer to the pitch of the voice, and can range from 00 which is a whisper through 01 which is the highest pitched voice, up to 63 is a grumbly voice. The last three numbers refer to the slope of the voice. This three digit number can range from 000 to 255. The best number is computed using the first two numbers in this formula:

```
//XX YYY
(XX)/10=YYY
```

If your numbers do not fit within these parameters, the voice may be garbled. So, try your own John & Mary dialog, or make up some odd voices of your own. Can you make a Fred Flintstone-type voice? Can you get the computer to make a message for your answering machine at home if you have one?

Notice that PRINT #1 gets the computer to say words. If you also want to see them, add the command PRINT and place the same words in quotes. This is very helpful when you want to get the computer to say a word that cannot be spelled correctly. An example is MOSQUITO. To get the proper pronunciation you have to misspell the word in the PRINT #1 statement. Using a separate statement for the screen display lets you print the word right, and gets a good chance of having it pronounced right.

Think of how your programs can be improved with speech. I made up a program to teach kids the colours of the rainbow and got the computer to say the words in both English & Spanish! What languages can you teach to your TI??

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* by JACK SUGHRUE, Box 459, East Douglas, MA 01516 *

#2

There's a new (I think) company making software for the TI: Arcade Action, Program Innovators, 4122 Glenway, Wawatosa, WI 53222

They have a nice version of TETRIS. They also have the usual space shoot 'ems. They have a program called Snowmobile which is yet another version of the Regena-style skiing/river-travel maneuvering. And they have a bunch of other stuff, all of which is detailed in their free catalog.

But what they have that is WONDERFUL and a true first for the TI Community is a superb cribbage game!

It's perfect in the sense that it is completely playable. It is reasonably fast. It is intelligent and colorful and extremely well designed and in Extended Basic for people who like to add their own little touches, though you won't need to add little touches to this game at all. The unknown author even offers simple suggestions for reducing 11 of its 60 sectors.

There have never been any good, playable TI cribbage games, but this game, called CUTTHROAT CRIBBAGE, is something else entirely. This game not only lets you play against an intelligent computer but allows some interesting inputs. During the game, for example, if you wish to question the computer's judgment (or would like to test out some odd card combos) you simply type "C" for Count Check at the end of a hand (instead of the default "P" for continuing Play). You may then set up a hand, including play card. The computer will score it, explaining each detail. For example, you must type each card with the pip value first and the suit (S,H,D,C) second. A Five of Hearts would be 5H; a Queen of Clubs, 9C; an Ace of Diamonds, AD. You get the picture. So take a hand like 5H, JD, 5S, 5C, with the play card the 5D. Any cribbage players recognize the Grand Hand when they see it and know it equals 29, the highest score in cribbage. The computer will tell you this when you type in that hand. It will also break down all of the patterns by individual scores (15s, Quadruplets, His Nobs) to show you exactly how the hand is scored. You can create any legitimate hand you'd like for detailed analysis by the computer. This is a superb help feature, particularly for the novice. The pro will have a good time with this game, too.

On-screen graphics are equal to the best I've seen for ANY card game. The board on the right side runs hand totals to their new mark before filling in the peg area up to that point. There are three rows of 40 instead of the up-down 30/30 of normal cribbage boards; more like the continuous steeplechase boards which are becoming popular.

But what kind of game does it play? It is a very good opponent that knows the rules perfectly. And you better not make an error in scoring or it will call "Muggins" on you and take the points; thus, the name "Cutthroat".

The only cheating I was able to do (and get away with) was to call a Go after a 23 when I had a three left in my hand. I got a point for last card at 23. The computer called Go. I returned Go, though I could

have played. It played a four; I played my three and got another point I certainly did not deserve. But I assume the author did not anticipate sneaky little buggers like myself trying to sleaze through a game instead of playing properly.

Except for the ability to cheat at the Go and the inability (on the computer's part) to note a Skunk or Lurch, this is a fantastic game in every way. **NEW-AGE/99** rates this an A+! It is user-friendly; it is fast (though giving you time to make your crib-throw decisions); it is nice to look at; it is cheap (\$7 gets you this and a couple other programs thrown in; \$10 gets you twice as many games, including AA's TETRIS). The playing field is great. Your six cards are dealt at the bottom of the screen nearest you; the computer's opposite near the top. As you discard by pressing C,D,E,F,G, or H (letters assigned to your cards), the crib will be placed near your cards if you dealt or near the computer's if it dealt. You always know whose crib it is. The play is done card by card in the area between you and your opponent. Just like the real thing. Play scores (15, Run, Go, 31, Pairs, etc.) are all announced and scored during play. In addition to the multi-colored pegging "board" on the right, individual totals are kept in boxes next to each player. There is never a moment of confusion in this game.

At the conclusion of play, the hands and crib are spread out for analysis before scoring. Bear in mind that the computer's scoring is never wrong. All combos are sitting quietly in data statements just waiting for you to score incorrectly. If you do, you get zapped. You can never perform "Muggins" on the machine, but sometimes its play isn't as sharp as your own under some odd play moments. It isn't as wise as some of the best cribbage players I've ever played. (My father, for instance, or my daughter Sue. Or an old Army buddy, Emil, from my days in Germany.) On the whole, though, Cutthroat is a worthy opponent, and, as cribbage cannot be played over the phone or by mail the way chess can, this is the next best thing to a human opponent. In some ways, better. It is 3:30 AM right now. I woke and danced The Insomniac's Waltz before settling at my computer. I popped on cribbage. Won two games. Felt good. Decided to write this column, which had been back-burnered for a couple weeks. Who else could I have gotten to play cribbage after 3 AM? And accept defeat so graciously?

Hey! Wait a minute! What if you don't play cribbage? Well, for one thing, you must have had a deprived childhood (and continually deprived adulthood) as cribbage is such fun! It's one of the few card games whose origins are known. It was created by the English gambler, soldier, poet (Why so pale and wan, fair lover? Prithee, why so pale?) Sir John Suckling (1609-1642). It's come down to us across the centuries virtually unchanged. The English still play the 5-card version, the Americans play the 6 (a variation of this century that caught on permanently in spite of considerable criticism by purists).

Anyway, if you don't play, get someone to teach you or get a Hoyle's and, with Cutthroat in front of you, teach yourself. This game makes it easy, particularly with the option of creating any hands you want to learn to score.

My fifth-grade students play it constantly and are even beginning to beat it almost as often as it beats them. Great learning tool.

Finally, at game's end, there is no gloating. The screen fills with "YOUR VICTORY" or "MY VICTORY" without the obnoxious toots, plunks, and burps that usually accompany such announcements. Very professional.

Now for those times when the urge of the cribbage addict comes upon you and no one is around to play, just pop a Foster's, turn on your friendly TI, and go to it.

(If you use NEW-AGE/99 please put so on your exchange list.)

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FAR OUT

Dick SCHAYDEL

The bloody 'roos are eating everything in sight. They weren't satisfied eating just the leaves but they even dug up a row of beetroot! I tried everything short of shooting the lot with my slug-gun but nothing seemed to work -- a cheeky bunch that lot! I ended up making an emergency trip into Lightning Ridge and got a couple rolls of fencing to keep that lot in check. I think that the first battle in this war has been won but I lost 5 Kg sweating under the sun digging post holes!

This is awful!! Here I am with two litters of piglets to enter into my breeding records and the flamin' IBM packs it up!! What a time to have a stuff up!! I turned the thing on and ---- nothing. I think that the heat got to it. Oh well, I still have the TI to mess about with! Strange, it has never given me any problems. As a result of the stuff up, I'm writing this on my TI. It took me some time to find my TI-Writer but I finally found it and I'm back for another try. In poking about through piles of disks while looking for my TI-Writer, I ran across a program that I find of interest. Ron was telling me that everyone is using either TI-Artist or GRAPHX for drawing various pictures. I think he even mentioned that the artwork in the HV99 newsletter was done that way from time to time. Both of these programs have rather extensive libraries of pictures to go with them but the stuff isn't interchangeable --or is it. A few years ago, Travis Watford came out with the first of the graphics programs for the TI ---MAX RLE. There immediately appeared a series of pictures that a bloke could admire and print with it. Among the options was the ability to load a picture from either TI-Artist or GRAPHX configuration. There is also a SAVE option that allows you to save the picture in one of 4 different formats. The benefit is that you could load a TI-Artist picture and save it in GRAPHX format to be manipulated with the latter program. The opposite holds true as well. I collected an impressive disk of nudes that way! Now you know what Saturday night in the bush is like! In fact, you could also save the picture as a D/V 80 file or a D/F 128 file that some of the other programs use as their file structure. The picture could then be edited with your favourite graphics program. To be sure, there are some other programs about to convert pictures from one format to another but are not quite so easy to use or as fast as MAX RLE.

For an intellectual challenge, you can try one of the adventure games from Infocom. There are a bunch of them like Zork, Witness, and Infidel. They are all interactive games and the object is to make your way through this maze-like environment collecting various things along the way. It's like trying to find a beer two days before the Lightning Ridge trip! Simple two-word commands are entered as well as the direction you want to travel. It all sounds easy but they can take hours or days to get through. Ron said that there is even a bloke in the UG who writes a column about how to solve them from time to time. I'll have to get a copy of those columns --I've yet to solve Zork and I sometimes even have trouble finding the Dunny at night!

I'm just not patient enough for those adventure games. It takes a bit of time to solve them and I muck about until I run out of patience and then give up. Maybe some rainy night.

I have to go check on the pigs. They have been a bit restless lately, maybe and old razorback boar is looking for an extra wife or two, to keep the strain true it pays to be as vigilant as possible. They have been sniffing around the wheat silo as well. It all seems to go in cycles -- the flamin' wild pigs causing problems and the 'roos after anything they can eat especially green stuff!

'C' ROUTINES

Some short 'c' routines to get you used to using c99 and maybe show how some things are done / some things are used.

These routines are by Donald L Mahler and come from the BOSTON COMPUTER SOCIETY. They have been printed from tested source code.

Remember:

*s means "pointer to s" while
s means "the address of s"

File prf is as follows:

```
/* file dsk1.prf */
/* PRINTF REFS */
#asm
    REF PRINTF
#endasm

Save it to disk!

/* 1:C */
#include dsk1.prf
int table[]={3,5,2,9,6};
/* sets up an array */

main()
{
    int i; i=0;
    /* first term of array is "0th" */
    while (i<5)
    {
        printf("The address of the %dth \n",i);
        printf("element of table is %u.\n",table[i]);
        /*          */
        /* "table[i]" = */
        /* "address of ith term of array" */
        /*          */
        /* addresses are unsigned integers */
        /* that is why we use 'u' */
        /*          */
        printf(".. and the value stored there\n");
        printf("is %d\n",*(table+i));
        /*          */
        ++i;
        /*          */
        /* increment i */
        /*          */
        putchar('\n');
    }
}
```

Type this in using the Assembler editor, save it and then compile it, assemble the result, to say 1/OB. Do NOT select any assembly OPTIONS!
To run using LOAD AND RUN load:

```
DSK1.1/OB
DSK1.PRINTF
DSK1.CSUP
```

then start with program name START.

CSUP and PRINTF are supplied with the c99 package.

This second routine uses strings-
and also requires the file prf defined
above!

```
/* 2:c          */
#include dsk1.prf
main()
{
    char *ptr1, *ptr2 ;
    /* two character pointers */
    ptr1="Boston/Computer/Society";
    /*          */
    /* the address of a string is */
    /* the address of first letter */
    /*          */
    ptr2=ptr1 ;
    while (*ptr2)
    /*          */
    /*  "*ptr2 !=0" */
    /*          */
    {
        putchar(*ptr2++) ;
    }
    /*          */
    /* spell out the string letter */
    /* by letter          */
    /*          */
    puts("\n\n Now let's reverse it! \n\n");
    /*          */
    /* ptr2 is now address of last */
    /* letter of string!!!          */
    /*          */
    while (--ptr2 >= ptr1)
    /*          */
    /* decrease address until back */
    /* at original starting address */
    /*          */
    {
        putchar (*ptr2);
    }
    putchar('\n');
}
```

And here is another short example
of c99 in action. Try it out now!

```
/* 3:c          */
#include dsk1.prf
main()
{
    char x;
    puts("Enter any letter : \n\n");
    x=getchar();
    putchar('\n');
    printf("The upper case form of %c is",x);
    caps(x);
    putchar(x);
    putchar('\n');
}
caps(ptr)
char *ptr;
{
    if (*ptr <= 'z' *ptr >= 'a')
        *ptr = *ptr + 'A' - 'a' ;
}
/*          */
```

```
/* if letter is lower case then */
/* decrease ascii value by the */
/* difference between 'A' (65) */
/* and 'a' (97) */
```

```
Now compile;
assemble ( remember, NO options!)
and load and run;
    DSK1.3/O
    DSK1.PRINTF
    DSK1.CSUP
and program start name is START.
```

If however you wish to transform your program to memory image format, to use with RUN PROGRAM FILE, then load these files, using LOAD AND RUN:

```
    DSK1.C99PFI
    DSK1.2;0
    DSK1.PRINTF
    DSK1.CSUP
    DSK1.C99FFF
: DSK1.FWSAVE
and now choose the program named SAVE.
```

Now you will have a single "PROGRAM" file which you can load in one piece, instead of having to load lots of other files.

SOFTWARE LIBRARY

The task of cataloging is progressing at a reasonable rate. I have set myself a deadline of the end of May to have the whole lot cataloged. Since getting started in the last 7 days I am still in a state of amazement at the amount and quality of the software which is available for our computer. The range of tasks which can be tackled using the TI is remarkable.

I hope over the next few months to be able to list more and more of the software available for our machine. The listing on the next page is taken from a TI TIMES disc. Any of the software listed which is copyrighted must be purchased from the supplier, some of the version numbers shown are not the latest releases. The brief description for each are accurate enough to given you an idea of what the software can do.

One package which has caught my attention is MAC-LABELS. This is a disc of programmes which will print a multitude of address and greetings labels as well as some banners. So far I have found four other label printing programmes. Also found 8 disk label and jacket printers some are better than others but all are quite usable and useful.

Starting from simple word processors running in XB that act like a type writer through to Funnelweb, the range of software in this category would amaze you. I hope to be able to give a brief description of the operation of one or two pieces of software each month.

JOE WRIGHT

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>DISK UTILITIES Vn 4.0a by John Birdwell. A very complete disk utility which now allows you to change the name of a file when copying (think carefully about this!), over-ride file protection of destination disk! check free space on destination disk BEFORE copying starts, sector edit changes in inverse to make them stand out... etc etc. You may check a disk for bad sectors (non destructive) and mark out bad sectors from the BitMap without reinitialising the whole disk. Repartition Myarc ram disk. Add comments to files, add date to disks. Excellent printout showing location of FDRs and each file segment. Phew! Excellent program. Plus Q4CAT, which will read 4 disks and print the catalogues in 4 columns of condensed print.

>ENHANCED DISPLAY PACKAGE Vn 2.2 from Paragon Computing, programmer C A Provance. TRUE Freeware! IBM style- useful documentation on disk, after that you get what you pay for! Immediately usable and good demo program. This disk contains a program which places machine code utilities into memory for your XB programs to use by means of CALL LINKS. There is a clock WITH ALARM!, windows, and display commands are amended for both 32 and 40 column screens. There are routines to save and load screen displays, PEEKV, GTEXT, and a much extended and useful CHRSET. Disk contains 15 pages of docs and a good demo program. IMPORTANT: EDP supplied by me is configured for 50 cycle mains: the clock/alarm runs quite accurately ON 50 CYCLE MAINS. It will NOT run accurately on US 60 Hz mains. The electricity supply in the UK is required to maintain a short term frequency accuracy of 2%. This clock has been measured as better than .5%, well within supply constraints.

>FORTHOPS Vn 2.1 by Bill Wedmore. FOUR DISKS. An operating system for Forth which enables you to load and run all your Forth material from simple menu choices. Includes some useful Forth utilities. Not so easy to use, requires some knowledge of Forth. This set can ONLY be used on a system with two disk drives, and assumes your Forth disks are configured as SSSD. Amongst other things, this framework includes a specific "disk name" which the menu looks for to load a program, unlike TI Forth which just looks for a specific Screen number. Can handle 10 different "disk names" (0 to 9). 4 DISKS!!!

>GAMES OF WIT SERIES: THREE DISKS contain five XB games- three formerly published at \$17 each. Game of Wit is a scrabble type game for 1-4, in Nit Wit two players compete to make words as quickly as possible with identical letters, Wit or Witout is for 2 to 6 players making words by adding or taking away letters, Wittle Tags is for 2 to 6 players trying to form the shortest possible word, and Wits End is an advanced Game of Wit. A colour tv is essential for this package. Two disks contain the documentation - 52 pages!

>SEGREGATION also by Chris Lang. The screen has 20 4x4 blocks. Columns and rows are switched between blocks and you have to restore the start pattern. Pretty hard. A colour tv is essential.

>XB*TOOLS Vn 1.2 by Jim Swedlow. A group of programs to help you write in Extended Basic. They act on files saved in MERGE format to produce a reference list of variables, line transfers, subprogram calls, DATA and DIM lines; remove rem lines; join lines together; change the names of up to ten variables at a time to names you specify; replace variable and user subprogram names with one or two letter names, delete, keep or resequence a part of a program, move a block of lines, combine DATA lines
COMIC series...

>COMIC 1 contains the programs to create an animated picture, ans an example using the Graphx walking man. The docs file COMIC-ANL is in GERMAN and is unreadable using TI Writer. You must use DM1000 options T or P.

>COMIC 2 is an animated Graphx PLUTO, created with COMIC 1. To see Pluto breathing use LOAD AND RUN on file SHOW.

>COMIC 3. A scary learing GHOST goes BOO.

>COMIC 4. A demo of animated 3D, as a wire frame cube revolves.

NB: The comic disks contain two versions of SHOW. The seven sector version allows you to slightly amend animation speed by using = and / keys.

>Rude Program. Could be made into a family game by changing the words and graphics, to make it into a laser base shooting down animated monsters. It is NOT at present in that form and is emphatically NOT for family viewing.

From Germany, in XB. Unusual use of TI99/4A.

>INVENTORY MANAGEMENT: TI PRODUCT PHD5024- formerly sold for US\$59! - REQUIRES the PRK or STATS modules OR library disk MODUTIL. NO Docs- not sold by TI-UK. First create blank IF70 and IF80 files using the file INIT. INVENTORY is a blank PRK file. CONVERT1 transfers data from the IF80 file to the PRK file. CONVERT2 converts from the PRK file to the IF80 file. UPDATE transfers from IF70 (Main) to IF80 (Stock) file. REPORT1 and REPORT2 provide printouts. Copy master disk and use copy! The Basic files provide a good lesson in how to use th "hidden" calls of the PRK module.

>SPELL SORT: Very simple utilities from Software Specialities Inc, copied by TI99/4A USERS GROUP with the express consent of the copyright owner. SPELL is a spell checker for DV80 files, while SORT is a powerful general purpose sorter, which can sort ANY file on several keys. Any length, variable or fixed. An intermediate file is created, which is always FIXED, and may be quite long if the input/output files are Variable! ALWAYS SPECIFY ONE KEY- if you leave all keys set at 0 it will only remove blank fields!

>DATABASE1: A commercial database from SPC Software, who have not advertised for ages, and is not apparently on sale anywhere. I have been unable to contact them and assume they have ceased interest in their program. TWO DISKS required. A simple database with several utilities. Perhaps best thought of as a "list processor". Satisfies the majority of my simple database requirements. Full docs on disk.

>PRK CALLS DEMOS: A variety of programs in Basic which REQUIRE the PRK or Stats modules or library disk MODUTIL. PRKCONVERT will convert PRK files into two files which a Basic program can use- PRKHEADER which is IV80 and PRKDATA which is IV(n). Sample PRKDATA and PRKHEADER are supplied for a mail list program, with basic files ADD/DATA to use the database, B/PRKPRINT and PRKLABEL to print out to printer or screen. PRKWRITE is an inverse conversion program and will change the PRKDATA and PRKHEADER files back into a PRK file.

PRKADDRESS and READ/NAMES are similare Basic programs but use data files of IV135 format (not supplied). MAIL/LIST is a PRK file. I have added my own PRK utility, which transfers data from a PRK file to a DV80 file for TI Writer to use. Examination of these programs will show you how to use the extra calls.

>UTILITIES 15: Archiver 2.1 by Barry Boone, to pack (and unpack) several files into a single file- keeps 'em all together. SNAP CALC, a 13x20 XB spreadsheet by Gary Strauss from HCM. TI Keys Vn 3.0 by Wes Johnson, instantly put up text on screen with CTRL 1 to 0 and A to Z, command mode or running; Frestel/Viditel Terminal Emulator (from Holland); XB by J F Hoddie- a machine code program to run with Funlwriter: its the same as RUN DSK1.LOAD so you dont have to quit to get back to XD; Tracker by Will McGovern, a track copy utility for owners of MYARC disk controllers; Unbasher by Barry Traver, (much revised March 1988) uncompresses those densely packed XB programs.

>LINKER by RA GREEN. Vn 2. This program changes DF80 object code to memory image format- with options on locating the image, a compact output, and a clever way to resolve unresolved references. A library file is supplied with common references and the program incorporates just what it needs into the image. Also see the next disk below. This disk also contains an alternative TI WRITER modified by M A Ballman, and a loader for it written by J A Johnson, both of Florida. Again the original SHOW DIRECTORY is heavily modified!

>LINKER LIBRARIAN by Tom Bentley. Perhaps essential for the above! This program allows you to build up your own libraries quite easily, and a c99 library file is included- when you use LINKER to create a memory image of a C99 program, the LINKER will search the library for the c99 library entries the program needs- for instance, PRINTF would be AUTOMATICALLY loaded. Neat.

Remember Personal Computing Today, Home Computing Weekly and Games Computing... they used to publish TI programs. Here are some of the better ones:

>MAG 1: Banzai Bunny, Fem on the Grid, Forklift Truck, Kitten Kong, Moth Mania, Motorway, Sea Diver, Treasure Island, Turtle Hop, Sir Francelot, Skittles and Star Duel.

>MAG 2: Apple Scrumping, Basement Bob, Beagle Hike, Cave Attack, Channel Patrol, Debroids, Earth Defence, Electron, Eat Mince Pies (The Bosses Christmas Party), Fireman, Forest Rally, and Fruit Cocktail.

>MAG 3: Leap Frog, Lift Attendant, Mine Maze, Miss Muffet, Muncher, Nuclear Race, Robot Fire Snuffer, Sheep Dog Trials, Skiing, Slugs and Ladders.

>OLDIES BUT GOODIES. 12 on one disk. Biorhythm,Factor Foe, Hammurabi, Number Scramble, Word Scramble, Hidden Pairs, Peg Jump, TicTacToe and 3d Tic Tac Toe. Released by TI in 1980 on two cassettes. By 1982 they were 8.25 each. The price WE ask is closer to their real value perhaps! Authors John Plaster and Mary Anne Six (surname or age?). Of more historic value than usable value.

>POP DEMO Vn 1.1 from Roman Majer of Heilbronn in Germany. Not what WE call pop. Four pieces, Amorada (written by Waldir de Azevedo), In the Mood (Joe Garland), Flohwalzer (?) and Charleston (Cecil Mack and Jimmy Johnson). All in machine code. See what that sound chip can do...

>SIDE*PRINT Vn 3.1 by Jim Swedlow. A program which will print MULTIPLAN files SIDEWAYS! ...

>SORT + DUMP. Two programs only! REVISED MARCH 88. Now includes MEGASORT96 for the Geneve, and improved sort routines for the 4a. Sort Experiment by J P Hoddie, sorts up to 1000 records in ANY type of disk file, with up to 8 sorting keys. NB: Memory image file and docs are revised. Source code is not revised. DUMP is by Wayne Stith and is to read and display/print ANY memory location: GROM, ROM, VDP, DSR. Not a very neat display but usable and supplied WITH source code.

>TEXTLOADER+EASLOAD...also from Paragon. The textloader is something many have tried to do for years... now its done. Run TEXTLOADER and a DV80 text file is read into the console JUST as though you had typed it in. You can quickly load a program on disk as text, OR feed in a string of command mode instructions (do both together!). The EASLOADER loads machine code memory image programs using XB, and comes complete with SOURCE code.

SELECTED CALL LOADS

Bob CALMANY

CALL LOAD(-24578,0)	For storage of D/F files in EXPMEM2 with MiniMem
CALL LOAD(-24578,8)	For storage of I/F files in EXPMEM2 with MiniMem
CALL LOAD(24570,16)	For storage of D/V files in EXPMEM2 with MiniMem
CALL LOAD(-24578,24)	For storage of I/V files in EXPMEM2 with MiniMem
CALL LOAD(-27648,x,x,x,x)	Speech chip locations
CALL LOAD(-30945,0)	Creates a white edge character
CALL LOAD(-31572,x)	Varies keyboard response
CALL LOAD(-31730,33)	Quits Extended BASIC to Master Title Screen
CALL LOAD(-31740,x,x,x,x)	Loads Sound chip. Sound continues until a CALL SOUND, INPUT or ERROR.
CALL LOAD(-31744,x)	Continues last sound. 0= Loud 15= Quiet
CALL LOAD(-31745,0)	Freezes screen and blanks screen (restore with FCTN-).
CALL LOAD(-31748,x)	Set cursor blink rate (value 0 to 255). 1 is normal.
CALL LOAD(-31788,160)	Blank screen on next keypress.
CALL LOAD(-31788,192)	Disable sprite motion and automatic sound.
CALL LOAD(-31788,224)	Normal operation.
CALL LOAD(-31788,225)	Magnified sprites.
CALL LOAD(-31788,226)	Double sized sprites.
CALL LOAD(-31788,227)	Magnified, double sized sprites.
CALL LOAD(-31788,232)	Multi-color mode (48 X 64 squares).
CALL LOAD(-31794,x)	Timer for CALL SOUND (x= 0 to 255).
CALL LOAD(-31804,x)	Set cursor blink rate (0 to 255).
CALL LOAD(-31804,0,36)	Quit Extended BASIC to Master Title Screen.
CALL LOAD(-31806,-32)	Continue sound.
CALL LOAD(-31806,0)	Enable sprite motion, Quit key, and sound chip.
CALL LOAD(-31806,16)	Disable Quit key.
CALL LOAD(-31806,30)	Stop sprite motion and disable Quit key.
CALL LOAD(-31806,32)	Disable sound chip.
CALL LOAD(-31806,48)	Disable sound chip and Quit key.
CALL LOAD(-31806,64)	Stop sprite motion.
CALL LOAD(-31806,96)	Stop sprite motion and disable sound chip.
CALL LOAD(-31806,120)	Disable sound chip,Quit key, and sprite motion.
CALL LOAD(-31808,x,y)	Double random number generator (requires RANDOMIZE).

CALL LOAD(-31860,4)	Go from Extended BASIC to console BASIC after NEW and cannot use Memory Expansion.
CALL LOAD(-31860,8)	Automatic RUN "DSK1.LOAD" and restart of Extended BASIC.
CALL LOAD(-31866,x)	Does not allow the full access of 32K (x=1 to 159).
CALL LOAD(-31868,0)	No RUN or LIST after FCIN-4.
CALL LOAD(-31868,0,0):: RUN "DSKx.xxx"	Memory Expansion off.
CALL LOAD(-31868,255,231):: RUN "DSKx.xxx"	Memory Expansion on.
CALL LOAD(-31873,x)	Start printing at column x (x= 3 to 30).
CALL LOAD(-31877,x)	32= sprite coincidence, 64= 5 sprites on a row.
CALL LOAD(-31878,x)	Turn off sprites (x=# of sprite, if x= 0 then turn off all sprites.
CALL LOAD(-31879,x)	VDP timer (x= 0 to 255).
CALL LOAD(-31880,x)	Single random number generator (x= 0 to 99). Requires RANDOMIZE.
CALL LOAD(-31884,x)	Change keyboard mode (x = 0 to 5).
CALL LOAD(-31885,255)	Execute BYE.
CALL LOAD(-31888,63,255)	Turn disk drives off. Use NEW to free memory.
CALL LOAD(-31888,55,215)	Turn disk drives on. Use NEW for buffers.
CALL LOAD(-31931,0)	Unprotect Extended BASIC program.
CALL LOAD(-31931,2)	Set command ON WARNING NEXT.
CALL LOAD(-31931,4)	Set command ON WARNING STOP.
CALL LOAD(-31931,16)	Set command TRACE.
CALL LOAD(-31931,64)	Set command ON BREAK NEXT.
CALL LOAD(-31931,128)	Protect Extended BASIC program.
CALL LOAD(-31952,x)	If x=55 then Memory Expansion is off else it is on.
CALL LOAD(-31952,x,x,x,x)	Line number table in Memory Expansion.
CALL LOAD(-31961,51)	Quit Extended BASIC to Master Title Screen.
CALL LOAD(-31961,149)	Automatic RUN "DSK1.LOAD".
CALL LOAD(-31962,0,32)	Execute power up routine--does not close files.
CALL LOAD(-31962,33,111)	Go directly to TI BASIC.
CALL LOAD(-31962,99,114)	Automatic RUN "DSK1.LOAD" and restart of Extended BASIC.
CALL LOAD(-31962,101,190)	Execute LIST from command mode only.
CALL LOAD(-31962,100,155)	Execute RUN.



JOYSTICK ADAPTOR

By Paul Mulvaney, Hunter Valley 99'ers.

I recently purchased a Speedking joystick for my son, the new joystick was fitted with microswitches and is more comfortable to use than the original TI units. I decided to make an adaptor rather than butcher either the old TI set or the new one. With the aid of a multimeter I worked out the pin connections of the Speedking, these connections should be standard for all Atari compatible joysticks. The first adaptor I made was only for Joyst 1 and it was very quickly pointed out to me that some games work on Joyst 2 so the adaptor had to be able to work as either Joyst 1 or 2. A quick modification and the inclusion of a switch rectified that. Now to change from one to the other simply flick the switch over.

The connections are shown looking at where the wires are attached to the plug or socket. (A plug has the pins sticking out, a socket has the holes for the pins to plug into.)

The parts required are;

A D9 Socket, a D9 Plug, a single pole switch and 5 1n4001 Diodes

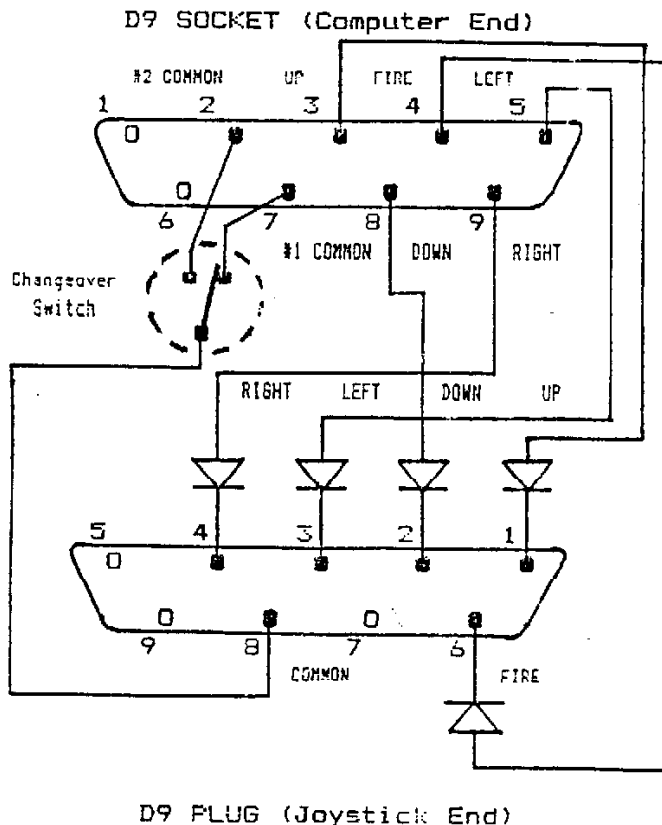
The diodes are to prevent feedback signals when you are going diagonally, if they are not put in the motion will slow and stop when two directions are selected.

Care should be exercised when soldering the diodes, dont use too much heat. Also insulate any connections where there is any likelihood of them touching together.

To identify the direction of the diodes place the bar on the case towards the joysticks, eg



By working neatly the switch will fit into one headshell and the diodes into the other, no other enclosures are necessary.



Because of the popularity of the new Joystick I purchased another for my other son (Birthdays come in handy to justify upgrading of equipment) so I now needed an adaptor to allow the use of both joysticks at once. I made a dual adaptor and mounted it in a small box and Gary Jones suggested using a D25 connector and blanking off the centre pins, so two versions exist but both use the same wiring scheme. In my box I mounted the diodes on a piece of strip board, in the D25 the diodes can be mounted directly onto the plug and the wires attached as per the previous adaptor. The numbers on the right are for the D25 plug.

