

South Bay



Users Group

Bits & Bytes NEWSLETTER

P.O. Box 110037 Campbell, California 95011-0037

October 1990

PRESIDENTS MESSAGE by Mike Ewell

When I ask if anyone is having a problem with a program or a printout, it will be easier! to get the correct answer if you have brought along a sample of the print and or the program including docs! It is impossible to bring too much information about your problem!

I would like to thank Don O'Neil for the demo at the September meeting. I know it is hard bringing that much equipment for the demo!! If you did not make that last meeting, you missed seeing a combination of Rave keyboard, 80-col device, analog monitor, hard drive, etc!

*** PLEASE HELP WITH THE NEWSLETTER! ***

The demo at the next meeting MIGHT be on using PR-Base again, but this time without the hardware problems!

Do you plan to attend the Fest-West 91? See the ad elsewhere for the details!

* The October SBTIUG meeting will *
* be held at 2:00 P.M. *
* *
* SATURDAY, OCTOBER 6, 1990 *
* *
* The meeting will be held in the *
* Saratoga Public Library. The Library *
* is located at 13650 Saratoga Avenue. *
* From 280(680), take the Saratoga Ave *
* exit SOUTH! The library will be on *
* your LEFT!, just past the Fruitvale *
* intersection. This is about four *
* miles from the 280 exit. *
* *

Regena will no longer be producing the monthly issues of "REGENA's Programming in Myarc Advanced BASIC" due to family commitments. She is refunding money on the unused portion of subscriptions.

*** PLEASE HELP WITH THE NEWSLETTER! ***

If the program doesn't work like it is supposed to, re-read the documentation! If that doesn't help, then bring your problem to the meeting for help!

XXXXXXXXXXXXXXXXXX--NOTICE--XXXXXXXXXXXXXXXXXX
X NOVEMBER AND DECEMBER MEETINGS X
X X
X The November meeting will be held on X
X 11-1-90 which is the first THURSDAY! X
X The December meeting will be held on X
X 12-7-90 which is the first Thursday! X
X The first Thursday will continue to X
X be the first choice for our X
X meetings, but please READ the dates X
X carefully to avoid a wasted trip or X
X missing a meeting. X
X X
XX

SBTIUG CLUB OFFICERS AND OTHERS

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- ARCHIVER....HOY COLE.....SEE AT MEETING
- JP SOFTWARE..J. P. HODDIE...415/328-0885

FROM THE EDITOR
By Don O'Neil

Well, this month was another exciting month on the conferences. Gary Bowser of OPA was on Delphi September 16, and I asked him a million questions.

About TIM: (TI Image Maker, NEW PRICE \$150) TIM will be shipping in the middle of October, and will be shown at all of the major TI fairs this month. The device itself is complete and is a V9958 based device. That means no built in mouse port, but you get a 19,000 color mode! It has provisions for the gen-lock device coming out soon after TIM's release, costing about \$40. Gen-lock allows you to overlay graphics onto a TV picture (and thus record it on a vcr) for making titles and such. This device has a patented RGB to Composite and back again converter that gives quality unsurpassed by any other gen-lock device for any other computer. Also to be released, some time in early '91, a digitizer for TIM. This digitizer will require the gen-lock device and will digitize ALL modes, including the 19,000 color mode!

About RAMBO: (Horizon ram disk mod) This mod enables programs to use the HRD as program memory (of any size). OPA announced an assembler for this device, so now our programs do not have a memory limit! This assembler is just like the standard TI one, except... When programming a bank switched device such as RAMBO or other expansion ram card you usually have to include the bank switching commands, BUT with this assembler you DO NOT have to do that! It installs all necessary bank switching commands for you. You can program in standard assembly like the program was going to run out of 32k, and the RAMBO assembler will make it work with RAMBO memory only! This opens up doors for new O/S's and other LARGE programs. RAMBO also includes the ability to have up to 3 DSR's (Device service routines) so you can add commands to XB/BASIC or make a power up DSR to automatically load FUNNELWEB or a custom O/S.

About GIZMO: (Cartridge Expander) Gizmo is an 8 slot cartridge expander from Bud Mills/OPA that allows 8 carts to be installed (plugged in) and be accessed from each other. For example, install TEII and XB and you have full speech from XB! Really neat and cheap!

Only \$40 for the kit!

Of course, as usual, I am looking for people to write me articles, please sit down for a half of an hour and write down a question or two, or a review for a new program. ONLY YOU CAN MAKE THIS NEWSLETTER BETTER! One last note, there will not be a review of MIDI this month because I have not received my cable yet! See you next month!

TREASURER'S REPORT

By Norm Knudsen

PLEASE look at your mailing label. As your membership renewal date approaches, the date (last line of the label) will be highlighted in color. If highlighted in YELLOW, renew at the next meeting; if highlighted in RED, this is the last issue of the NEWSLETTER you will receive until you renew!

>> THE DUES ARE NOW \$20 PER YEAR <<

If any of the information on your label is incorrect, please let me know so I can correct it. You may call me at (408) 267-6193 or write to me at:

SBTIUG -Treasurer
P. O. Box 110037
Campbell, CA 95011-0037

The two renewals in September were Kyle Chrichton and Elsa Pheley. Two checks were paid out in September; one to Pat Micetech for \$46.90 to cover the August and September newsletters and the other to Don O'Neil for 162.94 for the installation of the BBS. It's nice to be up to date for a change.

The BBS is up and running at (408) 848-5947 (TIULXGS). You can save on your phone bill by using off hours!

The current balance stands at \$118.57.

BBS REPORT

By Don O'Neil

Well, the BBS is off with a bang! We have 17 users and only 5 are SBTIUG members. Give us a call! We are officially known as the TI Users Local X-change Group Service (our phone # spells that) and have a ton of stuff just waiting for you to download.

SBTIUG MEETING MINUTES

by Kevin Daberkow

The September meeting was called to order at 2:25 pm on Saturday Sept 1st.

Treasurer's Report: Norman reported a treasury balance of \$288.41.

Librarian's Report: Helmut reported that he is still waiting for the disks from Jim Peterson (Tigercub).

Newsletter Editor's Report: Don still needs original articles from SBTIUG membership. Possibly reviews of software in the club library?

BBS Report: BBS is up and running 24hrs/day. New downloads.

Public Relations: No report.

President's Report: No report.

Demo(s): Don demonstrated his 80-column card and Rave IBM keyboard adapter.

VCR-DEMO


Reprinted from 9640 NEWS

I have been contemplating this for about a month now, and I finally have put together enough o.k.'s to make an idea a go. One month after you receive your issue of 9640 News, Vol 1 #5, I will have available an extensive demo of the Geneve 9640 covering the majority of hardware/software that exists for this system. What this means for many people, is that it will provide them the opportunity to see many programs in action without purchasing the program. Many Geneve owners have limited access to user groups and many times, nobody in the user group has the program to demo, or even in some cases, nobody knows about it.

That is where I am going to step in. I am currently putting together a demo of many fine programs. When applicable, I will attempt to allow about 15 minutes per demo to show some of the major features and output of various programs. The following programs are currently scheduled to be demonstrated:

The Printer's Apprentice
The Geometer's Apprentice
GenPROG
MEMEX and Demo program
DISKASSEMBLER
HyperCopy
Picture Transfer
MyArt
Windows 9640

If you have any programs that you know of that you wish to see demonstrated in addition to those listed above, please send me a letter and I will add it to the list. Any Geneve required program is permissible. I will not cover any 4A specific program at present. The cost of the VCR tape will be \$15 including shipping and handling. Please order early as I need to 'bulk' purchase the tapes to keep my cost and time low at this low price. Who knows, you may even get to see me as some recording will be using a camcorder. Please allow time for delivery as I may only be able to make 2 copies per day dependent upon length of tape and other time restrictions. Enjoy!!!!



Come Help Us Celebrate The
II-99/4A's 10th Year
Anniversary

UGOC in association with the
Pomona Valley UG is hosting

FEST WEST 91

THE HAPPIEST FEST ON EARTH

Across the street from Disneyland PLUS many more attractions in the area for the wife/husband and kids to enjoy while you meet internationally renowned II entrepreneurs, enthusiasts, and innovators. Fest tickets are on sale now (\$6.00 for both days) Ticket requests with a post mark before January 1, 1991 are eligible for a drawing for one free night at the RAMADA.



Plan your **THREE DAY** weekend now!
Fest dates are Feb 16 & 17, 1991

The Fest will be held at the Ramada Main Gate,
Anaheim Toll Free 1-800-447-4048 Special rate to
fest goers (\$55.00 per night plus taxes)
Only 50 rooms available at this rate and
closing date for this rate is 15 Jan 91.

Travel Arrangements may be
made by contacting Ruth Eshley,
Travel Concepts. (714) 778-5459

For future announcements contact the
UGOC BBS at (714) 751-4332 or write to:

Fest West 91 Committee
C/O Bill Nelson
11692 Puryear Lane
Garden Grove, CA 92640



FEST WEST 91

THIS MONTH AN EXPLANATION OF THE BASIC GRAPHIC COMMAND'S N1 AND N2 PARAMETERS.

```

100 OPEN #1:"PIO.CR"
110 PRINT #1:CHR$(27)&"K"&CHR$(178)&CHR$(1);
120 FOR J=1 TO 14
130 FOR I=0 TO 6 STEP .2
140 PRINT #1:;CHR$(2^INT(3.4*(SIN(I)+1)));
150 NEXT I
160 NEXT J

```

EXAMPLE 1

THE LINE OF GRAPHICS ABOVE WAS CREATED WITH THE GRAPHIC COMMAND "ESC,K,N1,N2", ALONG WITH THE COMPUTER ACTUALLY DOING WHAT A COMPUTER IS SUPPOSED TO DO, CALCULATE. LINE 140 DOES THE CALCULATIONS TO PUT THE DOTS IN THE SINUSOIDAL PATTERN. TRY LEAVING THE ".CR" OUT OF LINE 100 TO SEE WHAT AFFECT THIS HAS ON THE PRINTERS ABILITY TO PRINT A CLEAN GRAPHIC PATTERN ON PAPER.

```

100 OPEN #1:"PIO.CR"
110 PRINT #1:CHR$(27)&"K"&CHR$(31)&CHR$(0);
120 FOR J=1 TO 1
130 FOR I=0 TO 6 STEP .2
140 PRINT #1:;CHR$(2^INT(3.4*(SIN(I)+1)));
150 NEXT I
160 NEXT J

```

EXAMPLE 2

THE MAIN SUBJECT HERE IS, HOWEVER, THE VARIABLES N1 AND N2 IN THE GRAPHICS COMMAND. THE CHR\$(27)&"K" SET THE GRAPHICS BUT THE PRINTER MUST ALSO KNOW HOW MANY COLUMNS MUST BE RESERVED FOR GRAPHICS. N1 RANGES FROM 0 TO 255 COLUMNS, WHILE N2 REPRESENTS/INDICATES HOW MANY OF THE 256 COLUMN BLOCKS MUST BE RESERVED. I.E. N2 ACTS AS A CARRY EVERYTIME N1 COUNTS EXCEED 255. EXAMPLE 1 SHOWS 14 CYCLES OF 31 DOTS PER CYCLE OR 434 COLUMNS OF DOTS

```

110 PRINT #1:CHR$(27)&"K"&CHR$(248)&CHR$(0);
120 FOR J=1 TO 8

```

EXAMPLE 3

```

100 CALL CLEAR
110 INPUT "NUMBER OF GRAPHIC COLUMNS NEEDED (UP TO 816 FOR WIDE AND 480 FOR NARROW)":C
120 IF C>767 THEN 180
130 IF C>511 THEN 210
140 IF C>255 THEN 240
150 N1=C
160 N2=0
170 GOTO 270
180 N2=3
190 N1=C-768
200 GOTO 270
210 N2=2
220 N1=C-512
230 GOTO 270
240 N2=1
250 N1=C-256
260 GOTO 270
270 PRINT "THE GRAPHIC COMMAND SHOULD BE: "; "N1=";N1;" AND N2=";N2
280 INPUT "ANOTHER (Y/N)":YN$
290 IF YN$="Y" THEN 100
300 END

```

FROM THE LEFT TO RIGHT MARGIN. YOU CAN SEE THAT IF WE DIVIDE 434 BY 256 WE GET 1 WITH A REMAINDER OF 178. N1 IS NOW 178 AND 1 IS THE N2 VALUE. EXAMPLE 2 IS A SINGLE 31 COLUMN CYCLE WHICH BECAUSE 31 IS LESS THAN 256 CAUSES THE N VALUES TO BE N1=31 AND N2=0. EXAMPLE 3 IS HERE JUST TO REINFORCE THIS PATTERN. LINE 120 MUST ALSO BE CHANGED IN THESE EXAMPLES SO THAT THE NUMBER OF 31 COLUMN CYCLES MATCH THE NUMBER OF COLUMNS OF GRAPHICS RESERVED. THIS IS IMPORTANT SO THE PRINTER WILL RECEIVE INSTRUCTIONS TO DO THE PRINTING, OTHERWISE IT WILL JUST SET THERE (HANG).

THE PROGRAM TO THE LEFT HAS ONE SIMPLE FUNCTION, AND THAT IS TO CALCULATE THE N1 AND N2 VALUES FROM THE TOTAL COLUMN NUMBERS THAT YOU DECIDE YOU NEED. I AM AGAIN NOT A PROGRAMMER, BUT WANTED THIS PROGRAM TO BE IN CONSOLE BASIC AS ARE ALL THE EXAMPLES HERE. BECAUSE SOME OF YOU HAVE WIDE CARRIAGES, THE WIDER LINE CAN BE CALCULATED HERE.

USING PRINTERS #4, #5, AND #6 AS A GUIDE SHOULD ENABLE SOME OF YOU TO START WRITING PROGRAMS TO SUPPORT GRAPHICS. I KNOW YOU WILL HAVE PROBLEMS, CALCULATIONS, PRINTER TYPES, ETC. DON'T GIVE UP, BE AS PERSEVERING AS YOU CAN, AND YOU WILL FIND ENJOYMENT AND SATISFACTION IN MASTERING THE PRINTER.

ML

reprinted from M.O.V.A

I am assuming that you have a TI or Geneve, disk drive, Editor/Assembler (E/A) and a 32K memory expansion. I am also assuming that you know very little about assembly language, but are familiar with the Editor part of the E/A (it's just like TI-Writer). Let's start with an introduction to Assembly Language (AL from here). It's fast, compact, powerful, flexible and logical. It also uses a heck of a lot of math, but if you are using a computer, you should be accustomed to that.

AL is THE fastest language for every machine, because it is what the computer uses to operate and doesn't have to be interpreted. It uses about 78 commands that are abbreviated to 1-4 letters. (e.g. Move word is MOV, Add is A, Add Byte is AB, etc). I hope to introduce each of the more common commands and tell you how to network them together to make a program. From there you can use your own creativity and the E/A to further your programming skills.

AL is written as "source code" with the Editor, and is compiled into "object code" which is runnable with option 3 (Load Run). The format of each command is as follows:

LABEL<space>**COMMAND**<space>**OPERAND1** [**OPERAND2**]<space>**#COMMENT**

The first is the usual format and the second is the same as a REMark statement in BASIC. About the first format: The label is a group of letters or numbers or both up to six characters and is the name given to a line. A label is not required but is used to refer to a line. Line numbers are not used, so if you want to GOTO a line, a the line to go to must have a label. Example:

```
THERE NOP      #The NOP command means no OPeration
                and does nothing but goes to the next
                line.
START JMP THERE #JMP stands for JUMP to and will go to
                the OPERAND, which is THERE, so this
                will jump to THERE.
```

In BASIC this program would be:

```
10 REM
20 GOTO 10
RUN 20
```

As you can see that is a simple program and effectively does nothing. The listing demonstrates the fields very well. I usually start the Labels on column 1, commands on 8, operands on 13, and comments anywhere after that. Also shown in this listing are you first two commands, NOP and JMP which are fairly straight forward.

Every AL program must have a line to tell it where to start the program running at. That line is a DEFINITION.

Example:

```
DEF START,THERE
THERE NOP
START JMP THERE
END
```

Here we added two lines to our previous program, a DEF and an END, the DEF tells the computer that it may start the program at either START or THERE. END tells the Assembler that this is the end of the program and to stop assembling. Every program MUST end in the END command. NOTE: END does not tell the computer to stop like the END in BASIC but tells the ASSEMBLER that this is the end of the program. The following program will lock up:

```
DEF START
START NOP
NOP
```

END

Why? Because when the program is run and the program name START is given, the computer will execute a NOP, which means to go on to the next line, another NOP, next line: END? Not to the computer! The END is not put in the source code, so the computer will read the next memory address in memory which could be anything, and the computer will continue to execute random commands.

The program with both THERE and START as entries would not lock up, but instead will loop between two commands forever, as good as a lock up, but that is what the program tells it to do, so it will.

The major drawback in assembly is that there are no wopping commands like PRINT or INPUT to do big things like displaying a message on screen, and everything must be handcrafted.

Another commonly used command is REFERENCE, and is used to allow your program to use built in routines like VSBW, VNBW, KSCAN, GPLLNK, DSRLNK, and many more. Notice that none are more than six letters and can be used just like any other label.

AL is set up using 16 variables, labled R0 to R15. These variables are used continuously for everything, just about. The command Load Immediate (LI) will put a value into a register. Example:

```
LI R0,10
```

What that does is places a 10 in the R0 variable. These variables are called registers (which is where the R comes from, naturally). Values can be moved between the registers:

```
MOV R0,R1
```

This will move the value in R0 to R1, but leaves the original value in R0. Here is a commented program:

```
DEF START #Define a starting point as START.
START LI R0,10 #Load R0 with a 10
      LI R1,12 #Put 12 in R1
      LI R2,5 #Put 5 in R2
      A R0,R1 #Add R0 to R1 and place the sum in the
      #second operand or R1. So R1=22.
      S R2,R1 #Subtract R2 from R1 and place the
      #difference in R1. R1=17
      LIMI 2 #Allow interrupts such as (FCTN=)
LOOP JMP LOOP #Jump to itself for a continuous loop
END #Done!
```

Here is what we did in BASIC:

```
10 R0=10
20 R1=12
30 R2=5
40 R1=R1+R0
50 R1=R1-R2
60 ON BREAK STOP
70 GOTO 70
```

The Add and Subtract functions were introduced along with the more complex LIMI with means to Load Interrupt Mask Immediate. In English that means to let the computer to cut into the program every 60th of a second and do what it needs to. Some things it does is move sprites on screen, turn off a sound when needed, or check for the (FCTN=) key to quit. The last one is the one I wanted to happen. The operand after LIMI tells whether or not you want the computer to be able to cut in. If the operand is a "0" then the only thing allowed to cut in is the RESET button or turning the computer off and back on. If the number is 2 or greater then the computer is allowed to cut in. So ahead and try the last program, but it won't do anything but sit there because the result is not printed.

I guess I've put in my monthly two bits worth so, I guess I'll see you next month!