

# SGV 99/4 USERS' GROUP PRINTOUT



VOL. 2 NO. 5

PUBLISHED BY THE SAN GABRIEL VALLEY 99/4 USERS GROUP

## RESULTS OF THE SURVEY...

Well, the results of the surveys are compiled for the equipment section. The breakdown is:

4A console:	41
4 console:	2
Recorder:	38
P-Box:	27
Memory Exp:	27
RS232:	23
Disk Drive:	27
Printer:	21
Modem:	13
Monitor:	1 (rest have TV)
Joysticks:	35
Speech:	33
P-Code:	4
XBASIC:	29
MiniMem:	10
TEII:	26
E/A:	26
TI Writer:	20
MultiPlan:	13
Logo (II):	11
Adventure:	18
Speech Ed.:	8
FORTH:	21

The response rate was good, about 45%, which is very high for surveys of this type. The length of ownership corresponds to the amount of equipment owned; the most recent owners have the least amount of equipment. One person did not have any storage device yet, just the console and a TV, another was well on the way to two complete systems. Those who were just starting out want help with all facets of computing with the TI/4A; those who have owned a TI for a year or more, wanted help in specific areas, like FORTH or business applications. With our wide range of interests and level of competence, we should be able to start some great SIG's in the next few months.

If you haven't yet filled out a survey, or joined after this survey, ask Sherry for a form.

For those of you who want to start a SIG on the TI-Writer or other word processing programs, see me (Cheryl) at the meeting, July 11, Wednesday.

## TI LIVES ON...

According to a recent study done by the Gartner Group, TI ranked 20th in data processing revenues, compared to Commodore's 13th, Tandy's (Radio Shack) 14th and Apple's 11. IBM was, of course, first. TI lost money from 1982, with a growth rate of -1.0, but the dollars were still impressive: 739 million.

## MINUTES...

The Wednesday, June 6 meeting was the first held with two monitor screens. It was much easier to see the demonstrations. Everyone at the meeting was treated to a terrific strudel, compliments of BARRY EDWARDS. Thank you, Barry!

Tom discussed Bank of America's new home computer banking system. You need a modem and a RS232 card to hook up.

Mike demonstrated programs from the Library plus a few that he'd written. The big hit was Toccata, a music program from Australia. For those who would like to buy it, it's only \$1 from the Library. A free sign up sheet for a new game was passed around. About 15 people signed up for KING OF THE CASTLE. If you missed out, see Sherry at the next meeting.

The picnic will be on August 18, at the park on the corner of Merced and Walnut, in West Covina. A sign up for the pot luck was passed around. The club will provide the drinks. If you have a speciality, sign up at the July meeting.

The July meeting will be held on JULY 11, 1984, NOT JULY 4. We will meet at the W. Covina Library at 6:30 pm. See you there.

## THE LIBRARY...

We have two book reviews this month. The first is on Free Software for your TI-99/4A, by David & Dorothy Meller. It describes public domain software, how to get in touch with User's groups all over the world, how to start your own UG, and how to start your own Bulletin Board. Sources are given for almost free software and some nice educational resources are listed, too. The publishers plan on doing an update which you can send for and contribute to.

What I especially like were the resources for the Handicapped in the back. Something that I didn't know is that TI will try to modify a keyboard for anyone who shows need because of a handicap. If you are interested, write to:

Texas Instruments  
Consumer Relations  
c/o Tom Shields  
P O Box 10529  
MS 5828  
Lubbock, Texas 79408

If you are interested in the book, I'll have it at the next meeting (July 11) for review. The cost is \$8.95, and can be purchased at B. Dalton. If they are out, you can order it, too.

The second book is TI BASIC Computer Programs for the Home, by Charles D. Sternberg. This was also available at B. Dalton.

As the title suggests, this book is for the home, and involves typing in fairly long programs. The Kitchen section is good, although Planning programs didn't do all that I would have liked. Some of the List programs are a little too much, like the Beer Can Collection program.

The book has the advantage of being written for the person just starting out; you need only the basic console and a monitor, with a printer optional.

#### WHO MAKES MODEMS?

I came across a listing of modem manufacturers and thought I'd share it with you. The listing is alphabetical and is not meant to rate the modems in any way.

Andahl Communications Systems  
2500 Walnut Ave  
Marina del Rey, CA 90291  
(213) 822-3202

American Datacom  
16931 Milliken Ave  
Irvine, CA 92714  
(714) 863-3000

Anderson Jacobsen  
521 Charcot Ave  
San Jose, CA 95131  
(408) 263-8520

Avanti Communications  
Aquidneck Industrial Park  
Newport, RI 02840  
(401) 849-4660

Bizcomp  
532 Mercury Drive  
Sunnyvale, CA 94086  
(408) 745-1616

Bo-Sherrel  
36133 Niles Blvd  
Fremont, CA 94536  
(415) 792-0354

Canoga Data Systems  
21218 Vanowen St  
Canoga Park, CA 91303  
(213) 888-2003

Ceraetek  
1308 Borregas Ave  
Sunnyvale, CA 94088  
(408) 734-8150

Comdesign  
751 S Kellogg Ave  
Goleta, CA 93117  
(805) 964-9852

Equi-ex  
745 Harbor Blvd  
Costa Mesa, CA 92626  
(714) 662-5600

Halcyon Communications  
2121 Zanker Road  
San Jose, CA 95131  
(408) 293-9970

Hayes Microcomputer Products  
5923 Peachtree Industrial Blvd  
Norcross, GA 30092  
(404) 449-8791

Micom Systems  
20151 Nordhoff Ave  
Chatsworth, CA 91311  
(213) 998-8844

Prentice  
266 Caspian Drive  
Sunnyvale, CA 94088  
(408) 734-9810

Racal-VAdic  
1525 McCarthy Blvd  
Milipitas, CA 95035  
(408) 744-0810

Tek-Com  
1887 O'Toole Ave  
Suite C-103/203  
San Jose, CA 95131  
(408) 263-7400

Tri-Data  
505 E Middlefield  
Mountain View, CA 94043  
(415) 969-3700

Ven-Tel  
2342 Walsh Ave  
Santa Clara, CA 95051  
(408) 727-5721

As you can see, I've listed mostly those companies located in California, with the exception of Hayes and avanti Comm. You can write for free literature and see if there are other modems out there that will fit your budget.

#### HELPFUL HINTS...

#1 From a friend in Canada -  
If you have programs that are too long to run from a disk or you get memory full, try this trick using the mini memory module.  
Use the BASIC option of the MiniMem and type in:

```
CALL INIT
CALL FILES(1)
OLD DSK1.(NAME)
SAVE EXPMEM2
CALL LOAD (-31888,63,255)
NEW
OLD EXPMEM2
CALL INIT
RUN PROGRAM
```

(The computer must be turned off to reset the drive or use function clear)

```
CALL LOAD (-31888,55,215)
NEW
```

#2 If you have the TE2 and the Speech Synthesizer, type in list "SPEECH" or list "SPEECH": 150-200. Your program will now speak.

#3 Another TE2 tip: When transitting cassette files through a modem to another TI computer, always select the 8-bit file transfer option. The 7-bit option will cause the transmission to fail.

#4 How much memory do you have?  
XBASIC: 13928 bytes free  
TEII: 14024 Bytes  
BASIC: 14536 (no modules)  
If you have a drive attached, reduce the numbers by 2808.

Where can you buy disks at reasonable prices? Not the computer house catalogs! I've found good deals at the Price Club, which you can join if you work for the telephone company (or any utility), an airline, belong to a credit union or are a schoolteacher. There are other categories, too that I can't remember. Disks can be had for about \$15 for 10 SDDD. They also carry the Flip and File, and computer paper. Another store is J.K. Gill, which has the Flip and File/10 for \$19.99. This comes in a case and is guaranteed for life. Mike and I returned some that were warped with no questions asked. Personal Computer Workshop in Covina was reasonable for Elephant Head disks, too.

If your computer is in a less than ideal room, a diagnostic disk may be a good idea. They can save money on unnecessary drive repairs and disk replacement, not to mention data loss.

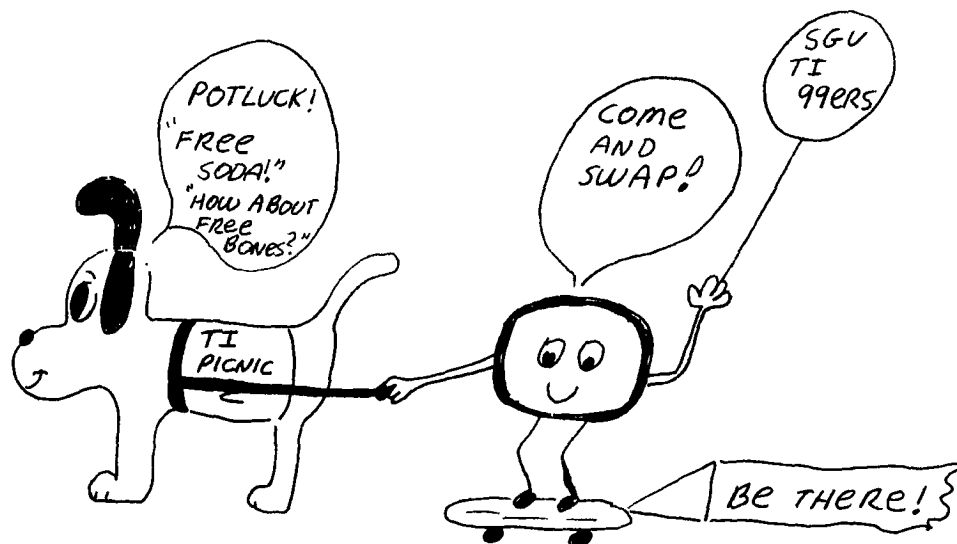
If your disk gets wet, can you save it? If you are lucky. Dry them carefully then carefully clean the disk drive head, following the manufacturer's instructions and submit the disk. If the data doesn't show up on the screen, take out the disk, clean the head again and put the disk in one more time. If the data still doesn't show on the screen, you've lost it.

Remember -

The July meeting  
is the 11th, at  
6:30 pm at the W.  
Covina Library,

Ed

SGV  
TI 99ERS  
PICNIC



WHEN: AUGUST 18, 1984 (SATURDAY) FROM 11 TILL ?????

WHERE: WALDRADA PARK (CORNER OF WALNUT & MERCED IN W. COVINA)

WHAT TO BRING: YOURSELF, FAMILY & FRIENDS, POTLUCK, THINGS TO SWAP, FRISBEES, BASEBALLS & BATS, GLOVES, VOLLEYBALLS, .....

THE SGV TI 99'ERS PROVIDE THE SODAS. WE ALL PROVIDE THE FUN!!!!

## HOW FAST IS FORTH?

by Hector Santos

The two reasons most often given for using FORTH are its speed of execution and the economy in its utilization of memory. We will examine its speed compared to Console BASIC and Extended BASIC using a benchmark program suggested in the Wycove FORTH Manual. The program solves the following problem:

A board showing a four-digit house number falls and breaks in the middle, leaving two numbers of two digits each. Someone remarks that it must be a lucky number because if you add the two two-digit numbers together and square the result, you get the original four-digit house number. List all the lucky four-digit numbers.

### BASIC PROGRAM

```
100 N=1000
110 FOR X=10 TO 99
120 FOR Y=0 TO 99
130 IF (X+Y)*(X+Y)<>N THEN 150
140 PRINT N;
150 N=N+1
160 NEXT Y
170 NEXT X
```

### FORTH PROGRAM

```
: HOUSE#1 1000
  100 10 DO
    100 0 DO
      J I + DUP * OVER = IF DUP . ENDIF
    1+ LOOP
  LOOP DROP ;
```

Console BASIC takes 209.4 seconds to run, Extended BASIC 219.6 seconds, TI FORTH 7.2 seconds, and Wycove FORTH 4.9 seconds. It is apparent that Extended BASIC is not always faster than Console BASIC as most people believe. Both versions of FORTH are fast!

One curious thing is that if you replace  $(X+Y)*(X+Y)$  by  $(X+Y)^2$  in the BASIC program, the run times change. Console BASIC now takes 555.6 seconds (very slow!) and Extended BASIC 244.8 seconds. Extended BASIC runs faster than Console BASIC now, although both run slower than the original program. Apparently, Console BASIC has a very inefficient algorithm for exponential functions.

Why does FORTH run so fast? A big factor is its use of integer, instead of floating-point arithmetic. Pascal takes advantage of the speed of integer arithmetic by letting you declare your variables as either integer or floating-point. Poor BASIC has to use floating-point in all its computations. Another product available for the TI-99/4A that has integer arithmetic capability is the SST Expanded BASIC Compiler. It claims to run more than 45 times faster than regular BASIC.

A few days after I ran the benchmark tests, I picked up from the bookstore a copy of Home Computer Magazine (the old 99'er). In the Letters section, reader Woodrow Wilson presented a more efficient program to solve the house numbers program. It is a beautiful and elegant solution. I urge the mathematically-minded among you to follow its logic to fully appreciate its conciseness. The new solution takes only 68 loops compared to 9000 for the original.

### BASIC PROGRAM

```
100 XHI=INT(SQR(9999))
110 XLO=INT(SQR(1000))+1
120 FOR X=XLO TO XHI
130 Y=X*X
140 Z=INT(Y/100)
150 IF (Y-Z*99)<>X THEN 170
160 PRINT Y;
170 NEXT X
```

The new solution takes only 4.8 seconds to run in Console BASIC and 3.6 seconds in Extended BASIC. Does this mean that BASIC is faster than FORTH? No, because the equivalent FORTH program is:

```
: HOUSE#2 100 32 DO
      I DUP 100 */ 99 * I DUP * SWAP -
      I = IF I DUP * . ENDIF
LOOP ;
```

The program executes in split-second, 0.6 second in TI FORTH and "too fast to measure" in Wycove FORTH. This shows one thing about benchmark programs. When using them to compare anything, make sure they are equivalent and use the same logic. Otherwise, you could be comparing apples and oranges.

#### SUMMARY OF RUN TIMES

##### Original Solution

Wycove FORTH	4.9 sec.
TI FORTH	7.2 sec.
Console BASIC	209.4 sec.
Extended BASIC	219.6 sec.

##### Improved Solution

Wycove FORTH	"too fast to measure"
TI FORTH	0.6 sec.
Extended BASIC	3.6 sec.
Console BASIC	4.8 sec.

## AMC Computers July Special - - -

Riteman + Printer  
120 CPS Friction/tractor  
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P Box  
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Disk Drive      \$484<sup>95</sup>

And, while they last, your choice (1)  
of several business software programs  
with purchase of 4000 PAK!

AMC Computers  
(Formerly Adventure Marketing Concepts)  
416 E. San Bernardino Rd.  
Covina, CA 91723      (818) 967-3828





```

570 CALL CHAR(104,A3#):: IF KOA= THEN 1090
580 CALL SPRITE(#13,104,16,X,Y):: 50TG 250
590 CALL MOTION(#13,10, )
600 CALL POSITION(#13,KO,KI):: IF KO>172 THEN 530 ELSE 600
610 PR=-PR :: CALL PATTERN(#13,106+PR):: 6=6+@ :: IF 6=3 THEN 6=@
620 IF 6<>@ THEN 640
630 IF L/Z=INT(L/Z)THEN F=@ ELSE F=-@
640 X=X+F :: F= :: Y=Y+@ :: DIR=@ :: IF Y>240 THEN 590
650 CALL LOCATE(#13,X,Y):: RETURN
660 PL=-PL :: CALL PATTERN(#13,98+PL):: 6=6-@ :: IF 6= THEN 6=Z
670 IF 6<>Z THEN 690
680 IF L/Z=INT(L/Z)THEN F=-@ ELSE F=@
690 X=X+F :: F= :: Y=Y-@ :: DIR=-@ :: IF Y<7 THEN 590
700 CALL LOCATE(#13,X,Y):: RETURN
710 NB=@ :: ON L 50TG 790,800,810,820,830
720 IF Y<>LL THEN RETURN
730 CALL PATTERN(#13,112):: CALL MOTION(#13,-@, )
740 CALL POSITION(#13,V,W):: IF V<LT-12 THEN X=X-(LB-LT):: CALL MOTION(#13,_,_)
:: CALL LOCATE(#13,X,Y):: CALL PATTERN(#13,96):: L=L+@ ELSE 760
750 IF L=6 THEN 1100 ELSE RETURN
760 CALL COINC(#13,#15,13,C):: IF C=-@ THEN 530
770 IF T=@ THEN CALL COINC(#13,#14,10,C):: IF C=-@ THEN 530
780 GOTO 740
790 LB=178 :: LL=129 :: LT=145 :: IF NB=@ THEN 720 ELSE 860
800 LB=137 :: LL=17 :: LT=112 :: IF NB=@ THEN 720 ELSE 860
810 LB=102 :: LL=161 :: LT=80 :: IF NB=@ THEN 720 ELSE 860
820 LB=76 :: LL=33 :: LT=50 :: IF NB=@ THEN 720 ELSE 860
830 LB=37 :: LL=177 :: LT=16 :: IF NB=@ THEN 720 ELSE 860
840 IF L=@ THEN RETURN
850 NB= :: ON L-@ 50TG 790,800,810,820,830
860 IF Y<>LL THEN RETURN
870 CALL PATTERN(#13,112):: CALL MOTION(#13,@, )
880 CALL POSITION(#13,V,W):: IF V>LB-16 THEN X=X+(LB-LT):: CALL MOTION(#13,_,_)
:: CALL LOCATE(#13,X,Y):: CALL PATTERN(#13,104):: L=L-@ :: RETURN
890 CALL COINC(#13,#15,13,C):: IF C=-@ THEN 530
900 IF T=@ THEN CALL COINC(#13,#14,12,C):: IF C=-@ THEN 530
910 GOTO 880
920 SP2=L&Z :: SP1=SP2-1 :: IF DIR=-@ THEN CALL PATTERN(#13,116)ELSE CALL PATER
N #13,120)
930 CALL MOTION(#13,-@, )
940 IF T=@ THEN CALL COINC(#13,#14,12,C):: IF C=-@ THEN 530
950 CALL COINC(#13,#15,13,C):: IF C=-@ THEN 530
960 CALL COINC(#13,#SP1,@,CO):: IF CO=-@ THEN 1000
970 CALL COINC(#13,#SP2,@,CO):: IF CO=-@ THEN 1000
980 CALL POSITION(#13,V,W):: IF V<X-20 THEN 1040
990 GOTO 940
1000 IF CO=-@ THEN CALL DELSPRITE(#SP1):: JR=SC :: SC=SC+SP1*50 ELSE CALL DELSPR
ITE(#SP2):: JR=SC :: SC=SC+SP2*50
1010 CALL SOUND(200,1100,@):: IF JR<10000 AND SC>10000 THEN SC=SC-10000 :: TM=TM
+10000
1020 IF HB=@ THEN RETURN ELSE HB=
1030 DISPLAY AT(24,@)SIZE(5):SC
1040 CALL MOTION(#13,@, )
1050 IF T=@ THEN CALL COINC(#13,#14,12,C):: IF C=-@ THEN 530
1060 CALL COINC(#13,#15,13,C):: IF C=-@ THEN 530
1070 CALL POSITION(#13,V,W):: IF V<X-3 THEN 1050 ELSE CALL MOTION(#13,_,_): CAL
L LOCATE(#13,X,Y)
1080 IF DIR=@ THEN CALL PATTERN(#13,104):: RETURN ELSE CALL PATTERN(#13,96):: RE
TURN
1090 CALL CLEAR :: CALL CHARSET :: XZ= :: CALL DELSPRITE(ALL):: PRINT "YOUR SCO
RE WAS ":SC+TM :: PRINT " DO YOU WANT TO PLAY AGAIN?" :: INPUT A$ :: IF A$="Y" O
R A$="YES" THEN CALL CLEAR :: GOTO 20 ELSE STOP
1100 CALL KEY( ,K,S):: IF K=68 THEN GOSUB 610 ELSE 1100
1110 CALL DISTANCE(#13,#12,DIST):: IF DIST>500 THEN 1100
1120 RESTORE 1100 :: FOR S1=@ TO 27 :: READ D,E :: CALL SOUND(150*D,E,_):: NEXT
S1
1130 DATA 1,294,1,330,1,349,1,392,1,440,1,440,2,440,1,523,1,466,1,440,1,392
1140 DATA 2,440,2,440,1,466,1,392,1,392,1,392,1,440,1,349,1,349,1,349,1,440
1150 DATA 1,392,1,349,1,349,2,294,2,294,@
1160 Y=17 :: X=168 :: BO=2500 :: XZ,L,G,E=@ :: IF SP>30 THEN 200 ELSE SP=SP+Z
1170 GOTO 200
1180 PRINT "KRAZY KOALA":"BY MARK & MATTHEW SMETANA":"ANDOVER NJ. 07821":"1982":
: : : : :
1190 FOR A=@ TO 300 :: NEXT A :: CALL CLEAR :: INPUT "DO YOU WANT INSTRUCTIONS?
":A$ :: IF A$="Y" OR A$="YES" THEN 1200 ELSE RETURN
1200 CALL CLEAR :: PRINT "USE THE ARROW KEYS TO MOVE THE KOALA BEAR UP TO THE T
OP OF THE SCREEN TO SAVE THE BABY FROM THE MONSTER."
1210 PRINT "'S' MOVES YOU LEFT 'D' MOVES YOU RIGHT 'E' MOVES YO
U UP A LADDER 'X' MOVES YOU DOWN A LADDER."

```

```

1220 PRINT "G" MAKE YOU JUMP TO GRAB FRUIT FOR EXTRA POINTS OR ITMAKES YOU JU
MP TO A:G:D THE B:G:T THAT FLIES ACROSS THE SCREEN."
1230 PRINT "A:G:D THE FALLING ROCKS MAKE IT TO THE TOP BEFORE THE BONUS RU
NS OUT. ROCKS SPEED UP AFTER EVERY SCREEN."
1240 PRINT " GOOD LUCK!!
EY TO BEGIN"
1250 CALL KEY( ,K,S):: IF S<> THEN RETURN ELSE 1250
PRESS ANY K

```

MEMBERSHIP FEES:

Adult Individual: \$15/year  
Junior Individual: \$10/year  
Family: \$20/year  
Sponsor: \$50/year  
Non-participating: \$ 5/year

A junior is anyone under the age of 18; a non-participating member is someone out of the area who would like to receive the PRINTOUT. For renewing members, look for the asterisk by your name on the mailing label. Send your checks or money orders to:

SGV User's Group  
1008 Dore Street  
West Covina, California 91792

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MEETING PLACES:

Second wednesday of the month for the general meeting JULY ONLY:: West Covina Library at 1601 W. Covina Parkway, off the 10 (San Bernardino Freeway) at 6:30 pm.

Second Thursday of the month for classes & library business: Pomona First Federal Savings & Loan at 18220 E. Colima Road; Rowland Heights (Take the Fullerton exit of the 60 freeway) 7:00 pm.

Third Wednesday of the month for the officers' meeting: usually at Cheryl & Mike Young's place, 2438 Nina Street #3, W. Covina. (Off Amar & Temple).

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SGV 99/4 User's Group  
1008 Dore Street  
W. Covina, CA 91792

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Tom Padilla

Vice-President:  
Bob Roquemore

Treasurer:  
Floyd Wilson

Secretary & PRINTOUT Editor:  
Cheryl Ahrens Young

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DEADLINES FOR THE PRINTOUT:

August: July 20, 1984  
September: August 22, 1984  
October: September 21, 1984

Please mail your articles to:

SGV 99/4 User's Group  
1008 Dore Street  
W. Covina, CA 91792  
Attention: Cheryl Young

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SEND TO