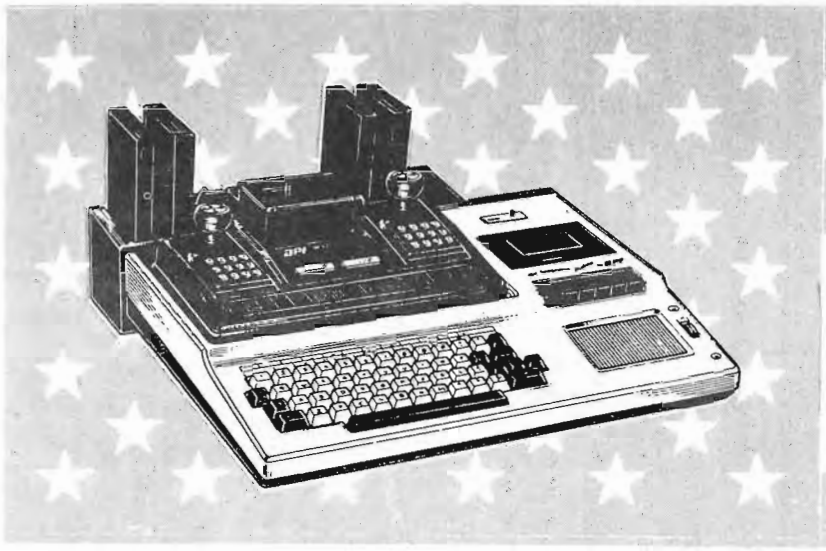

SEPTEMBER '84

I-M 1 IN A MILLION CLUB

NATIONAL NEWSLETTER

INSIDE...

GEO*GRAFIX LIMITED
P.O. Box 54 • Arrowsmith, Illinois 61722

EDITOR-GEORGE BAKER
PRODUCED MONTHLY BY-GEO*GRAFIX LTD.
PRINTED BY-GLENN VOSS PRINTING

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___MUSIC COMPOSER
___SPACE DESTROYERS
___HANGMAN
___SHOOTING GALLERY
___CASINO
___BASEBALL
___BOXING
___BACKGAMMON
___CATENA
___JUMBLED UP THINGS

Please list 'A' for ALL ALTERNATES
___PAK MAN ___SUPERFROG ___ESCAPE
___MS. PAK ___FOOSEBALL

GENERAL NEWS

NEW PROGRAM COMING SOON!

PICTURES & MOTION(tm) by A. FRESSOLA, Fairfield, CT will be available soon. This program permits the creation, editing, and storing of HIGH RESOLUTION shapes, and allows the user to move shapes or entire pictures around the screen.

The complete instructions (12 pages) make it easy to create beautiful high res pictures and store them on tape for future display.

A complete review will appear next month.

FROGGY ON THE FREEWAY DONATED!

Eric Beckett's popular HI RES program 'FROGGY' is now a part of the IM-1 CLUB PROGRAM LIBRARY.

For those who haven't played this fine game, here's your chance to obtain it for the price of processing from the club program library. As mentioned in earlier issues, the only charge is to cover postage and handling. This charge is $5.00 for every 3 programs ordered.

Be sure to check the GENERAL NEWS in subsequent issues for other programs that can be ordered from the library.

A very SPECIAL THANKS to Eric for his generous contribution!

SCREENWRITER II--TEAMWORK!

Keith Phillips came to our aid when we experienced some trouble with his program. A new revised tape from Keith was in the mail promptly and we are now able to fill the requests for this program. Thanks to Keith for coming through again!

Also... Herbert Reith from Asheville, NC sent us revised instructions for SCREEN WRITER II on tape using Jim Clatfelter's 'COPYWRITER' program. It's really good to see club members working together with available programs to produce enhancements and improvements to other programs. Many thanks to Herbert for all the time and effort!

ALTERNATIVE KEYPAD NEEDED

Les Patterson from Nashua, NH has written requesting information regarding replacement of the original APF NUMERIC PAD with one of different manufacture. He is experiencing double entry problems. Can anyone help?

MORE CLUB PROGRAMS ARRIVE!

Bill Bowman and Harry Brown have been busy this summer creating MORE programs for club members to use.

From Bill....COMCOST....a program that compares the cost of items when sold by the ounce or pound, displays the price differences, and gives a dollar figure for the BEST BUY. The program appears within this issue.

From Harry....A randomly generated POETRY PROGRAM, a calculation routine, and a LO RES scoring display routine.

Thanks to Bill and Harry for their continued programming contributions!

HOPE WE HAVEN'T MISSED YOU!

It has been a very interesting year so far and we have been busy almost every evening responding to letters from members and non-members alike. The load has slacked a bit lately so we want to insure that we have responded to ALL members who may have written us.

If YOU have written and HAVE NOT received a reply, please write again. If we have missed you, rest assured that it wasn't intentional. We'll get a reply to you promptly.

BYTE--CLUBS AND NEWSLETTERS

An article about the IM-1 IN A MILLION CLUB SHOULD be appearing in the SEPTEMBER issue of BYTE magazine in the CLUBS and NEWSLETTERS section.

A brief description was sent to BYTE about 4 months ago and we are looking forward to seeing it in September.

Q & A FOLLOW UP

The following information was supplied to us by GLENN JONES in response to some of the questions appearing in the MAY Q & A TOSS UP section. Thanks Glenn for your help.

FROM KEN PASSAILAIGUE--CANADA

1. A way to SLOW DOWN THE LIST (scroll) so that it is more easily readable.

A. An excellent machine code scrolling routine was available from:

Carl Echols
112 Creekside Lane
Noblesville, IN 46060

Editors note: Carl IS NOT a member this year and we don't know if he is still involved with the IMAGINATION MACHINE.

FROM GARY SHELTON--BLOOMINGTON, IL.

"Can you tell me what happened to APF ELECTRONICS INC.? Did they go bankrupt or did they merge with another company, or are they still operating under another name?"

A. As far as I know, the company folded up and their assets were auctioned off.

ALSO FROM GARY SHELTON

"I would also like a description of an IM-2 and how it differs from the IM-1."

A. The IM-2 had the game unit built inside the console with ports in front for optional joysticks. Some of the internal ROM was slightly different, but it would run most IM-1 software. The unit included a BB, SI-232, 16K RAM, and FI-100 with dual disks. It was to have level 2 BASIC and lower case, but these were never completed. The output was for a monitor rather than a TV.

FROM RICK THUES

The CALL instruction to READ THE KEYBOARD for an input and display the ASCII to the screen doesn't seem to work (CALL32975) HEX80CF. What built-in routine would provide this operation?"

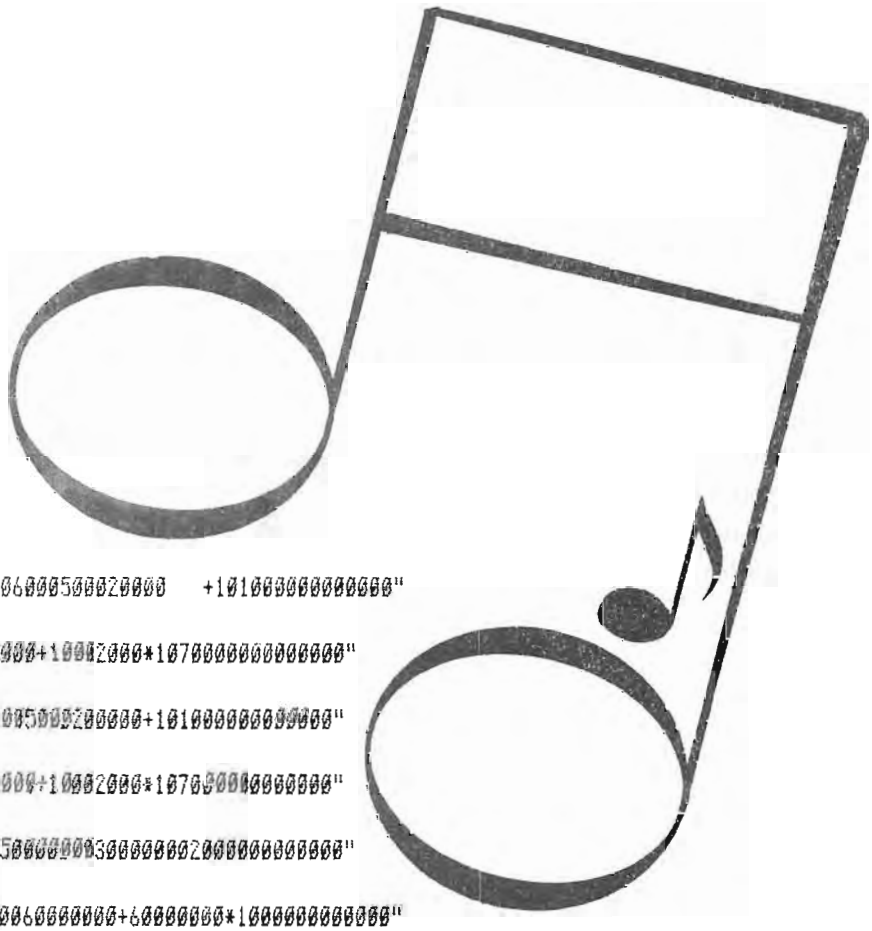
A. The 80CF routine DOES read from the keyboard and store it in the A register, but the 8473 routine must be used to put it to the screen.

FROM CHRIS LINSCHOOTEN

"Has anyone successfully converted their IM-1 to work with a black and white or color monitor?"

A. The previous operators of the club..M B ENTERPRISES INC. were at one time offering the instructions to convert the IM-1 to work with a monitor. These instructions were provided by THOMAS FAIRBAIRNS.

```
10  FOR I=1 TO 2
20  MUSIC "*+2000000000000000    *10*20*+2000*1000*200000+605000000000000"
30  MUSIC "    "
40  MUSIC "+5000+6000*100 *100 *100000 *10 *100 *100 *1000+60+50500000+2010000000000"
50  MUSIC "    "
60  MUSIC "2000+2000400 400 400 400 4000*10000000+2000200 200 200 200 200060000000"
70  MUSIC "  "
80  MUSIC "2000+20004000500*1000+40005000600000*200 *200000000000000000000"
90  MUSIC "       "
100  MUSIC "*+2000000000000    *100*20*+2000*1000*200000+605000000000000"
110  MUSIC "    "
120  MUSIC "+5000+6000*100 *100 *10000 *10 *100 *100 *1000+60+50+600000503000000000000"
130  MUSIC "    "
140  MUSIC "40005000+500 +500 +500 +500 +50004000*+200000*20+50005000*2000*1000+2000000000"
150  MUSIC "    "
160  MUSIC "40005000000*+2000000000  *+20*20*+20*1000*2000*+2000*+200000000000000000000000"
170  MUSIC "        "
180  IF I=2 STOP
200  NEXT I
```



```
10  FOR I=1 TO 2
20  MUSIC "/700000000200000+607000000000000     +40006000500020000   +101000000000000"
30  MUSIC "    "
40  MUSIC "1000000020000030+400000000000     30002000+10002000*1070000000000000"
50  MUSIC "    "
60  MUSIC "/700000000200+607000000000000     +40006000500020000+101000000000000"
70  MUSIC "    "
80  MUSIC "1000000020000030+400000000000     30002000+10002000*1070000000000000"
90  MUSIC "    "
100  MUSIC "300000005000000000000     60005000+40005000000030000000200000000000"
110  MUSIC "    "
120  MUSIC "200000004000000000     +40005000+40005000600000000+60000000*1000000000000"
130  MUSIC "    "
140  MUSIC "/700000000200000+607000000000000     +40006000500020000+101000000000000"
150  MUSIC "    "
160  MUSIC "1000000020000030+400000000000     30002000+10002000*1070000000000000"
170  MUSIC "    "
180  MUSIC "/700000000200000+607000000000000     +40006000500020000+101000000000000"
190  MUSIC "    "
200  MUSIC "1000000020000030+400000000000"
210  MUSIC "    "
220  IF I=2 GOTO 300
230  MUSIC "30002000+10001000+40500000000000"
240  MUSIC "    "
250  NEXT I
260  MUSIC "30002000+10001000000000000     60000000500000000000000000000"
270  END
```

ORCHESTRA PIT

More popular tunes from HAL BLOOM

PRODUCT REVIEW

DISKMOD from HEXMART SOFTWARE

Have you ever wanted to VIEW or CHANGE data residing on individual sectors on a disk? Have you ever wanted to look at information residing on a TI-99 or TRS 80 disk?

DISKMOD gives you the ability to do this on your IMAGINATION MACHINE.

The program will allow you to READ FROM or WRITE TO any sector which has been formatted by the INIT command, or by the INIT 40 PROGRAM.

For those of you who have ROMMON (c), its monitor program is supported by this program. For those of you WITHOUT ROMMON(c), DISKMOD will be slightly more difficult to use.

The program is MENU DRIVEN, SELF PROTECTED, and READS INFORMATION that it retrieves from the disk by looking at a buffer address.

A STEP command allows you to advance through the disk, sector by sector, until the desired sector is reached. At this point, the program will return to the main menu.

The instructions include a good explanation of DISK FORMAT and useful machine calls.

Included on the reverse side of the cassette is HEXMART'S INIT 40V program that initializes a disk with 40 tracks at 10 sectors per track. The program verifies all sectors after initialization is complete. This is an excellent safeguard feature that avoids saving important data on a disk that does not initialize properly.

Together, these programs allow you to expand your storage capability on disk and increase your knowledge of disk formatting, editing, and retrieval of data contained on disk.

DISKMOD provides unmatched versatility with its ability to manipulate disk recorded data.

DISK DIRECTORY from HEXMART SOFTWARE

While we're on the subject of DISK UTILITY PROGRAMS, when could be a better time to review an additional program from HEXMART SOFTWARE called DISK DIRECTORY.

The program is straight forward in its operation and instruction. Therefore, we HIGHLIGHT information taken directly from the instructions provided by HEXMART.

"Disk Directory is a utility program which will allow your computer to keep track of what programs you have and on which disk they are stored. The program uses a custom version of SUPERSORT (machine language sort routine) to sort your program list in a matter of seconds. The list which is created can be saved to disk as well as displayed on the screen or printer. The program is set up to handle a maximum of 200 titles and will do this on an 8K APF.

When you run the program, a menu of three choices will be displayed. The three choices are:

-C- create list of titles
-E- end session
-L- load list from disk

Press -C- to start loading program titles from your disks. If you had previously created a list and saved it to disk, you could press -L- to load that list. Press -E- to stop the program when you have finished using it.

If you press -C- the program will ask for your disk code. This is a 3 digit alpha-numeric code which you should have written on your disks so that you can identify them. It can be any code or number you want. You might use something as simple as 1,2,3, etc. or something more detailed such as G10 to indicate your game disk #10.

Enter the code you have chosen for your first disk. The program will tell you to press any key when you have placed your disk in disk drive #0. When you press any key, the computer will read the program titles from the disk in drive #0 and add your identification code to the end of the titles so you will know which disk they are on.

After the program has read the titles, it will ask you if you want to read titles from another disk. If you say yes, the program will ask for the next disk's code. If you say no, the program will sort the list which has been created and return you to yet a longer menu. The new menu has 6 choices:

-A- ADD TO LIST IN MEMORY
-D- DELETE DISK TITLES
-E- END SESSION
-L- LOAD LIST FROM DISK
-S- SAVE LIST TO DISK
-V- VIEW TITLES

SHORT PROGRAMS

```
5  POKE 26112,0: POKE 8193,60
6  DIM K$(1),Q(2),P(2)
7  GOSUB 300
8  PRINT : PRINT  SPC (5);"COMPARE PRODUCT COST": PRINT
11  PRINT : PRINT "COMPARISONS ARE IN OZ'S.": PRINT : INPUT "CONVERT FROM LBS.(Y-N)",K$
12  IF K$="Y" THEN 400
13  IF K$="N" THEN 19
14  IF K$<>"Y" IF K$<>"N" THEN  MUSIC "*7 *5 *3": GOTO 7
15  GOSUB 300
16  PRINT "IF YOU CONVERTED TO OZ.";
17  PRINT : PRINT "A REMINDER:-": PRINT : PRINT "NO.1="; SPC (1);Q(1); SPC (1);"OZ."
18  PRINT "NO.2="; SPC (1);Q(2); SPC (1);"OZ.": PRINT
19  PRINT : PRINT "PROGRAM STARTS:-": PRINT
20  INPUT "# OZ.PRODUCT (A)",A
30  INPUT "PRICE PER UNIT PRODUCT (A)",C
35  PRINT : PRINT
40  INPUT "# OZ.PRODUCT (B)",B
50  INPUT "PRICE PER UNIT PRODUCT (B)",D
60 E=C/A:F=D/B
70  IF E>F THEN 90
80  IF F>E THEN 200
90  CALL 17046: POKE 40960,2: POKE 40961,0
100  PRINT "PRODUCT A IS $"; SPC (1);E; SPC (1);"PER OZ."
110  PRINT "PRODUCT B IS $"; SPC (1);F; SPC (1);"PER OZ."
115  IF F>E THEN 210
120  PRINT : PRINT "PRODUCT A IS $"; SPC (1);E-F; SPC (2);"MORE PER OZ.  THAN PRODUCT B": FOR I=1 TO 50: NEXT
121  MUSIC "/7*7/7": PRINT : PRINT "$"; SPC (1);(E-F)*A; SPC (1);"MORE FOR"; SPC (1);A; SPC (1);"OZ."
125  IF E>=F THEN  STOP
200  CALL 17046: POKE 40960,2: POKE 40961,0
205  GOTO 100
210  PRINT : PRINT "PRODUCT A IS $"; SPC (1);F-E; SPC (1);: PRINT "LESS PER  OZ.THAN PRODUCT B"
215  MUSIC "/7*7/7": FOR I=1 TO 50: NEXT
216  FOR I=1 TO 100: NEXT
220  PRINT : PRINT "$"; SPC (1);(F-E)*A; SPC (1);"LESS FOR"; SPC (1);A; SPC (1);"OZ'S."
225  STOP
300  CALL 17046: POKE 40960,2: POKE 40961,0
305  RETURN
400  GOSUB 300: PRINT "CONVERT LBS.TO OZ'S.": PRINT
405  PRINT : INPUT "HOW MANY CONVERSIONS (1-2)",L
406  PRINT : FOR N=1 TO L
407  PRINT N;
410  PRINT : INPUT "NO.LBS.TO BE CONVERTED",P(N)
420 J=P(N)*16
426 Q(N)=J
427  NEXT
430  PRINT : PRINT "NO.1 CONVERSION="; SPC (1);Q(1)
435  IF L<2 THEN 450
440  PRINT : PRINT "NO.2 CONVERSION="; SPC (1);Q(2)
450  PRINT : INPUT "RETURN TO PROGRAM-PRESS  RETURN ",K$
460  GOTO 15
```

COM $ COST

FROM BILL BOWMAN

Use this program to convert your items from ounces to pounds, or, compare the cost of two items that are priced by ounces or pounds. You might be surprized at what a few OUNCES costs you, and, how much you could save on a different sized item.

Spotlight

This month the SPOTLIGHT focuses on GLENN JONES from Tulsa, Oklahoma. Glenn has been making hardware and software for the IM-1 since the early days; games such as STAR TREX, FERZERX, and connecting cables, memory expansion kits, and serial interfaces. Glenn has also been very active in the past clubs as well as the present one. The following information is printed exactly as it was received. Thank you Glenn for the INSIDE LOOK into your activity with the IM-1.

Glenn Jones here (alias G.R. Jones). I am a field engineer for a major computer peripheral company, am married to a very wonderful and patient computer widow, and have two daugters ages 2 and 9. I bought my IM-1 in March '81 on sale for $399; retail price was $599 for the "bare" machine. Since then, it's been apart more times than I could possibly count, making modifications and testing products.

My machine currently has 32K of RAM, a building block, an SI-232, PI-100 (APF parallel interface), R-8K RAM, and an FI-100 with two disk drives. There is a switch on the SI-232 to enable it when I want to use the VOLKSMODEM, and disable it when the PI-100 is to be used (either work with APF's built-in software routines). A switch on my PI-100 enables the standard 640X address or 670X for simultaneous printing with the modem. I am using an OKIDATA MICROLINE 82A printer, and have a TC-71 printer for "letter quality" printouts.

Many, many thanks to George and Susan Baker for providing us with the top quality newsletter we now have (this is the 5th different APF newsletter). Hopefully, we will be able to have them produce on a bi-monthly or quarterly basis again next year. It seems that the majority of us who remain are technically oriented, and are pretty much doing "our own thing". Therefore, we need to support the club, and each other by providing suggestions, questions, programs, and other information. The reasonable prices and consistently high quality of HEXMART's utility programs, GEORGE KARABIN's games, JIM CLATFELTER's business software, and many others are also very nice support to have.

My system is mostly used for word processing: writing letters and filing notes from Bible class. I would love to see someone come up with a "virtual storage" system for the disk to overcome the limited memory problem. I believe APF did this on their mailing list program, but I don't have a copy of the program, and understand it wasn't very good to begin with. At any rate, I found a means of getting an additional 8K of storage in the $2000-$3FFF address range, but since it is not "in line" with the rest of RAM, ($A000-$FFEF), is unaccessible by BASIC. It can be used for custom ROM, variable storage, machine code subroutines, or entire machine code programs. The entire 8K could even be "booted up" after power on, and used as ROM.

APF uses the entire 8K section to drive the PIA inside the game unit, when only the first 4 bytes are actually needed. Rather than add enough logic to fully decode the area, I opted to mount a switch on the MP-1000 which disables the PIA AFTER power on initialization. This means no joysticks, graphic mode changes, or sound utilization when the PIA is disabled, but it can be enabled any time the additional 8K RAM is not required. Another switch is mounted on the back of my MPA-10 console which is used to disable the 8K for power on init (to avoid interference with the PIA), then to enable it. The R-8K RAM cartridge

must be expanded to 16K, and the rest of the modification consists of logic changes which are done with unused gates of the TTL chips installed in my 24K expansion. See the classified ad for more details.

Since I have about $1200 in APF equipment on my system which will do just about anything I would like for it to do with all of the software accumulated over the years, I'll be hanging onto it for some time. Besides, a new system today will be "obsolete" technologically in a few months, anyway! And there a few things I would still like to do (or see done) with the APF, like a color monitor modification and a program to "draw" & print the 64 block graphic characters available on some printers (which I am working on). I went to a meeting of the TULSA COMPUTER SOCIETY tonight, and they are doing some really neat things with computers to help the handicapped...fascinating!

Beam me up, Scotty!

SHORT PROGRAMS

The following short program was sent in by Alfred Fressola from Fairfield, Connecticut. *"I would like to offer to your readers a program which I wrote that is a modification of a computer benchmark test known as the Sieve of Erastothenes that appeared in the Jan. issue of Byte Magazine. As presented in the enclosed listing, the program will generate a list of prime numbers up to a stated maximum number selected by the user and will also indicate the interval between prime numbers whenever this interval is greater than all previous intervals of prime numbers. The program will also calculate the total number of primes found over the range of numbers selected, as well as the maximum interval between prime numbers within this range of numbers and where this interval occurred."*

Thank you Alfred for your contribution to the club!

```
10  POKE 24578,54: CALL 17046
20 COUNT=0:A1=2:MAX=0
21  PRINT "SELECT HIGHEST NUMBER TO TEST": INPUT " FOR  PRIMES",NU
23 NU=(NU-3)/2: IF NU>14600 THEN  PRINT : PRINT : PRINT "SELECT A LOWER NUMBER": PRINT : PRINT : GOTO 21
24 LO=57343- INT (NU)
30  FOR I=0 TO NU: POKE LO+I,1: NEXT I: MUSIC "*5 *6"
40  FOR I=0 TO NU
50  IF  PEEK (LO+I)=0 GOTO 170
60 PRIME=I+I+3
70  PRINT PRIME,
75 A2=PRIME:IN=A2-A1: IF IN>MAX THEN MAX=IN: MUSIC "*7": PRINT : PRINT "INTERVAL = ";MAX:A3=A1:A4=A2
77 A1=A2
80 K=I+PRIME
90  IF K<=NU THEN  POKE LO+K,0:K=K+PRIME: GOTO 90
100 COUNT=COUNT+1
170  NEXT I
190  PRINT : PRINT COUNT;" PRIMES FOUND FOR": PRINT "A RANGE OF NUMBERS FROM": PRINT "3 TO ";(2*NU+3)
195  PRINT "MAXIMUM INTERVAL WAS ";MAX
197  PRINT "BETWEEN NUMBERS ";A3;" AND ";A4
200  END
300 L= PEEK (41984)*256+ PEEK (41985):E= PEEK (41446)*256+ PEEK (41447)
310 M=E-L: PRINT "MEMORY REMAINING = ";M
```

DATA SHOP

This article marks the closing of the DATA SHOP for this year. We hope that you have enjoyed it and have gained some useful information from it.

Before closing, we would like to mention the most common problem with modems, and some solutions that may help you get your modem ON-LINE without delay.

Finally, we have drastically reduced some pages of data that were pulled from THREE separate BBS systems on the EAST COAST. These HARD COPY printouts of BBS systems as they are running may be of interest to those of you who may be considering modem operation with your IM-1. Please pardon the print quality. We wanted to get as many examples on a page that we could.

COMMON PROBLEM

"I got a modem, hooked it up, dialed a bulletin board, and got GARBAGE on the screen just before I was disconnected!"

POSSIBLE REASONS

A number of things could cause this to happen.

BAUD RATE--The baud rate on your SI-232 or DC-232 was not matched to your modem, or the rate at the other end of the connection. Most BBS systems answer at 300 BAUD and, if they have the capability, let you SHIFT UP in speed (1200) after the introduction. Some SMARTER systems will SAMPLE your initial BAUD RATE and SHIFT UP or DOWN accordingly.

PARAMETERS--Serial WORD LENGTH and PARITY did not match the BBS system. This is an area that should have been standardized long ago. It causes the biggest headaches with home computer users, not only with modem operation, but with PRINTER operation as well.

Solutions to word length (data and stop bits in a serial stream) were provided in an earlier issue of the newsletter in regard to printer control. The problem becomes apparent in MODEM operation when dialing into another computer that has a different arrangement than the IM-1. The TERM-1 program is fixed in its format of serial data and therefore limits the user to access BBS systems that ARE compatible with it. Parity only becomes a problem when a certain system REQUIRES ODD or NO PARITY in its transmission or reception of data. There ARE a few around!

Any of these items mentioned thus far could cause strange looking characters to appear on your screen, or no characters or control at all.

If at all possible, it would be worth it to contact the SYSOP (system operator) of the BBS system that you plan to access BEFORE trying it. This is not very adventurous, but will save you some unnecessary charges on your phone bill. Most SYSOPS who maintain active boards will be glad to answer any questions you may have.

BBS IN TROUBLE--Some systems are not maintained regularly and eventually get into trouble. We have one locally that has a habit of answering you cordially, taking your name and number, and then goes absolutely WACKO before your eyes; a fitting example of HI TECH at its WORST! A good rule of modem sensibility is, before suspecting YOUR system to be in trouble, TRY DIALING ANOTHER BOARD!

IMPROPER SYNC--If BOTH ends do not sync up together in the allotted time to do so, problems will occur. Generally NO DATA will be received and your screen will remain blank. However, in the silence of the connection CIRCUIT NOISE can cause erroneous characters to be displayed on your screen. Normally the connect tone is long enough to establish the proper connection.

FULL/HALF DUPLEX/ECHO--Repeated characters (doubles) such as HHEELLLLOO are a result of one end being in HALF DUPLEX when transmitting data and the other end ECHOING the data back. The half duplex mode displays each character typed onto the screen and at the same time transmits the character to the other end. If the other end is conditioned to ECHO received data back to the originating end (YOU), it will send each character in order back IMMEDIATELY. These returned characters will be placed adjacent to the others on your screen thus producing the DOUBLE display. To overcome this unwanted characteristic, the transmitting party should change to FULL DUPLEX operation. This operation will transmit each character as it is typed but will not display it. When the other end ECHOS the character, it will be then be displayed on your screen by itself.

DATA SHOP

If you need help in getting ON-LINE with your modem, or would like to establish a hook-up with another IM-1 to test with or exchange data with, please write ahead of time and let us know when you would like to schedule. If you have a printer and would like to gather a few programs over the phone, the club library is at your disposal. By the way...if you happen to know of any good systems that other club members would enjoy getting into, please let us know. We'll pass the information along to others in the newsletter.

Appearing below are reduced pages of information gathered from the phone line when hooking up to three separate BBS systems that are OPEN TO THE PUBLIC. GOOD LUCK WITH YOUR MODEM!!

```
*** WELCOME TO THE FORUM-80 (TM) OF MONMOUTH CO. NJ ***
*** LOCATED IN THE COMMERCIAL SPORT FISHING CAPITOL ***
***        OF THE U.S.A.          BRIELLE, N.J.      ***
PLEASE LOG ON THE SYSTEM WITH
THE FOLLOWING INFORMATION.
You are caller No. 5/91

Version: 3.1.3 07/25/81

BULLETINS (UPDATED 06/22
(HIT 'S' TO SKIP BULLETINS)
(HIT 'P' TO PAUSE)
   WE WILL BE UPGRADING TO A TRS-80 MODEL III  ON OR
   ABOUT 06/01/83.  PLEASE EXCUSE ANY PROBLEMS IN
   THIS CONVERSION PROCESS.  THE NEXT MAJOR CHANGE
WILL EITHER BE HARD DISK OR 1200 BAUD!  ALL DEPENDS
 ON THE MONEY THAT'S AVAILABLE !
PASSWORDS ARE NO LONGER REQUIRED FOR DOWNLOAD
 PLEASE USE THIS SYSTEM AS MUCH AS YOU PLEASE, BUT
          D O N ' T   A B U S E   I T   !  !
 PLEASE USE YOUR PROPER NAME, ADDRESS, CITY AND STATE
   IF YOU WANT RESPONSES FROM OTHER USERS, THEY MAY
   NEED THAT.   IT ALSO HELPS US
```

```
WELCOME TO CFONJ
THE COMPUTER FORUM OF NJ
A TRS SYSTEM
300/1200 BAUD

** ALL USERS ARE ENCOURAGED **
TO LEAVE MESSAGES

NEW!  MODEM/CMD UPLOAD NOW AVAILABLE
U NOW DELETE
MSGS TO YOU THAT MIGHT BE
OF GENERAL INTEREST TO OTHERS

SEEN ANY MOVIES RECENTLY ??
NEW SECTION: MOVIE REVIEWS

NOW ONLINE !!!!!

YUKS AND CHUCKLES BOARD
```

```
LOCAL FEATURES SECTION
<B>ulletins Reprinted
<H>elp with System Operation
<C>hat with SYSOP
<I>nformation about System
<P>assword Change
<T>erm (Change Menu Prompt Level)
<X>pert (Change Terminal Type
<M>econfigure (MODEM/CMD & ASCII)
<U>pload (MODEM/CMD & ASCII)
<E>xit to TOP MENU
<T>erminate Call
Commands e
```

```
CFONJ Top Level Menu
CFONJ ... Enter CFONJ ME
<S>YSTEM ... Enter Desk - For
<R>egistration (Upload,
<L>ocal Features (Upload,
<Y>UKS AND CHUCKLES LAFFA
<T>erminate --- Sign off
Commands y

Type P to pause, S to
Sorry .. You must com
This feature! After
will have access to
Verification is usu
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CFONJ Top Level
<S>YSTEM ... EN
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<T>erminate

Commands:
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continue to g
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     I will stay o
last minute details,
will still be at this nu
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```
Please Read <B>ulletins For A VERY IMPORTANT ANNOUNCEMENT

Press <S> To <S>kip Opening
This System Is Here For You To Use As Often As You Want
Please Use Your Good Judgement For Your Message Center
This Service Is Brought To You By Your Friends At
Computer Services of Danbury
1 Franklin Street
Danbury, Ct. 06810
A/C 203 743-1299 - Voice
Your TRS-80 Experts

NOTE: Pressing <ENTER> From An Abbreviated Men
To Read System Bulletins Use <B> From Main Me
Use Option <A> From Main Menu To Activate Pr

Loading Control Module

These Are The Commands That Can Be Used
<A>utolog              <B>ulletins
<C>lub                 <D>irections
<E>lec-Shopping        <F>ile-Transfer
<G>ames                <H>ow-Long
<I>nterests            <L>ine-Test
<M>essage-Center       <O>ther-Numbers
<R>equest-Chat         <S>ystem-Confi
<T>erminate            <U>sers-Log
<V>iew-System          <X>pert-User

Your Choice ? Bulletins
Bullet-80 System Bulletins
Press <S> To Stop, Ctrl-S Or

06/24
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the last 4 1/2 ye
has to be among
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IMPORTANT NOTICE !!!!

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Danbury to
officially
     Jo
the TRS
comput
     John
continue to g
that you've expe
     I will stay o
last minute details,
will still be at this nu
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```
onfiguration - This function lets you to customize Bullet-80
               to your terminal by letting you adjust screen
               width, line feeds, upper and lower case, nulls
               and your bell code.
rminate      - Logs you off of Bullet-80. At this time you
               can leave a private message to the sysop, or
               be placed on your mailing list. Always use this
               option so your information can be recorded.
Log          - Will display Bullet-80 users for you.
               You can scan <F>orward or <R>everse or
               <S>earch for a certain user.
tem          - Will tell you about the hardware Bullet-80
ion            uses a bit about its development.
             - The first time you call Bullet-80 you will
               be considered a novice user and all menus
               will be printed out in full. On all future
               calls you will be an expert with short menus
               You always have the option of toggling your
               <X>pert status with the <X> command.
ontinue

<U>lub
<U>irections - This command will print out these directions on
               it's easy to join, and fun to belong. To get
               more information, run club and read instructions
<E>lectronic - This command will print out these directions on
Shopping       now to use Bullet-80 Version 4.0
             - This module opens up for you a new use for your
               home or business computer. It offers you a
               selection of items that you could purchase and
               bill to your charge card. It's easy and fun !!!
<F>ile
Transfer     - This command combines 2 functions into one.
               <D>ownloading and <U>ploading. Bullet-80 also
               supports 4 kinds of file transfer. Standard
               Ascii, DFT, Xmodem, And Modem. Be sure you know
               which method you support before selecting your
               option. Modem not Available at 1200 baud.
               <D>ownload :
               This module allows you to get programs from our
               database for free. I will only keep this section
               open as long as I get support from my users. If
               you care to donate programs to the database you
               can use our <U>pload module or call our voice
               line to make arrangements.
               <P>rogram Uploading :
               This module allows you to upload programs
               to Bullet-80 so others can enjoy your ORIGINAL
               PUBLIC DOMAIN programs. After review they
               will be placed in programs. This module also give
               online. These may change for varied assorted games
               to time. Please try to limit your game playing
               to min. or less, so Bullet-80 will be available
               to other users for their needs.
<G>ames      - This function will tell you how long you've been
               on Bullet-80 for this session. It will also give
               you the current local time and date.
<H>ow Long   - This module will allow you to enter any
               interests or hobbies you have, or things
               you like to do. This information will be
               made available to other Bullet-80 users to
               read and see if you have anything in common.
<I>nterests  - This is a great way to get to know each other.
             - This module is where you gain access to the
               the option of <R>eading, <S>canning, or
               <L>eaving mail for Bullet-80. Here you have
               Each section or the message center has help
               menus for full instructions
<M>essage
Center       - Prints out a list of many on-line systems.
             - This option allows you to search for any BBS
               by city, state, area code, or network name.
<O>ther Network
Phone Numbers - This will allow you to chat with the S
               as you know of any not listed, leave me a mes
               you terminate and I will add it.
               via the TRS-80. Generally available
               p.m. on. If the sysop isn't available
               him a private message as you
<R>equest
Chat
```

PRODUCT REVIEW

ALPHA CENTURION by George Karabin

"In a far corner of the galaxy Alpha Centauri lies the planet Nibar. It is of strategic importance to the confederation because of its vast deposits of the element X-287; the principle component of fuel that has enabled "WARP" speed and intergalactic space travel."

This information appears in part from the cover of George Karabin's ALPHA CENTURION instruction booklet.

Putting planet Nibar, element X-287, and warp speed aside for a moment, let's take a look at the actual components and layout of the game.

The layout of the HI RES screen is very similar to SPACE DESTROYERS with rows of aliens (landers, tie fighters, and pods) appearing in the upper portion of the screen. These creatures move side to side as with the SPACE DESTROYERS program, and it's up to the player(s) to eliminate as many aliens as possible. Your joystick controls your weapon which is called an X-WING FIGHTER and allows you to fire photon torpedoes at the aliens. Some HI RES SHAPES appear BELOW your X-WING FIGHTER. These make up the city that you must protect from destruction.

At this point...the similarity with SPACE DESTROYERS ENDS!

Your X-WING FIGHTER is equipped with a full load of PHOTON TORPEDOES and a 4 element shield. The object is to protect the city, fire photons, and destroy as many aliens as possible before they destroy 3 of your fighters, or wipe out the buildings below. The aliens drop bombs which the X-WINGS can stop, but unlike SPACE DESTROYERS, the aliens have additional features that make the game much more interesting.

At random, aliens from the first row descend (one at a time) upon the city. These 'LANDERS' are suicidal; intent on crashing into a building unless destroyed. If a gap in the formation of the alien groups occurs, the alien 'TIE FIGHTERS' (second row), or the 'PODS' in the third row will descend in a random pattern.

The TIE FIGHTERS are not suicidal, but if they exit the screen in their side-to-side movement, they will re-appear again in the formation.

The 'PODS', like the 'LANDERS' will crash into the buildings unless stopped!

So instead of plain old-fashion bombs being dropped on you as in the SPACE DESTROYERS game, ALPHA CENTURION contains a SWARM of dropping bombs and diving aliens that truly challenge your firing skills and reflexes.

Scoring is determined by the amount and type of aliens destroyed, PLUS each building that is saved at the end of each round. HIGH SCORE is also displayed. The game comes with complete instructions, 8K, and has a 2 player option.

CLASSIFIED

THE ARCADE

OK...it's time to MOVE! Eric has laid the ground work and has recently supplied us with an outline for the remainder of the year. It is extensive! Therefore, this issue becomes the beginning of LARGE ARCADE articles. There's a lot of room in the newsletter this month so we are able to EXPAND this section as never before. Begin by loading in the BASIC program that was given last month, enter the ML monitor mode (CALL28672) and enter the following ML data. A complete step by step description follows. This ML data appears exactly as it was received so that we don't risk the chance of an incorrect entry as before.

A412	CE	code X reg. immediatly
13	02	middle of
14	EE	screen
15	FF	store X reg. Im.
16	A4	permanent address wher
17	10	joystick location
18	86	load acc. A Im.
19	CF	white block
1A	A7	store acc A indexed
1B	00	off set
1C	BD	jump to subroutine ext.
1D	41	right
1E	D9	joystick
1F	25	branch if carry is set
A420	01	offset for branch
21	39	return to Basic
22	B6	load acc. A ext.
23	01	where joystick
24	F2	data is located
25	81	copare acc. A
26	4E	ASCII code for North
27	26	Branch if not equal to 0
28	03	Branch offset
29	7E	jump ext
2	A4	move N
2	5B	subroutine
2	81	compare acc. A im.
2	53	ASCII for south
2	26	branch if ≠ to 0
2	03	branch offset
30	7E	jump ext.
31	A4	move S
32	6B	routine
33	81	compare acc. A Im.
34	45	ASCII for E
35	26	branch if ≠ 0
36	03	branch offset
37	7E	jump to routine
38	A4	move E
39	45	routine
3A	81	compare
3B	57	ASCII W
3C	26	Branch if ≠ 0
3D	03	offset
3E	7E	jump to routine
3F	A4	move
A440	50	W
41	01	no operation
42	01	" "
43	01	" "
44	30	return to basic
45	FE	load X reg. ext.
46	A4	permanent joystick
47	10	location
48	86	load acc. A. Im.
49	20	code for background
4A	A7	store acc A ind.
4B	00	offset
4C	08	imcrement index reg.
4D	7E	jump
4E	A4	draw square
4F	7B	routine
A450	FE	load X reg. ext.
51	A4	Permanent joystick
52	10	location
53	86	load acc. A Im.
54	2-	background code
55	A7	store acc. A Ind.
56	00	offset
57	09	decrement index reg
58	7E	jump
59	A4	draw square
5A	7B	routine lo
5B	FE	load X reg ext.
5C	A4	joystick
5D	10	location
5E	86	load acc. A
5F	20	background code
A460	A7	store acc. A ind.
61	00	offset
62	86	load acc. A
63	20	decrement variable
64	09	decrement index reg.
65	4A	decrement acc. A
66	26	branch if ≠ to 0
67	FC	offset
68	7E	jump
69	A4	draw square
6A	7B	routine
6B	FE	load x reg. ext.
6C	A4	joystick
6D	10	location
6E	86	load acc. A
6F	20	background

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A470	A7	store acc. A ind.
71	00	offset
72	86	load acc. A
73	20	decrement variable
74	08	increment X reg.
75	4A	decrement acc. A
76	26	branch if ≠ to 0
77	RC	offset
78	01	NOP
79	01	NOP
7A	01	NOP
7B	01	NOP
7C	01	NOP
7D	01	NOP
7E	86	load acc. A
7F	CF	white square code
A480	Q7	store acc A ind.
81	00	offset
82	FF	STORE X reg. ind.
83	Q4	joystick
84	10	location
85	B6	load acc. A ext.
86	A4	low byte of
87	11	youstick location
88	4A	decrement acc. A
89	81	compare acc. A imd.
8A	0C	compare value
8B	26	branch ≠ 0
8C	0F	offset
8D	FE	load X reg. ext.
8E	A4	joystick
8F	10	location
A490	86	load acc. A
91	20	backgrond code
92	A7	store A ind.
93	00	offset
94	08	increment X reg.
95	B6	load acc. A
96	CF	white block
97	A7	store acc. A ind
98	00	offset
99	FF	store ind. reg
9A	A4	joystick location
9B	10	location
9C	C6	load acc. B
9D	FF	255 dec.
9E	86	decrement acc. A
9F	FF	branch if ≠ 0
A0	4A	offset
A1	26	decrement acc. B
A2	FD	branch if ≠ 0
A3	5A	offset
A4	26	NOP
A5	F8	NOP
A6	01	NOP
A7	01	NOP
A8	01	NOP
A9	39	return

After entering this program triple check it carefully because it is very easy to make a typing error. The program is about 150 bytes long. It would be a good idea to go back to BASIC (G8894) and CSAVE to tape before continuing. Then if your program bombs out because of a bug, you can CLOAD it back in and make the necessary changes to it.

The length of the program may seem like a lot but it's not bad considering that reading the joysticks and moving the object is a major part of a game program. Many routines coming up are this long or longer. Example, most of my games used the entire 8K of memory and they were around 90% ML which is THOUSANDS of commands. Don't worry. You can do quite a lot in 8K and in most cases you won't need all of it.

Here is a line by line description of what is going on. Our BASIC program is short. The first few lines are REM statements containing A's where our ML program will go. Line 25 is a simple POKE to turn off the audio on your tape deck. At 30 we call a sub-routine that clears the screen. Line 40 goes to our ML program. At the end of our ML program we come back to line 50 which goes to 40 again. Remember we use this loop instead of doing it all in ML because 100% ML programs can't be stopped with the break key. This means that if it doesn't work, or you want to modify it, you would have to reset your computer and reload it.

Here is a line by line description of the ML program.

We start off at A412 by loading the index register immediately with 02EE. This address is about the center of the screen. The at A415 we store the index register at A410. What we are doing is using A410 and the next byte to hold a variable. This will be the current location of the white square. At A418, we load the acc. with the code for a white square and at A41A, we store the white square indexed or at 02EE then at A41C, we jump to the right joystick routine. At A41F, we branch if the carry bit was set. It branches over the return code at A421. So what we do is return to BASIC if the joystick wasn't used. If the joystick WAS used, we continue on to A422 where we load the A acc. with the data located at 01F2.

THE ARCADE

At A425 we compare the value in A to the ASCII code for NORTH (4E). The compare instruction works like this (VALUE in 01F2) -4E. The result affects the condition code register so right after it we can do a branch if =0 at A427. If the value in acc. A is equal to 4E (N), then we don't branch and jump to N routine. If it is NOT, we branch to A42C where we compare acc. A to the S ASCII code or (53). Just like N and S, we do the same compare for E at A453 and west at A43A. If it isn't west, we end up at A441 which is a NOP command and these type of commands do NOTHING at all. They are used to leave holes in your program in case you want to add a routine at a later date. If you don't leave holes, it can be very frustrating later when you need room in the middle. We finally come to A444, which is the return code which takes us back to our BASIC program at line 50. Notice around A437, if the joystick was pressed EAST, we jump to A445. The first thing that we do there is load the X register with the address at A410. A410 is where we store the current joystick location. Next at A448 we load the A accumulator with the ASCII code for background color (20). Then at A44A, we store the acc. at the address in the X register, which is 02EE the first time. This erases whatever was at 02EE. At A44C, we increment the value of the X register once, which moves it EAST. Then at A44D, we jump to a routine that draws the white square, checks to see if the value 0D is in the current joystick location A410, then it delays a little and returns to our BASIC program. The reason we check to see if our white square is at 000D or 010D is because if we return to BASIC with a 0D in our program, it will stop running and you will get an illegal line statement. Again, this is because the APF reads 0D as an end of line statement. At A480, we store the white square and at A482, we store the value in the X register at A410 (our joystick location). Remember before we jumped to this routine, in the last routine we loaded the index register with what was at A410. Then we added or subtracted from it depending on the joystick movement and jumped to the routine. When you jump to a routine, the registers are unchanged so at A482, we store the new value in the X register back in A410.

At A485 we load the A acc. with whatever is at A411. This is the low byte of our joystick location, and this is where we check it for HEX 0D. We can't compare our number to 0D because we can't use 0D, so we decrement acc. A at A488 and then check for 0C instead of in A48A. If acc. A isn't equal to 0C, we branch from A48B ahead 0F bytes or to A49C where we start the delay. If the A acc. is equal to 0C we then have to change it. One quick way is used, at A48D we load the X register with what is at A410. At A490, we load acc. A with the background color and store A indexed which erases the white square. At A494, we increment the X register once. At A495, we load the A acc. with a white square and at A497, store it indexed. Next at A499, we store the new value in X at A410. We just increased the 0D to 0E, then go on to the delay at A49C. This delay is different from the one in our other example. It works a lot like it. First we load acc. B with FF, then at A79E we load acc. A with FF. In this routine we will decrement acc. from FF or 255 to zero, 255 times. This is the maximum for this delay but later we'll speed it up a little bit at a time until we reach the speed we want. At A4A1, we check to see if the A acc. is equal to zero. If it is not it branches back to A4A0 where it keeps decrementing A until it does equal zero. Then it goes to A4A3, which decrements the B acc. Then we check to see if the B acc. is equal to zero. If it is not we branch backwards to A49E where we load acc. A again and start all over again. When B is finally equal to zero, we go to A4A6 where we see three NOP commands. These again are just to leave room. At A4A9 we finally return to BASIC. Before you run this program, again, be sure to save it to tape. When you first run it, the action is very slow. One thing to point out is, don't move your square off the top of the screen or off the bottom. If you do, you will be actually storing the square at RAM addresses other than the screen memory. You could end up writing over your program. Later on we'll put a border around the screen so we can't go off it. For now we'll just concentrate on staying on the screen. If the program seems to be working all right, we can go ahead and shorten the delay. Change A49D to 20 and A49F to 55 and RUN.

THE ARCADE

That wraps it up for this month. If anyone has questions regarding this material, please send them in. We will compile them and forward them to Eric Beckett. We ask that you send them to us so that we can keep track of all problem areas that may exist. We will then attempt to clarify these problems in future issues for the benefit of others who may have similar problems.

Appearing below is a useful chart that provides decimal, hex, and ASCII values that can be used when POKING characters to the screen. An example of POKING the ASCII character D would be: POKE512,4 The 4 would be in DECIMAL when in the BASIC mode.
This command would cause the character D to be displayed in the upper left corner of the screen.

If you are using MACHINE LANGUAGE which requires a HEX value, the value that would be required would be 04 in HEX. For an ENHANCED character, the value would be 44 in HEX.

THE ARCADE

DECIMAL	ASCII	HEX VIDEO NORMAL	HEX VIDEO REVERSE	DECIMAL	ASCII	HEX VIDEO NORMAL	HEX VIDEO REVERSE
0	@	0	40	32	Space	20	60
1	A	1	41	33	!	21	61
2	B	2	42	34	"	22	62
3	C	3	43	35	#	23	63
4	D	4	44	36	$	24	64
5	E	5	45	37	%	25	65
6	F	6	46	38	&	26	66
7	G	7	47	39	'	27	67
8	H	8	48	40	(	28	68
9	I	9	49	41	)	29	69
10	J	0A	4A	42	*	2A	6A
11	K	0B	4B	43	+	2B	6B
12	L	0C	4C	44	,	2C	6C
13	M	0D	4D	45	-	2D	6D
14	N	0E	4E	46	.	2E	6E
15	O	0F	4F	47	/	2F	6F
16	P	10	50	48	0	30	70
17	Q	11	51	49	1	31	71
18	R	12	52	50	2	32	72
19	S	13	53	51	3	33	73
20	T	14	54	52	4	34	74
21	U	15	55	53	5	35	75
22	V	16	56	54	6	36	76
23	W	17	57	55	7	37	77
24	X	18	58	56	8	38	78
25	Y	19	59	57	9	39	79
26	Z	1A	5A	58	:	3A	7A
27	[	1B	5B	59	;	3B	7B
28	\	1C	5C	60	<	3C	7C
29	]	1D	5D	61	=	3D	7D
30	↑	1E	5E	62	>	3E	7E
31	←	1F	5F	63	?	3F	7F

THE ARCADE

FROM BASIC 1.POKE DECIMAL WILL DISPLAY ASCII POKE666,25
2.ADD 64 TO DECIMAL WILL DISPLAY ASCII BLACK ON YELLOW
POKE 8193,60 WILL CHANGE ASCII TO BLACK ON ORANGE

FROM MACHINE 1.STORE HEXIDECIMAL TO SCREEN ADDRESS WILL DISPLAY ASCII
2.STORE REVERSE VIDEO HEXIDECIMAL FOR REVERSE VIDEO "