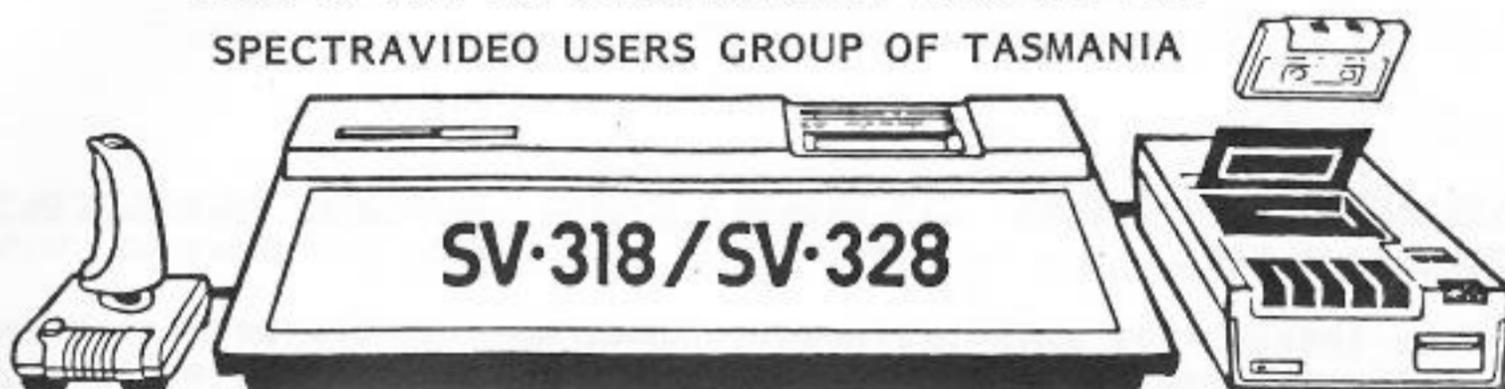


SPECTRAVIDEO

THIS IS THE OFFICIAL NEWSLETTER FOR THE
SPECTRAVIDEO USERS GROUP OF TASMANIA



News Letter

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EDITORIAL

Yes I know 'ITS LATE', I'm only human so when the printer blew up I decided to forget the computer for a few days and enjoy my family.

Firstly I am receiving a lot of mail at the moment, so please be patient I will reply as soon as possible. Remember there is only 1 of me and 200 of you. (Good help is hard to find).

I am now using WORDSTAR 3.0 to write the newsletter. Makes the printout look classy dont you think? This WORD PROCESSOR is pure magic and well worth the investment. I did however find the manual that came with it a bit heavy to read, but luck had it that the local book shop had the book INTRODUCTION TO WORDSTAR by Arthur Naiman which filled in all the bits the manual left a bit hazy. I also installed the CURSOR, INS, DEL and F1 to F10 keys which make editing just like Basic.

Now to this months (?) newsletter. Thanks again to Mr L Dunning for another top article. Also this is the last main program that is suitable for printing (Even though it is a bit big). So if you want one next month I would appreciate some USER input. I just don't have enough time to produce a substantial program each month.

Well the articles this month are a bit large but well worth it I hope you get something out of them.

BACK ISSUES

I have just received from the printers 50 copies each of the previous newsletters. 1-1, 1-2, 1-3, 1-4,. To all those people requesting back issues they are now available at the following cost. \$2 for the first (includes postage and packing) and \$1 for each additional issue. So if you want 2 it's \$3, 3 = \$4, 4 = \$5.

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CREATING YOUR OWN BASIC MASTER DISKS

By : P.W. Deckert

Many people are having trouble creating BASIC BOOT disks. (BOOT disk is a disk that has the Disk BASIC operating system on its reserved tracks)

As none of the manuals give a correct method I have created my own, so here it is. It is fast (when you get use to it). Dont worry if at first you don't understand it, just type the following exactly as shown. You will get the hang of it quickly.

You require the following:

CP/M MASTER DISK or copy
BASIC MASTER DISK or copy
BLANK DISK

Turn on your computer with the CP/M disk in the disk drive. Check to see if you get the CP/M sign on message, and the A> is showing.

Type: *format* and hit the <ENTER> key.

When the program signs on remove the CP/M disk and insert the BLANK disk. Answer *A* to the first question and <ENTER> to the second. The disk will format and the tracks will be displayed as they are written. If you get an error at this stage you have a bad disk and it should be returned to the retailer and a new one collected (if this happens start from the beginning with a new disk). If your disk formatted to track 39 and the program asks you if you want to do it again all is well. Answer *N* to the Question and remove the Newly formatted DISK.

Insert the CP/M disk and press the <ENTER> key. The A> should show up. Now type *SYSGEN* and the <ENTER> key.

When the program signs on remove the CP/M Disk and insert the BASIC MASTER disk. Answer the first question with *A* and the second question with <ENTER>

When the program prints *FUNCTION COMPLETE* remove the BASIC disk and insert the BLANK disk. Now answer *A* to the first question (same as last time) and <ENTER> for the second question.

When this is finished turn off your computer, remove the Disk and insert the BASIC master disk. Turn on the computer again. When the disk has signed on type:

RUN"1:format"

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Remove the BASIC disk and insert the BLANK disk. Answer 1 and <ENTER> for the first question and <ENTER> for the second.

That all folks (do I hear a sigh of relief). It's not as bad as it looks, remember I explained it as well as I could. Lets see it in table form it might be better to get a second look at the job:

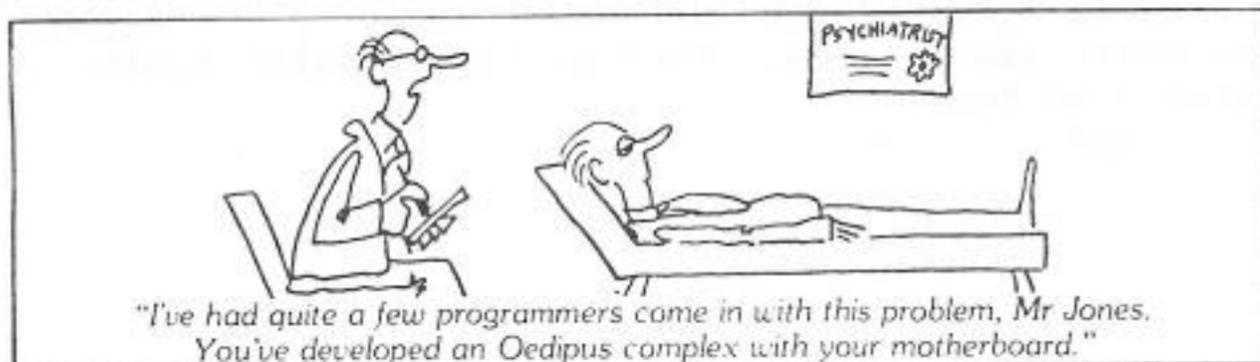
DISK	LOAD PROGRAM	ANSWERS AND OPERATIONS
CP/M	format	swap to BLANK disk answer A & <ENTER>
		swap to CP/M disk answer N & <ENTER>
CP/M	sysgen	swap to BASIC disk answer A & <ENTER> swap to BLANK disk answer A & <ENTER>
		turn computer off/on
BASIC	run "1:format"	swap to BLANK disk answer 1 & <ENTER> & <ENTER>

<ENTER> means hit the ENTER key.

A means hit the A key

N " " " N "

1 " " " 1 "



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EXPLORING BASIC Pt-1

By : L.A. Dunning

All basic programs are stored in memory. A self evident point you say? Perhaps but consider the ramifications (Pun Ed.) firstly only RAM can be used so that the program can be changed, secondly there is only a limited amount of RAM available, so every byte used is valuable. The first point is necessary if you want to do anything other than play the same video game. The second point forces any designer of BASIC languages to create a system of representing and interpreting the program using a minimum of memory.

MICROSOFT realised this and have opted for a tried and tested system, as used on the TRS-80 and other computers. This is the TOKENISATION of basic programs in memory. What this means, is that every key word or statement used by the basic interpreter, is represented by a single or double byte in memory. If you compare for example the 7 bytes needed to represent "RESTORE" in ASCII as opposed to the 1 byte of 8C Hexadecimal.

However, things are not quite that simple since a method is needed to differentiate between tokens, string values and numeric values. This is one reason why program lines are used in basic programs, they provide a simple "box" for program statements. The format for all basic lines in memory is:

```
Ø:LN:HN:L#:H#:Statements.....:Ø  
: NL : N# :
```

Where Ø represents a zero byte; LN & HN are the low and high bytes of NL, the next line pointer which indicates where in memory the next line is L# & H# are the low and high bytes of N#, the line number; Statements represent the coded form of the program line and the Ø at the end is an end of line pointer. When one program line follows another in memory, the starting and ending Ø's are combined. Using two bytes to indicate the next line in memory means that successive lines do not have to follow one another in memory. Lines can be edited without disturbing existing lines by placing the result in a free area and adjusting pointers.

The start of any program has two leading Ø bytes and the end of a program is noted by having two Ø's for the next NL pointer, producing 3 Ø's if you remember the end of line pointer. Listing 1 can be used to demonstrate this. It uses the VARPTR statement to locate a literal string in memory and show peeks of the surrounding memory.

Use it now before further reading. This shows the starting address of the line, NL Pointer, N# and gives a dump of the bytes (in hexadecimal & ASCII) that makes up the line.

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How does listing 1 work? It works because variables such as numbers and names, must also be represented in memory. Basic maintains pointers for each variable used or created, so that it can be manipulated by the program. This is an overhead and requires a variable number of bytes dependent upon variable type. The statement VARPTR gives a result that points to the first byte of each pointer. Assuming K is the value given by the statement VARPTR(A), then peeking the following memory locations will give the following results:-

A=Integer	A=Single Precision	A=Double Precision
K LSB	K LSB	K LSB
K+1 MSB	K+1 Next MSB	K+1 Next MSB
	K+2 MSB	K+2 " "
	K+3 Exponent Value	K+3 " "
		K+4 " "
		K+5 " "
A\$=String (A\$)		K+6 MSB
K Length of String		K+7 Exponent Value
K+1 LSB of String Location		
K+2 MSB of String Location		

LSB means Lowest Significant Byte & MSB means Most Significant Byte in the value represented. For strings, Peek(k) is the same as LEN(A\$). Using the formula $X = \text{PEEK}(K+1) + \text{PEEK}(K+2) * 256$, X will give us the location of the string in memory. This brings us to the next subject: Literal Variables.

A literal variable is one that can be read directly in a listing of the program, such as A\$="Fred" or PI=3.1415926. These are read when the program first passes through that program line and their location is in that line. When the variable is changed for any reason however basic allocates new space for the result and a new location is found in a variable work area. Provided a string variable is unchanged, it can be used as a pointer to the location of the line in memory. On other computers that have the VARPTR statement (such as the TRS-80) it is used to put otherwise unobtainable characters into literal strings, to put machine code routines on lines themselves and provide a method of allowing equations for input statements. Listing 2 demonstrates the first of these.

To use listing 2 properly, you must type goto 10 to set up the function keys, edit the string on line 100, then type GOTO 110 to convert the string. The 6-9 keys will be used to indicate where cursor control characters are to be placed and the 5 key is used to place CHR\$(27) in the string. Keys 1-4 show arrow symbols. Try it and see the result. The only limitation is that once changed by this method, the line cannot be changed normally without destroying the values poked therein. Converting a string twice brings it back to the original condition.

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Other strings can be converted by changing the variable in the VARPTR statement, provided the line the variable is on has been read first. You should renumber or alter the program to suit yourself. You may have noticed that some of the pokes produced strange results when you listed the program, this is due to the routines used for listing and I will be discussing this in Part 2.

LISTING 1

```
10 REM ---- LISTING 1 ----
20 REM Shows how lines are composed
30 CLS
40 DEF FNH$(A)=STRING$(2-LEN(HEX$(A)),"0")+HEX$(A):DEF FNL(A,B)=A+256*B
50 GOSUB170:K=VARPTR(A$):X=FNL(PEEK(K+1),PEEK(K+2))-8
60 PRINT" Addr. N.Line Number"
70 FORL=0TO4:S=X
80 PRINTUSING" #####   #####   ##### ";S;FNL(PEEK(S),PEEK(S+1));FNL(PEEK(S+2),PEEK
(S+3))
90 S=X+4
100 P=PEEK(S):PRINT" ";FNH$(P);:S=S+1
110 IFP<>0GOTO100ELSEPRINT
120 S=X+4
130 P=PEEK(S):S=S+1:IFP>31ANDP<128THENPRINT" ";CHR$(P);ELSEPRINT" ";
140 IFP<>0GOTO130ELSEX=S:PRINT
150 NEXT
160 LIST170-
170 A$="":J=9
180 REM A test
190 '
200 RETURN
```

LISTING 2

```
10 REM Listing 2a -- Sets up Characters
20 :
30 SCREEN 0:RESTORE60
40 FORA=1TO9:KEY A,CHR$(211+A):NEXT
50 FORA=4000TO4031:VPOKEA+40,VPEEK(A)XOR255:NEXT
60 FORA=4032TO4039:READB:VPOKEA,B:NEXT:DATA 0,0,48,48,48,48,0,0
70 STOP
80 :
90 REM Listing 2b - Converts string
100 :
110 GOSUB160:K=VARPTR(A$):X=PEEK(K+1)+PEEK(K+2)*256
120 J=PEEK(X):IFJ=340RJ=0GOTO150
130 IFJ<32THENPOKEX,J+189ELSEIFJ>215THENPOKEX,J-189
140 X=X+1:GOTO120
150 CLS:LOCATE10,10:PRINTA$:LOCATE0,20:STOP
160 A$="This is a test\ZZZZZZZZZZZZZZXpand so is this!Xq\ZZZZZZZZZZZZZZand this"
170 RETURN
```

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SPIRALS AND VARIATIONS

By : Bernard Scott, VIC.

The Spiral

```
10 SCREEN 1
20 A=128 : B=96
30 C=1.1
40 D=C*E
50 X=A+D*COS(E)
60 Y=B+D*SIN(E)
70 Z=9
80 PSET (X,Y),Z
90 E=E+.05
100 GOTO 30
```

Notes on the "SPIRAL"

```
10 Screen 2 will give an interesting pattern
20 The co-ordinates for the centre of the screen
   Other co-ordinates will also work well
30 May be any number greater than 1
   Try a random number such as C=RND(-TIME)+1
40 The formula for the spiral (in polar Co-ordinates)
50 The X co-ordinate
60 The Y co-ordinate
70 The color (RED)
   Try random colors with the formula Z=INT(RND(-TIME)*16)
80 Gives the point
90 E is the angle at the centre (measured in radians) which
   is gradually increased: try this E=E+RND(-TIME)
100 go around again
```

Variation A

Change line 80

```
80 LINE (A,B)-(X,Y),Z
```

Variation B

Add 2 more lines and change line 80

```
72 X1=X+D*COS(E)
74 Y1=Y+D*SIN(E)
80 LINE (X,Y)-(X1,Y1),Z
```

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Variation C

Use variation B, add another line, change line 70

```
45 H=H+1
70 IF INT(H/2)=H/2 THEN Z=1 ELSE Z=15
```

Variation D

Start with "The Spiral", change line 80 and add more lines

```
45 IF Y>191 OR Y<1 OR X>255 OR X<1 THEN E=0
72 F=INT(RND(-TIME)*(D/2)+1)
74 H=RND(-TIME)*2
80 CIRCLE (X,Y),F,Z,,,H
85 PAINT (X,Y),Z
```

A SOUND

By : B Scott

```
10 FOR X=0 TO 255 STEP 32
20 FOR Y=255 TO 0 STEP -16
30 FOR Z=5 TO 4 STEP -.5
40 SOUND 5,X : SOUND 4,Y : SOUND 10,Z
50 NEXT Z,Y,X
60 SOUND 1,0
```

NOTE: You can slow down the sound procession by changing the 4 in line 30 to a smaller number.

THE PROGRAM OF THE MONTH

By : S.A. Morris, VIC.

The program of the month is a bit bigger than normal, but well worth typing in. It is an Adventure game and many hours of fun. The original program was produced on a TRS-80 computer and was re-written to run on the SPECTRAVIDEO by Mr. S.A. Morris of Victoria.

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THE GATES OF HELL

```
10 DEFINT A-Z:COLOR15,15:SCREEN 2
20 RESTORE:CLS:B=RND(-TIME)
30 SC=0:Z=0:L=1:GX=6:ST=100
40 COLOR4,15
50 PRINT" THE"
60 COLOR2,15
70 PRINT:PRINT" GATES OF"
80 COLOR6,15
90 PRINT:PRINT" HELL"
100 GOSUB190
110 SCREEN0,0
120 BE=0:LU=0:GU=0
130 PRINT:PRINT"You are ";DS$(L):IFL=30THEN1260
140 Q$=" You see : ":GOSUB1150
150 BEEP:PRINT
160 GOSUB250:IFF=1THEN130ELSEGOSUB460
170 IFF=0THEN150
180 PRINT:GOTO130
190 LV=20:DIMVB$(LV):FORI=1TOLV:READVB$(I):NEXT
200 LO=25:DIMOB$(25):FORI=1TO25:READOB$(I):NEXT
210 DIMOB(LO,2):FORI=1TOLO:FORJ=0TO2:READOB(I,J):NEXTJ:NEXTI
220 CL=30:DIMDS$(CL),DS$(CL,6):FORI=1TOCL:READDS$(I):NEXT
230 FORI=1TOCL:FORJ=0TO6:READDS(I,J):NEXTJ:NEXTI
240 RETURN
250 PRINT"-----"
260 PRINT
270 S$="":INPUT"Tell me what to do ";S$:IFS$=""THENBEEP:PRINTCHR$(30)::GOTO270
280 CLS
290 F=0:A$="":N$=""
300 X=0:FORI=1TOLEN(S$)
310 I$=MID$(S$,I,1)
320 IFI$=" "ORX=1THEN340
330 A$=A$+I$:NEXT:GOTO360
340 X=1:N$=N$+I$:NEXT
350 N=LEN(N$):N$=RIGHT$(N$,N-1)
360 GOSUB400
370 IFVC=0THENPRINT"I don't know how to":GOTO1140
380 IFVN=0THENPRINTA$" WHAT ??":GOTO1140
390 RETURN
400 VC=0:VN=0:FORI=1TOLV
410 IFA$=VB$(I)THENVC=IELSENEXTI
420 IFI<7THENVN=-1:RETURN
430 FORI=1TOLO:IFN$="rope"THENVN=20:RETURN
440 N=LEN(N$):IFN$=LEFT$(OB$(I),N)THENVN=IELSENEXTI
450 RETURN
460 IFVC>6THEN550ELSEIFVC=0THEN1120
470 VC=VC-1
480 IFDS(L,VC)=0THENPRINT"You can't go that way":GOTO1130
490 IFL=1ANDVC=5ANDLU<>1THENPRINT"The door is locked":GOTO1130
500 IFL=16ANDVC=5ANDOB(18,0)=0THEN1240
510 IFL=13ANDVC=5ANDGU<>1THENPRINT"Something stops you":GOTO1130
```

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```
520 IFL=20ANDVC<>3THENL=30
530 L=DS(L,VC)
540 GOTO1140
550 IFVC<>7THEN630
560 IFOB(VN,0)<>LTHENPRINT"It's not here":GOTO1130
570 IFOB(VN,1)<0THEN1120
580 IFVN=2ANDOB(10,0)<>-1THEN1120
590 IFVN=5ANDOB(11,0)<>-1THEN1120
600 IFVN=6ANDOB(12,0)<>-1THEN1120
610 IFCX<>0THENCX=CX-1:OB(VN,0)=0:GOTO1140
620 PRINT"You are carrying too much":GOTO1130
630 IFVC<>8THEN670
640 IFOB(VN,0)<>0THENPRINT"You don't have it":GOTO1130
650 OB(VN,0)=L:IFL=1ANDOB(VN,1)>0THENSC=SC+OB(VN,1):PRINT"The ";OB$(VN);" vanish
es":OB(VN,0)=-1
660 CX=CX+1:IFSC=220THEN2300ELSE1140
670 IFVC<>9THEN750
680 INPUT"What with ";W$:IFW$=OB$(2)ANDOB(2,0)=0THENP=20:GOTO700
690 IFW$=OB$(2)THENPRINT"You don't have it":W$="":GOTO680ELSEP=0
700 Q=INT(RND(6)*10):S=P+ST+Q*20:IFOB(VN,2)>STHEN740
710 IFS>OB(VN,2)+RND(1)*1.5THEN730
720 PRINT"The ";OB$(VN);" fights back making you feel weaker":ST=ST-INT((RND(2)*
100)/20):GOTO1140
730 PRINT"You have killed the ";OB$(VN);"." :PRINT"The body vanishes in a cloud o
f smoke":OB(VN,0)=-1:GOTO1140
740 PRINT"The ";OB$(VN);" has killed you":GOTO2320
750 IFVC<>10THEN790
760 PRINT"You are carrying:":J=0:FORI=1TOLO:IFOB(I,0)=0THENPRINTOB$(I):J=J+1
770 NEXT:IFJ=0THENPRINT" nothing"
780 GOTO1140
790 IFVC<>11THEN810
800 PRINT:PRINT"Your Score is"SC:GOTO1140
810 IFVC<>12THEN840
820 IFVN<>20OROB(2,0)<>0THEN1120
830 OB(14,0)=L:OB(VN,0)=-1:PRINT"An ivory key falls down from the ceiling
":GOTO1140
840 IFVC<>13THEN890
850 IFL<>11ANDL<>29THEN1120
860 IFL=11ANDOB(3,0)<>0THENPRINT"You sink to the bottom of the lake..... and dr
own":GOTO2320
870 IFL=11THENL=29:GOTO1140
880 L=11:GOTO1140
890 IFVC<>14THEN930
900 IFL=1ANDOB(4,0)=0THENO(22,0)=-1:OB(23,0)=L:LU=1:GOTO1140
910 IFL=13ANDOB(14,0)=0THENO(24,0)=-1:OB(25,0)=L:GU=1:GOTO1140
920 GOTO1120
930 IFVC<>15THEN980
940 IFOB(16,0)<>0ORL<3ORL>10THEN1120
950 PRINT"You find ";
960 IFL=6ANDOB(4,0)=-1THENO(4,0)=L:PRINT" something":GOTO1140
970 PRINT" nothing":GOTO1130
980 IFVC<>16THEN1010
990 IFOB(VN,0)<0OROB(VN,2)<>OB(11,2)THEN1120
1000 PRINT"That really hit the spot":OB(VN,0)=-1:GOTO1140
1010 IFVC<>17THEN1050
1020 IFL<>24ORVN<>7THEN1040
1030 PRINT"A bridge appears across the chasm":OB(15,0)=L:BE=1:GOTO1140
```

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```
1040 PRINT"Nothing happens":GOTO1130
1050 IFVC<>18THEN1080
1060 IFL=240RL=26THENPRINT"The fall has broken your neck":GOTO2320
1070 GOTO1040
1080 IFVC<>19ORVN<>18THEN1100
1090 PRINT"That was delicious":OB(19,0)=OB(VN,0):OB(VN,0)=-1:GOTO1140
1100 IFVC<>20THEN1120
1110 GOTO1140
1120 PRINT"You can't"
1130 F=0:RETURN
1140 F=1:RETURN
1150 X=0:PRINT:PRINTQ$
1160 FORI=1TOLO
1170 IFOB(I,0)<>LTHEN1210
1180 X=1:PRINT" a";
1190 Z$=LEFT$(OB$(I),1):IFZ$="a"ORZ$="e"ORZ$="i"ORZ$="o"ORZ$="u"THENPRINT"n";
1200 PRINT" ";:PRINTOB$(I)
1210 NEXTI
1220 IFX=0THENPRINT" nothing"
1230 RETURN
1240 IFOB(18,0)<>0THEN1140
1250 OB(18,0)=-1:L=17:OB(12,0)=-1:PRINT"As you enter a pirate steals your rum a
nd runs off laughing":GOTO1140
1260 PRINT"The devil kills you":GOTO2320
1270 DATA"north","south","east","west","up","down"
1280 DATA"get","drop","kill","inventory","score"
1290 DATA"cut","swim","unlock","dig"
1300 DATA"eat","wave","jump","drink","look"
1310 RESTORE1320
1320 DATA"brass lamp","sword"
1330 DATA"snorkel","large key"
1340 DATA"persian rug","gold coin"
1350 DATA"silver wand","ruby"
1360 DATA"diamond","mean troll"
1370 DATA"green dragon"
1380 DATA"pirate","devil"
1390 DATA"ivory key","crystal bridge"
1400 DATA"shovel","kitchen table"
1410 DATA"bottle of rum","empty bottle"
1420 DATA"rope tied between the floor and ceiling","small lake"
1430 DATA"locked door","door"
1440 DATA"padlocked gate","gate"
1450 DATA1,0,0
1460 DATA12,0,20
1470 DATA27,0,0
1480 DATA-1,0,0
1490 DATA14,10,0
1500 DATA17,50,0
1510 DATA21,20,0
1520 DATA25,30,0
1530 DATA29,100,0
1540 DATA12,-1,120
1550 DATA14,-1,260
1560 DATA17,-1,200
1570 DATA20,-1,200
1580 DATA-1,10,0
```



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1590 DATA-1,0,0
1600 DATA11,0,0
1610 DATA2,-1,0
1620 DATA2,0,0
1630 DATA-1,0,0
1640 DATA19,-1,0
1650 DATA11,-1,0
1660 DATA1,-1,0
1670 DATA-1,-1,0
1680 DATA13,-1,0
1690 DATA-1,-1,0
1700 DATA" in the living room of a large house. A sign says return all treasures here."
1710 DATA" in the kitchen"
1720 DATA" in an endless desert"
1730 DATA" in an endless desert"
1740 DATA" in an endless desert"
1750 DATA" in an endless desert"
1760 DATA" in an endless desert"
1770 DATA" in an endless desert"
1780 DATA" in an endless desert"
1790 DATA" in an endless desert"
1800 DATA" at an oasis"
1810 DATA" in a cellar"
1820 DATA" at the GATES OF HELL"
1830 DATA" in a blackened cavern"
1840 DATA" in a passage"
1850 DATA" in a passage"
1860 DATA" in the pirates lair"
1870 DATA" in a passage"
1880 DATA" in a passage"
1890 DATA" in HELL... A devil says: 'Find the right direction and live or else..... DIE'
1900 DATA" in a passage"
1910 DATA" in a dead end"
1920 DATA" DEAD IN HELL"
1930 DATA" at the brink of a deep chasm"
1940 DATA" in a beautiful jewelled hall"
1950 DATA" at the brink of a deep pit. There are traces of FIRE AND BRIMSTONE here."
1960 DATA" in a passage"
1970 DATA" in a passage"
1980 DATA" swimming in a small lake"
1990 DATA" somewhere..I'm not sure where"
2000 DATA2,0,0,0,0,12,0
2010 DATA0,1,3,0,0,0,0
2020 DATA0,4,5,2,0,0,0
2030 DATA3,7,6,0,0,0,0
2040 DATA0,6,7,3,0,0,0
2050 DATA5,8,0,4,0,0,0
2060 DATA0,0,0,4,0,0,0
2070 DATA6,9,0,0,0,0,0
2080 DATA8,0,10,0,0,0,0
2090 DATA11,0,0,9,0,0,0
2100 DATA0,10,0,0,0,0,0

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```
2110 DATA0,16,13,0,1,0,1
2120 DATA0,0,0,12,0,20,0
2130 DATA0,15,0,0,0,0,0
2140 DATA14,18,0,16,0,0,0
2150 DATA12,0,15,0,0,17,0
2160 DATA0,0,0,0,16,0,50
2170 DATA15,19,0,0,0,0,0
2180 DATA18,0,0,0,0,0,0
2190 DATA30,30,30,21,30,30,2
2200 DATA0,24,22,20,0,0,0
2210 DATA0,0,0,21,0,0,0,
2220 DATA0,0,0,0,0,0
2230 DATA21,25,0,0,0,0,0
2240 DATA24,0,27,0,0,0,3
2250 DATA0,27,0,0,0,23,0
2260 DATA26,0,0,25,0,28,0
2270 DATA0,0,0,0,27,18,0
2280 DATA0,0,0,0,0,0,4
2290 DATA0,0,0,0,0,0,60
2300 PRINT:PRINT:PRINT
2310 PRINT"CONGRATULATIONS This adventure is over and you have returned safely with all the treasures."
2320 PRINT:PRINT"SCORE ";SC:PRINT"Do you want to play again Y/N ?"
2330 M$=INKEY$:IFM$=""THEN2330
2340 IFM$="y"THENRUN
2350 IFM$<>"n"THEN2330
2360 CLS
```

WELL THATS A LONG ONE (HAPPY TYPING)



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UMBILICAL CORD FOR THE SV

I do not like the way the SV computer and the expander plug together. I can see problems developing with the connector after they have been together for a time. The computer and expander tend to hinge at this connector.

With the help of Jim Collins a group member we have designed and built a cable that allows the expander and computer freedom of movement while still keeping a good electronic contact. Also if you have your TV on top of the expander the 1 foot of cable allows you to move the expander and TV back to a better viewing distance.

The plug and cable is of high quality. The design required a small P.C. board to be manufactured. The contacts on the board are plated for maximum electronic contact. No construction is required by members as the cable plugs directly between the computer and expander.

The cable will be available to members for \$25 (NON-MEMBERS \$40) and 10 cables are ready. More will be built if demand requires it.

Believe me the cable is worth it. I know of two members who moved the connector while their computers were on and damaged them. Both were returned to Videoactiv for repair. If they had the cable this would not have happened. The cable can also be used with the Mini Expander and the Coleco Games Adapter.

SECRETS OF THE SOUND CHIP

By : Me Again

In this article I will show some of the tricks the sound chip has. I do not know it all but the following may help you with your game programming. The article is based on the SOUND command is basic. I wish to thank to Mr T. J. Colverd for his assistance in this article.

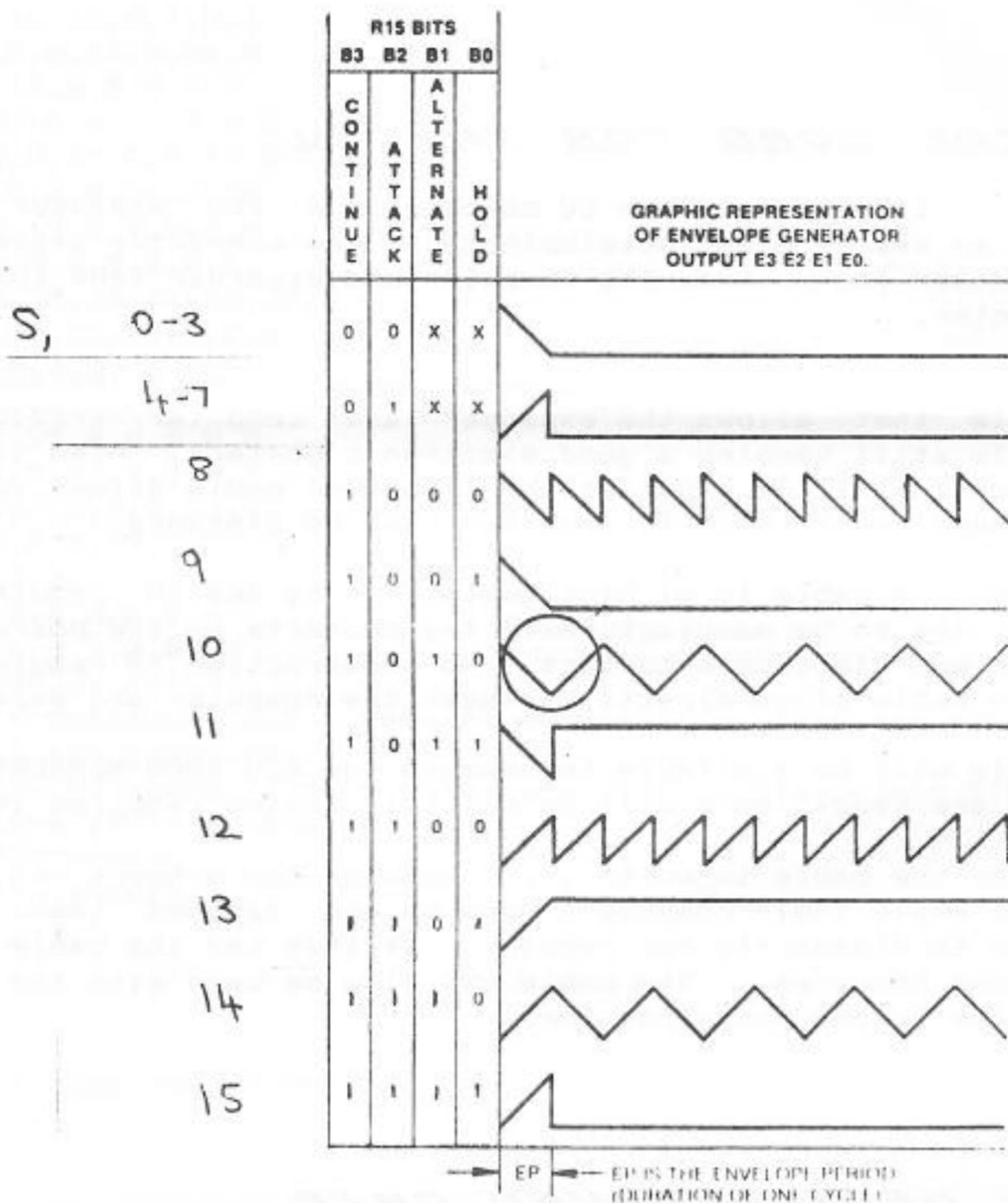
The first diagram shows the wave forms that can be created. NOTICE the S numbers on the left side, they show the numbers used in the S function of the PLAY Command.

The second diagram shows you what happens in the SOUND Command and can be read as SOUND X,Y were X is the REGISTER and Y is formed with the B7 to B0 BITS.

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ENVELOPE SHAPE/CYCLE CONTROL



REGISTER	BIT	B7	B6	B5	B4	B3	B2	B1	B0
R0	Channel A Tone Period	8-BIT Fine Tune A							
R1		4-BIT Coarse Tune A							
R2	Channel B Tone Period	8-BIT Fine Tune B							
R3		4-BIT Coarse Tune B							
R4	Channel C Tone Period	8-BIT Fine Tune C							
R5		4-BIT Coarse Tune C							
R6	Noise Period	5-BIT Period Control							
R7	Enable	In/OUT		Noise			Tone		
		IOB	IOA	C	B	A	C	B	A
R8	Channel A Amplitude	M			L3	L2	L1	L0	
R9	Channel B Amplitude	M			L3	L2	L1	L0	
R10	Channel C Amplitude	M			L3	L2	L1	L0	
R11	Envelope Period	8-BIT Coarse Tune E							
R12		8-BIT Coarse Tune E							
R13	Envelope Shape/Cycle	CONT.				ATT.	ALT.	HOLD	
R14	I/O Port A Data Store	8-BIT PARALLEL I/O on Port A							
R15	I/O Port B Data Store	8-BIT PARALLEL I/O Port B							

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So how does it work you ask? Try the following three short programs.

SIREN SOUND EFFECT

```
10 SOUND 0,254
20 SOUND 1,0
30 SOUND 7,62
40 SOUND 8,15
50 FOR I=1 TO 200 : NEXT I
60 SOUND 0,86
70 SOUND 1,1
80 FOR I=1 TO 200 : NEXT I
90 SOUND 8,0
100 GOTO 10
```

-
Set Channel A tone period to 2.27ms
Enable Tone only on Channel A
Select maximum amplitude
Wait 350ms before continuing
Set Channel A tone period to 5.34ms

Wait 350ms before continuing
Turn off Channel A to end effect
Repeat

GUNSHOT SOUND EFFECT

```
10 SOUND 6,15
20 SOUND 7,7
30 SOUND 8,16
40 SOUND 9,16
50 SOUND 10,16
60 SOUND 12,16
70 SOUND 13,0
```

Set Noise period to Mid-value
Enable Noise only on Channels A,B,C
}
} Select full amplitude range under
} direct control of Envelope Generator
Set Envelope period to 0.58 seconds
Select envelope "decay", one cycle
only.

WHISTLING BOMB EFFECT

```
10 SOUND 7,58
20 SOUND 8,15
30 FOR L=32 TO 192
40 SOUND 0,L
50 FOR I=1 TO 20 : NEXT I,L
60 SOUND 8,0
```

Enable Tone on Channel A only
Select maximum Amplitude
} Sweep effect for Channel A via
} a processor loop with approx 25ms
} wait time between each step 32-192
At end of Loop add the Gunshot
Routine

PARATELY #1949

PAC

ANDREW RAMAGE The comput
ESUPS. 108 Charles St.

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LIBRARY NOTES

We have five new programs in the library this month they are as follows :

METEOR STORM

Your spaceship has been trapped in a meteor storm, you must pilot your ship for as long as possible, using the keyboard joystick or a joystick in port 1. You can rotate your ship by pressing left or right. By pressing forward your ship will move in the direction you are facing until the thrust is applied in the other direction. By pressing back you will either go into hyper-space or activate your shields, selected at the beginning of the game. Hyper-space will randomly transport your ship to another place on the screen. The shields will protect you from anything, as long as they are kept active. To fire a missile press the fire button. When you clear one field of meteors a more difficult group will replace them. You will be awarded an extra ship every 5000 points. Goodluck and watch out for the U.F.O. !!.

By T.C. SOFTWARE \$10.00

SPACE PILOT

You control a single space fighter under attack by a swarm of aliens, they must be fought ship to ship. Use the keyboard joystick or a joystick in port one to control the ship. Press the fire button to fire your lasers and press left and right to rotate your ship, which is constantly in motion. Destroy enough aliens until your indicator turns red and you can have a chance to destroy the alien mothership. Hit the ship seven times and it will explode. No time for a rest as a new type of alien will attack straight away. You will be awarded an extra ship every 3000 points. By T.C. SOFTWARE \$10.00

3D-MAZE

So whats special about a maze program? Well this one is a real winner. In this program you are actually in the maze and the screen shows you a perspective view of what you would really see if you were standing in a real maze. That is the walls, exits e.t.c. The program is asimilar to the maze program that was initially written on the TRS-80 computer.

PRICE \$5.00

MIGHTY MORNA

This is an adventure game the one printed this month is your landing pad. It is your job to complete your goal. It was re-written for the TRS-80 computer.

Control Tone Period	8-BIT Fi			
Control Period	8-BIT Fi			
Control	In/OUT		Noise	
Control A Amplitude	IOB	IOA	C	B
Control B Amplitude	M			
Control C Amplitude	M			
Control D Amplitude	M			
Control E Amplitude	M			
Control F Amplitude	M			
Control G Amplitude	M			
Control H Amplitude	M			
Control I Amplitude	M			
Control J Amplitude	M			
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Control L Amplitude	M			
Control M Amplitude	M			
Control N Amplitude	M			
Control O Amplitude	M			
Control P Amplitude	M			
Control Q Amplitude	M			
Control R Amplitude	M			
Control S Amplitude	M			
Control T Amplitude	M			
Control U Amplitude	M			
Control V Amplitude	M			
Control W Amplitude	M			
Control X Amplitude	M			
Control Y Amplitude	M			
Control Z Amplitude	M			
Control AA Amplitude	M			
Control AB Amplitude	M			
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ALGOL-M

A disk devoted to the language ALGOL. It comes complete with the full users manual on disk in the form of a Document File. Well worth the money. However some CP/M knowledge will be needed as it runs in the CP/M Disk environment. This is a public domain program. Price \$1.50

JESSUPS



SYSTEM (1)

SYSTEM (2)

(1) The SV 318 programmable keyboard computer. The SV 903 two channel cassette software drive unit. Four high performance Spectravideo software programs.

SEPARATELY \$669

PACKAGED \$459

(2) The SV 328 with 80K RAM keyboard computer. The SV 902 disc drive unit. The SV 601 super expander enables the SV 328 to interface with up to 7 different peripherals. CP/M and disk Basic Software. Disc control card.

SEPARATELY \$1949

PACKAGED \$1399

SEE ANDREW RAMAGE The computer expert at JESSUPS. 108 Charles St. Ph. 316933

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I AM OPEN TO SUGGESTIONS
AS TO WHAT WE COULD USE THE
BACK PAGE FOR ??

I WOULD PREFER TO SEE IT
USED BY THE MEMBERS INSTEAD OF
JUST MORE OUTPUT FROM ME.

