---LE'VZ 200/300 OOP.---

MARCH 1986. #11 $1.00. J.C.E.D'ALTON.

Bonjoi computing friends (OOPs),

I have been asked what is the difference between the Software Short list and a long list. I have used the short list format in the last couple of LE'VZs to allow more space for other items. The Long List is about two pages long, giving a very brief description of each item of software. I will print a Long List in perhaps # 12 issue.

Please note that back issues of LE'VZ are now $1.50 each. I keep on getting requests for back issues, which is quite time consuming in that I have to set up the masters again to copy just a few. If you are waiting on back issues, please be patient. If you do not receive them with your regular/present issue or within a month or so, please remind me.

I would like to hear from OOPs or friends who have the Disc System. Are you having any trouble with it at all? Larry Taylor did have a problem with his after a few days of purchasing it. I have not had any trouble at all "touch wood", and it gets plenty of use as you might imagine with my D'BASE development. I have heard of one case of a Commodore drive actually chewing up discs. Have you had problems because you have travelled in electric trains or trams while carrying discs?

An interesting letter from Grant Calhoun of Eungai Creek, (in NSW but where in NSW) arrived in December. Grant has a farm and has not the luxury of 240 volt power from the NSW grid. He has a 36volt battery which is charged by a petrol (soon steam) driven generator.
So he has a 36v bus, a 12v bus, and a 240v inverter driven bus. Bus meaning LINE not passenger bus. He has two Disc Drives which were not operating at the time, because of voltage regulation problems. Perhaps Grant you may like to let me know how you are going now in this regard.
Grant sent me his contribution of his system interfaced with the "CHATTERBOX" speech synthesiser from E.T.I. Jan 1985. See page 6 .

I trust that you can read the reduced pages OK, as I am now getting more contributions, it's the only way of confining LE'VZ to 10 pages. I was going to include another listing of VZ items as contributed by Mr.Bob Kitch, but again space does not permit it. He has about another 60 items, to add to the LE'VZ #10 list. Remember to communicate directly to Bob.
Mr.R.KITCH, 7 EURELLA ST., KENMORE. QLD. 4069.
Please let me know what you would like printed in LE'VZ. In particular we Aussies would like to hear from our Kiwi friends.

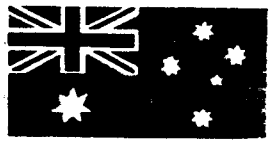
Well that's it for now. Marie and I wish you all the best of Gods blessings for another special time of the year, EASTER.

J.D'ALTON 39 AGNES ST. TOOWONG. QLD AUSTRALIA 'Ph (07) 371 3707.

```
110 PRINT"------"
120 PRINT:PRINT:PRINT
130 IF(C(1)=1AND(C(2)=1AND(C(3)=1AND(W=1,S=20ELSE2200
140 PRINT" ":PRINT:PRINT"CONGRATULATIONS,YOU HAVE"
150 PRINT"COMPLETED THE ADVENTURE!!":FOR I=1TO100000:NEXT:CLS:END
200 IF(C(1)=1OR(C(2)=1OR(C(3)=1,S=20
240 IF(C(1)=1AND(C(2)=1,S=40
250 IF(C(1)=1AND(C(3)=1,S=40
260 IF(C(2)=1AND(C(3)=1,S=40
270 PRINT:PRINT:PRINT" YOUR SCORE SO FAR IS :-"S:M$=""
280 GOSUB3000:RETURN
900 PRINT@450,"PRESS <RETURN> TO CONTINUE";
910 R$=INKEY$:T$=INKEY$:IFT$<>CHR$(13)GOTO910ELSERETURN
1000 PRINT@16,"BY SCOTT LE BRUN":RETURN
2000 REM INITIALISATION
2010 DIM O$(0),V$(V),D$(48),R$(48),C(0),L(0),F(35)
2020 DATA"AT A PLATEAU NEAR A CLIFF,A ROCKY PATH LEADS SOUTH"
2030 DATA" "," ","ON A ROCKY PATH LEADING NORTH & CURVING EAST"
2040 DATA"ON A PATH THAT LEADS WEST AND BINDS EAST"
2050 DATA"AT THE ENTRANCE TO A DARK CAVE"
2060 DATA" "," "
2070 DATA"INSIDE A NORTH-SOUTH TUNNEL"," "," "
2080 DATA"IN AN OVAL CAVERN.THERE IS A STAIRCASE LEADING DOWN"
2090 DATA" ","IN A COLD,SMALL ROOM"
2100 DATA" ","IN A ROOM WITH COBWEB COVERED WALLS"
2110 DATA"IN AN INMENSE CAVERN WITH TALL OMINOUS WALLS"
2120 DATA"IN A TRIANGULAR SUB-CHAMBER"
2130 DATA" ","IN AN ENORMOUS CAVE WITH A STONE PILLAR"
2140 DATA" ","IN AN OCTAGONAL ROOM","STALAGMITE LITTERED ROOM"
2150 DATAIN A ROOM WHICH THE ONLY WAY OUT IS THE WAY YOU CAME IN
2160 DATA IN A ROUND ROOM WITH A SPIRAL STAIRCASE LEADING DOWN
2170 DATA"IN A LOW-HUGGING TUNNEL"," "," "
2180 DATA"IN A STRANGE TWISTED ROOM WITH WALLS OF ICE"
2185 DATA"IN A ROOM WITH STALAGMITES ERUPTING EVERYWHERE"
2190 DATA" ","IN A ROOM WITH INCHES OF UNDISTURBED DUST"," "
2200 DATA" ","IN A ROOM ONLY REACHED BY MAGICAL MEANS"," "," "
2210 DATA" ","YOU ARE IN THE TRACTOR ROOM OF THE EVIL OVERLORD
2220 DATA"IN COLD DARK TUNNEL WITH ROCKS STREWN EVERYWHERE"
2225 DATA A MAGICAL ROOM
2230 DATA" ","IN A VAST UNDERGROUND CAVERN"," "," "
2240 DATA"IN A ROOM WITH A SPIRAL STAIRCASE LEADING UP"
2250 FORI=1TO48:READD$(I):NEXT
2600 REM OBJECTS
2610 DATA CROWN,RING,GOBLET,BUN,ROD,LAMP
2620 FORI=1TOV READV$(I):NEXT
2630 REM VERBS
2640 DATA N,S,W,E,U,D,EXAMINE,WAVE,GET,DROP,HELP
2650 DATA VOCABULARY,EAT,INVENTORY,SCORE
2660 FORI=1TOV READV$(I):NEXT
2700 REM ROUTES
2710 DATA 0," ","  ",NE,WE,SW," ","  ",NS," ","  ",NU
2720 DATA " ",0,"  ",E,NEWLU,W," ",NS," ",E,NWE,W
2730 DATA DE,0," ","  ",NE,SW," ","  ",NS," ","  ",N
2740 DATA " ","  ","  ",E,WE,WS," ","  ",NS," ","  ",NU
2750 FORI=1TO48:READR$(I):NEXT
2760 R=1:M$="OK"
2770 DATA 40,16,22,12,14,1
2780 FORI=1TO C(I):NEXT
2790 H$(1)="YOU HAVE THE "
2795 H$(2)="YOU WILL HAVE TO DROP SOMETHING"
2800 H$(3)="A MAGICAL BARRIER BLOCKS THE WAY!"
2999 RETURN
```

ADVENTURE by Scott Le BRUN

continued from LE'VZ # 10.



USING THE OUT PORT by Mr.Scott LE BRUN.

I have been experimenting with the <OUT(X),Y> command in conjunction with a GP100 Printer. Outputting to Port # 0 stores the # in the output buffer and then releases it all with the <LLPRINT> command.

The # to be sent is the ASCII equivalent of the character you want Printed. It is Possible to create strings of characters in the same manner by repeating the Process with characters. EI. if you want to Print "HI" type in immediate mode:-

```
OUT(0),72   (72 ASCII - H)
OUT(0),73   (73 ASCCI - i)
```

Type in these two short Programmes.

```
10 FORI=1TO16
20 READA
30 OUT(0),A
40 NEXT
50 A$=INKEY$
60 A$=INKEY$
70 IFA$=""THEN50
80 LPRINT
90 END
100 DATA76,69,39,86,90,50,48,48,47,51,48,48,32,79,79,80
```

MAKE SURE GP100 PRINTER IS ATTACHED AND OPERATIONAL.

```
10 FORI=123TO191
30 OUT(0),I
40 NEXT
50 A$=INKEY$
60 A$=INKEY$
70 IFA$=""THEN50
80 LPRINT
90 END
```

ENSURE THAT GP100 PRINTER IS ATTACHED AND OPERATIONAL.

BELOW IS RESULT OF THE PROGRAMME RUN THREE TIMES.

```
(!)~ àáâãéèêëè#@P`@H$AAÖÖÜÜÜ¥£¢§↑↓←→
(!)~ àáâãéèêëè#@P`@H$AAÖÖÜÜÜ¥£¢§↑↓←→
(!)~ àáâãéèêëè#@P`@H$AAÖÖÜÜÜ¥£¢§↑↓←→
```

PROGRAMMING HINT:- LISTING.

To <LIST> or <LLIST> when running a programme.
<LIST>.<RETURN> Will list last line operated on before <BREAK>ing.
<LIST>.-<RETURN> Will list from that line to end of programme.
<LIST>-.<RETURN> Will list from start of programme to that line.

NEW SOFTWARE.

WORD SQUARES by Mr.John Ramsden.

This is a VZ version game seen in many magazines and Papers.
You select the words and the VZ "hides" them in a square of letters. You find the words which are hidden either verticly, horizontilly or diagonally. A Print out of the entire maze or only of your chosen words is Possible. A very interesting game.

FROM CRAIG MILNER - PERTH.

```
JOYSTICK DRAWER
10 MODE(1)
20 X=0
30 Y=0
40 A=(INP(43)AND31)
50 IFA=23ANDX<127THENX=X+1
60 IFA=27ANDX>0THENX=X-1
70 IFA=30ANDY>0THENY=Y-1
80 IFA=29ANDY<63THENY=Y+1
90 SET(X,Y)
100 GOTO40
```

HI-RES GRAPHICS GEOMETRIC PLOTTING.

(A PLEA FOR MORE READABLE BASIC PROGRAMS)

The following program is a simple line plotting routine using the hi-res graphics screen. It was written to try and demonstrate how programming skills can be improved by following a few simple guidelines.

Unfortunately published programs in magazines are generally poor examples of how to develope good programming style. A number of us may have taken the trouble to to enter a listing from a magazine - but upon running the program have found that all is not well with the code! A long, tedious and frustrating session-of understanding the poorly constructed code, determining all the twists and turns of the 'logical spaghetti' and debugging-commences. A usual remedy is to re-write the program from scratch. Not a very efficient process!

The program below is

1. Clearly coded and set out - an enormous help in UNDERSTANDING.
2. The program is STRUCTURED - a good algorithm is selected and the program 'flows' through initialization to input, procedure and output sections.
3. Loops are indented for ease of identification and nesting.
4. Naming of variables is meaningful to assist maintenance and debugging.
5. Integer storage is used where appropriate.
6. No abbreviated forms of BASIC statements are used.
7. Remarks are liberally sprinkled throughout to aid clarity.
8. Error capture and range checking on all input variables prevents program from crashing.

Clear readable code is more important than the execution speed or storage requirements of the program - interpreted BASIC runs like a tired snail in any case!

These guidelines should lead to code that is easier to read, understand and debug. This leads to easier maintenance, updating or expansion of your routines as your programming skills develope.

```
 10 REM ******************************
 20 REM PLOT A SET OF UP TO 20 LINES    Introduction to program,
 30 REM USING THE HI-RES SCREEN.        version and author.
 40 REM R.B.KITCH 22/10/85
 50 REM ******************************
100 REM DIM STORAGE VECTORS X% & Y%
110 DIM X%(20), Y%(20)                  Vectors to hold end coordinates
120 REM ***ACCEPT INPUT AND CHECK*****  of LN% lines - LN%+1 points.
130 PRINT"HOW MANY LINES - MAX 20":
    INPUT LN%
140 IF LN%<1 OR LN%>20 THEN GO TO 130   Test input is not over-ranged.
150 FOR I% = 0 TO LN%                   Loop for LN%+1 X-Y points.
160     PRINT"ENTER X-VAL  0-127":
        INPUT X%(I%)
170     IF X%(I%)<0 OR X%(I%)>127       Check value not off screen.
        THEN GO TO 160
180     PRINT"ENTER Y-VAL  0-63":
        INPUT Y%(I%)
190     IF Y%(I%)<0 OR Y%(I%)>63        Check value not off screen.
        THEN GO TO 180
200 NEXT I%                             End of input loop.
300 REM***SET UP SCREEN AND MAIN LOOP*
310 MODE(1)                             Switch screen to hi-res.
320 FOR I% = 0 TO LN%-1                 Initialize main loop for lines.
330     X1%=X%(I%):X2%=X%(I%+1)         Assign end points of line to
340     Y1%=Y%(I%):Y2%=Y%(I%+1)         temporary variables.
350 REM ***ARE POINTS THE SAME?*******
360     IF X1%<>X2% OR Y1%<>Y2% THEN    End points the same so PLOT
        GO TO 410                       point.
370     SET(X1%,Y1%):GO TO 710          Pick up another line.
400 REM ***CALC X AND Y DIFFERENCE****
410     DX%=X2%-X1%:DY%=Y2%-Y1%         Change in X and Y directions.
420 REM ***SEE WHICH IS LARGER********
430     IF ABS(DX%)>ABS(DY%)THEN        Branch according to which
        GO TO 610                       difference is larger.
500 REM ***INCREMENT IY***************  Increment along Y-axis.
510     YS%=SGN(DY%):DG=DX%/DY%         Sign of STEP and GRADIENT.
520     XO=X1%+0.5                      X-axis OFFSET.
530     FOR IY% = Y1% TO Y2% STEP YS%   Initialize loop.
540         TP=(IY%-Y1%)*DG+XO          Temporary real X-value.
550         IX%=INT(TP)                 Integer X-value.
560         SET(IX%,IY%)                PLOT point.
570     NEXT IY%                        END loop.
580 GO TO 710                           Pick up another line.
600 REM***INCREMENT IX***************   Increment along X-axis.
610     XS%=SGN(DX%):DG=DY%/DX%         Sign of STEP and GRADIENT.
620     YO=Y1%+0.5                      Y-axis OFFSET.
630     FOR IX% = X1% TO X2% STEP XS%   Initialize loop.
640         TP=(IX%-X1%)*DG+YO          Temporary real Y-value.
650         IY%=INT(TP)                 Integer Y-value.
660         SET(IX%,IY%)                PLOT point.
670     NEXT IX%                        END loop.
700 REM***END LOOP FOR LINE***********
710 NEXT I%:SOUND 0,9                   END main loop and PAUSE.
800 REM ***GO AGAIN?******************
810 PRINT" (E) TO EXIT"                 Screen message or MENU.
820 PRINT" (P) TO PLOT AGAIN"
830 PRINT" (N) FOR NEW POINTS"
840 INPUT AN$                           Accept response.
850 AN$=LEFT$(AN$,1)                    Accept leftmost character.
860 IF AN$="E"THEN STOP                 Logical end of program.
870 IF AN$="P"THEN GO TO 310            Go back and PLOT again.
880 IF AN$="N"THEN GO TO 130            Go back for more input.
890 GO TO 810                           Wrong response.
900 END                                 Physical end of program.
```

Lines 300-710 are a general purpose line plotting routine similar to the PLOT command on a MICROBEE.

Bob Kitch, 7 Eurella St., KENMORE, Qld., 4069 (07)378-3745

P 4 #11.

BASIC MONITOR FOR THE VZ200 by R.G.DAVIS

A very handy little program if you just want to experiment with machine code programing.
Enter the program and run, you will be given three choices ..
ONE..MEMOD You are asked for start and end address you then step through memory one byte at a time and are given the chance to enter new data in hex, press <RETURN> and step on to the next byte.
TWO..REVIEW displays on the screen 16 lines by 8 columns of hex data. Press <SPACE> to bring up the next 16 lines of data.
THREE..PRINTOUT use your printer to get a hex dump of your program.If you wish to have 16 bytes per line then change the end of line 9 to read..
FOR N=1 TO 16

MEMOD BY R.G.DAVIS 8 AVOCARDO ST MILDURA

```
1 CLS:CLEAR 500
2 PRINT"MEMOD       M"
3 PRINT"REVIEW      R"
4 PRINT"PRINTOUT    P"
5 INPUT Y$
6 IF Y$="M" THEN 12
7 IF Y$="R" THEN 17
8 GOSUB 30
9 GOSUB61:LPRINT H$" "B" ";:FOR N=1 TO 8
10 GOSUB 36:LPRINT H$" ";
11 GOSUB 38:NEXT:LPRINT:GOTO 9
12 GOSUB 30:CLS
13 GOSUB 61:PRINT H$"  ":GOSUB 36
14 PRINT H$"  ";:INPUT B$
15 IF B$=""THEN 16 ELSE GOSUB42:POKE M,F
16 GOSUB 38:GOTO 13
17 GOSUB 30:CLS
18 PRINT:FOR T=1 TO 16
19 PRINT:GOSUB 61:PRINT H$" ";:FOR N=1 T
O 8
20 GOSUB 36:PRINT H$" ";
21 GOSUB 38:NEXT:NEXT
22 Z$=INKEY$:W$=INKEY$:IF W$<>" "THEN 22
23 GOTO 18
30 INPUT"START ADDRESS";M:B=M
31 IF M<32768 THEN 33 ELSE Q=M
32 GOSUB 40:M=X
33 INPUT"END ADDRESS";E
34 IF E<32768 THEN RETURN ELSE Q=E
35 GOSUB 40:E=X:RETURN
36 D=PEEK(M):DE=D:IF D<32 THEN DE=46
37 H$="":GOSUB 65:RETURN
38 M=M+1:IF M=32768 THEN GOSUB 41
39 IF M=E THEN END ELSE B=B+1:GOTO 61
40 X=-1*(65536-Q):RETURN
41 Q=M:GOSUB 40:M=X:RETURN
42 C$=B$:F=0:GOSUB 48
43 RETURN
44 IF C<58 THEN C=C-48
45 IF C>63 THEN C=C-55
46 RETURN
48 C=ASC(C$)
49 GOSUB 44:G=16*C:F=F+G
50 C$=RIGHT$(B$,1):C=ASC(C$)
51 GOSUB 44:F=F+C:RETURN
61 H$="":A=B/4096:A=INT(A):GOSUB 67
62 D=B-4096*A
63 A=D/256:A=INT(A):GOSUB 67
64 D=D-256*A
65 A=D/16:A=INT(A):GOSUB 67
66 A=D-16*A
67 AB=A:IF A>9 THEN A=A+55 ELSE A=A+48
68 A$=CHR$(A):H$=H$+A$:A=AB:RETURN
```

SAMPLE OF PRINTOUT

```
8FF1  36849  21 00 70 11 01 70 01 FF
8FF9  36857  01 36 AA ED B0 C9
```

ANOTHER CONTRIBUTION FROM CRAIG MILNER OF PERTH.

BASIC DODGE

```
5 POKE30744,1:' IF YOU HAVE A EARLIER
 YOU DO NOT NEED THE POKE
6 CLS
10 A=28672:X=16
20 I$=INKEY$:IF I$="K"THENX=X-1
30 IFI$="L"THENX=X+1
40 IFPEEK(A+X)<>32THEN200
50 PRINT@X,"V";:S=S+1
60 PRINT@480+RND(31),"*"
70 GOTO 20
200 CLS
210 SOUND1,1:PRINT"GAME OVER ! ! !"
220 PRINT"SCORE=";S
230 IF INKEY$="S"THEN RUN ELSE 230
```

Grant Calhoun - 1985

```
1 REM"CHATTERBOX INTRO"   VZ-200
10 DIMA(151)
20 DATA63,76,95,73,105,67,77,123,97,76,6
5,15,82
22 DATA 79,108,108,67,67,82,108,108,126,
1[illegible],118,119,67,91
24 DATA99,77,94,67,107,73,94,126,80,110,
126
32 DATA122,78,100,89,95,126,92,107,110,7
[illegible],106,67,75,92,67,76,85
42 DATA73,105,67,76,110,95,106,122,126,7
[illegible],124,109,66,66,126,45
52 DATA60,67,109,73,88,67,158,171,149,13
[illegible],143,67
[illegible] DATA226,246,247,67,203,205,223,251,22
[illegible],205,126,126,234,230
[illegible] DATA234,193,216,252,126,203,205,223,2
[illegible],225,205,126
[illegible] DATA126,206,252,237,194,235,126,206,2
[illegible],237,194,235,126
[illegible] DATA126,56,11,31,67,12,1,31,0,26,126,
[illegible],11,24,67,31
82 DATA1,24,29,62,30,6,31,42,43,51,25,42
,126,63
92 FORX=0TO151:READA(X):NEXT:RESTORE
95 FORX=0TO151:GOSUB150:FORZ=0TO1:OUTZ,
A(X):NEXT:NEXT
99 GOTO92
100 END
150 B=INP(0):IFB<0THEN150
151 RETURN
```

"My name is VZ-200 Chatterbox; Grant is my master. Beware! We will drive you insane, totally insane! Beware! Beware! This message will self destruct."

THIS EXPLAINS THE WORLD TIMES PROG.. SENT IN BY R. DAVIS IN A PREVIOUS LE'VZ.

WORLD TIMES BY R.G.DAVIS 12 7 1984

The program starts off by asking you to input your local time then in line 12 subtracts 10 hours (for eastern time). If you live in S.A then line 12 would read.....

12 Z=H-9:O=M-30

This changes the time to Greenwich time so the only line that will ever have to be changed is line 12.....

Line 14 then checke for ilegal times (< zero or > 23,59)

Line 15 then draws the map of the world. Extra cities can be added, as an example...

80 E$="HAWAII":Z=GH-10:O=GM-30:C1=3:C2=2:X3=5:Y3=33:GOSUB 110

To look at this in more detail..

E$="HAWAII" Writes HAWAII in HI RES

Z=GH-10:O=GH-30 subtracts 10 hours 30 minutes from G.M.T..

C1=3:C2=2 C1 is the contrast colour to flash the pixel C2 resets pixel to orignal colour..

X3=5:Y3=33 X,Y cordinates to flash the pixel.

* * * * * * * * * * * * * * * * * * * *

• • • INPUT/OUTPUT ON THE VZ • • •

By SCOTT LE BRUN OOP A27

The I/O Port of the VZ has 8 data Pins labelled D0 - D7.these Pins represent BITS (BInary di9iTS).In binary a '1' is used to represent an 'ON' or 'HIGH' situation,where a '0' represents an 'OFF' or 'LOW' situation.The Pins use '5V' to represent an 'ON' and a '0V' to represent an 'OFF'.To explain this further,refer to the dia9ram below.

For a binary e9uivalent of 10 decimal.

(refer to 2nd last Pa9e for conversions between the two)

```
D7  D6  D5  D4  D3  D2  D1  D0  - (Pins)
 0   0   0   0   1   0   1   0  - (hi9h or low)
```

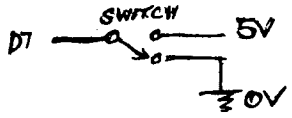
That means that there is a 'HIGH',5V on Pins D3 and D1,while the others are kept 'LOW',0V.

O.K.,so we know that there are 8 data Pins with 5V or 0V on them.Now let's look at how we can Put HIGHs and LOWs on those Pins and how to detect whether or not a HIGH or LOW exists on those Pins.
The <OUT(X),Y> command outputs data to the Port,where 'X' is the Port number and 'Y' is the decimal e9uivalent of the data to be transmitted.
The <A=INP(X)> command reads (looks at) the Port,where 'X' is the Port number and 'A' is the decimal value of the data detected.

We now know how to inPut & outPut to the Port.

Consider the simPle exPeriment below.

SINGLE BIT INPUT



Construct the circuit and tyPe:-

```
10 PRINT INP(0)
20 GOTO 10
```

<RUN>.The screen should be Printin9 a number less than 128.This is because we have a LOW on D7.

```
E9:-   D7  D6  D5  D4  D3  D2  D1  D0
        0  (any combination of 0 and 1)
```

D7 is the BIT we chan9e.

The hi9hest decimal number that can exist with D7 LOW,is 127.

```
E9:-  D7  D6  D5  D4  D3  D2  D1  D0
       0   1   1   1   1   1   1   1  (binary)
```

Now flick the switch,(while still <RUN>in9),and the screen should Print a number e9ual to or 9reater than 128.

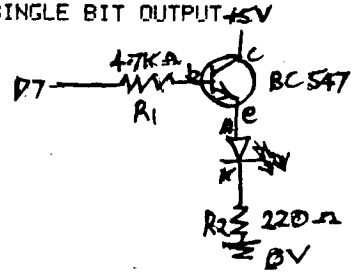
```
E9:-  D7  D6  D5  D4  D3  D2  D1  D0
       1  (0   0   0   0   0   0   0)  = 128
       1  (any other combination)     >128
       ^
Will   always   be
'1' while switched
to '5V'.
```

*** NOTE***

ALWAYS make sure that the comPuter is INPUTin9 while you chan9e BIT values.otherwise the comPuter will crash.

Consider the simPle exPeriment below.

SINGLE BIT OUTPUT



When a HIGH is Put on the BASE (b),current will Pass from the COLLECTOR (c),to the EMITTER (e).ie:- an electronic switch

When D7 9oes HIGH,the L.E.D. will li9ht.At all other times,the transistor will be switched off.The two resistors R1 & R2 are there Just to limit the current a bit,so the L.E.D. won't exPire.

Construct the circuit and tyPe in the followin9:-

```
10 OUT(0),128
20 GOTO 10
```

While the Pro9ram is <RUN>in9 the L.E.D. should li9ht.Edit line 10 to OUT(0),127,<RUN> & the L.E.D. should 9o out.

**** NOTE ****

Note that the VZ-200/300 is an 8-BIT comPuter,therefore the hi9hest number that can be used to inPut or outPut is:-

```
D7  D6  D5  D4  D3  D2  D1  D0
 1   1   1   1   1   1   1   1

=> 255 decimal
```

To be continued in a future LE'VZ.

* * * SOFTWARE FOR SALE FROM VSOFTWAREZ * * *

MARCH 1986.

All prices are correct at time of printing, but may change without notice. All articles available while stocks last.

All tape software includes postage up to four tapes.
When ordering software, always state := which computer VZ200 or VZ300, if you have an expansion RAM unit , and if you have a disc drive system connected.

VZ1 = unexpanded VZ200. VZ2 = unexpanded VZ300.
VZ3 = expanded VZ200. VZ4 = expanded VZ300.

TB15 = Tape only unit of B15. DB5 = Disc only unit of B5.
T/DE4 = Tape or Disc unit of E4. The price stated is for a Tape unit. If a Disc unit is required, add $5.00. to the Tape price. The price of a Disc unit is as stated.

To allow faster service, send bank, building society, credit union cheques, or Aust Post money orders so that time is not wasted in waiting for a cheque to be cleared.
Make cheques payable to J.D'ALTON or VSOFTWAREZ.

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* * * NEW SOFTWARE. * * *

- DB5 LE'VZ STATEMENT V2.0. $185.00. VZ4.
  For small business use. Based on LE'VZ D'BASE. Random access records. Requires the Disc Drive System, a Printer and VZ DTR. Process and print end of month statement/s, labels, pay into account etc. All money calculations carried out, IE. Debit, Paid in and Statement $ totals. Comes with a 20 page instruction booklet. Write for more information or see a demonstration.

- D/TU12 FILESEARCH. $ 10.00. VZ1-VZ4.

  Reads the tape leader or disc directory to obtain the filetype, filename and start/end addresses of Basic or M/L programmes. The printer option will print labels.

- D/T19 COPY/PROTECT. $ 30.00. VZ1-VZ4.
  Incorporates two programmes BREAKPROOF and FILECOPIER. Using BREAKPROOF on Basic programmes produces versions which autorun and will automatically restart, if the <BREAK> key is pressed. FILECOPIER allows the transfer of all Basic or Machine Code programmes to or from tape or disc.

- DU20. DISC GUARD. $ 60.00. VZ1-VZ4.
  DISK GUARD prevents easy copying of programmes stored on Disc. IE. <DCOPY> and FILECOPIER canNOT copy a DISKGUARDED Disc. Basic programmes are automatically BREAKPROOFED to produce an autorun programme, which will rerun if the <BREAK> key is pressed. That programme canNOT be effectively llisted/listed.

NEXT LE'VZ # 12
Binary - decimal conversion. Screen handling capabilities of the VZ.
Bob Kitch's 2nd list of VZ items. And more.

- DE1-8 EDUDISK. $ 50.00. VZ3-VZ4.
  Educational programmes E1 to E8 all on one Disc. It is menu driven so that a programme is selected by a single key press. Quite childproof.

- T/DE9 MEATPIES V2. $ 15.00. VZ3-VZ4. Year (grade) 5-7.
  Similar to E3, but features additional graphics screens, more special events and provision for the "game" to be saved to tape. This allows the student/s to continue on where it was left before.

- TU18. LOAD XX80 FILES. $ 7.95. VZ3-VZ4. This allows loading of System 80 and TRS 80 (1) tapes. It is up to the user to modify the programme to run on a VZ. Some simple programmes will run ok without any changes.

- T/DG36 BLACKJACK. $ 20.00. VZ3-VZ4.
  The card game (Pontoon) can be played by 3 people. Good low RES graphics.

- T/DG37.POKER MACHINE. $ 20.00. VZ3-VZ4.
  Another good low RES graphics game. See if you can break the bank.

- T/DG38.WORDSQUARES. $ 10.00. VZ2-VZ4.
  The familiar game where you you find words hidden in the maze of letters. You enter in the words and the VZ hides them for you. Very good.

- T/DG39.COMPUTER MONOPOLY. $ 15.00. VZ2-VZ4.
  You play the VZ at the famous game.

EXISTING SOFTWARE.

D/TU2	EDITOR/ASSEMBLER	$ 20.00.	VZ3-VZ4.
D/TB1	CASH BOOK LEDGER	$ 20.00.	VZ3-VZ4.
TU4	COLOUR GRAPHICS	$ 10.00.	VZ1-VZ4.
D/TE1	KEYBOARD	$ 8.00.	VZ3-VZ4.
D/TE2	WORDMATCHING	$ 10.00.	VZ3-VZ4.
D/TE3	MEATPIES	$ 10.00.	VZ3-VZ4.
D/TU3	UTILITYS	$ 15.00.	VZ3-VZ4.
TU5	WEAVING DRAFTS	$ 10.00.	VZ1-VZ4.
D/TE4	MATHS COUNTDOWN	$ 10.00.	VZ3-VZ4.
D/TE5	COORDINATES	$ 10.00.	VZ2-VZ4.
D/TE6	TOWER of HANOI	$ 8.00.	VZ1-VZ4.
D/TE7	MICROSCOPE	$ 8.00.	VZ3-VZ4.
D/TE8	BLOCK PUZZLER	$ 10.00.	VZ1-VZ4.
TE20	PLUS and MINUS	$ 6.50.	VZ1-VZ4.
TE24	MATHS	$ 10.00.	VZ3-VZ4.
TE25	QUEENSLAND	$ 6.50.	VZ1-VZ4.
TE27	EUROPEAN CAPITALS	$ 6.50.	VZ1-VZ4.
TE30	CAMPING	$ 6.50.	VZ1-VZ4.
D/TG2	MANSION and NOVA	$ 12.50.	VZ1-VZ4.
MANSION...	VZ3-VZ4. for NOVA	$ 12.50.	VZ3-VZ4.
D/TG3	VZ MONOPOLY.	$ 10.00.	VZ1-VZ4.
TU12	SEARCHTAPE	$ 12.50.	VZ2-VZ4.
D/TG13	SCOTLAND YARD	$ 12.50.	VZ3-VZ4.
DB4	LE'VZ D'BASE	$ 98.00.	VZ3-VZ4.
TB15	DATABASE-VZ	$ 25.00.	VZ3-VZ4.
TG35	HAUNTED MANSION	$ 12.50.	VZ3-VZ4.
TU6	VZ EXTENDED BASIC	$ 15.00.	VZ1-VZ4.
TU7	PROTECT	$ 14.95.	VZ3-VZ4.
TU8	CMERGE/DELETE/REN	$ 12.50.	VZ3-VZ4.
TU9	MONITOR DEBUGGER	$ 14.95.	VZ3-VZ4.
TU10	EXTENDED BASIC	$ 12.50.	VZ3-VZ4.
TU11	ARRAY/RESTORE	$ 14.95.	VZ3-VZ4.

You must have TU10 to use this one.

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10 '===DISK LLISTER===REQUIRES DISK DRIVE & PRINTER==
20 POKE30876,0: CLS: PRINT@10,"DISK LLISTER"
30 PRINT@64,"*INSERT DISK & CLOSE DRIVE DOOR*"
40 PRINT@193,;: INPUT"NAME OF DISK";N$
50 IFN$=""THEN40 ELSEIFN$="X" THEN END
60 LPRINT: LPRINTN$" DISK": LPRINT: POKE30876,1: DIR: STATUS: GOTO20
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Contribution from CHRIS STAMBOULIDIS of EAST PRESTON. VIC.

* * * FOR SALE * * *

HARDWARE and FIRMWARE.

VZ Data recorder $60.00. used. with Power Pack.
GP 100 Printer without interface $170.00. used.
LASER Light Pen with System Tape $ 75.00. New.
$
Printer ribbons for the GP100 $11.50. each, new. These are not direct replacements, so you need to remove the axle from the original one and swap one half of the little case, worth the few minutes fiddle.
C10 Blank tapes in lots of 5 $1.20. each new.
C20 Blank tapes in lots of 5 $1.30. each new.
5.25 blank discs SSDD in Packs of 10 new. $25.00.

VZ200 KEYBOARD.

If you have to Press certain keys harder or a few times to get them to work, then don't throw the VZ away. Replace the whole rubber keypad. It is the keys that Protrude through the darker Panel that has the statements Printed on it. the rest of the rubber underneath joins the keys together. It is no use cleaning the Print board or the ends of the keys, as this makes matters worse.

The end of each key has a black sustance (Probably graphite) embedded into it. The resistance in OHMS must be no higher than 500OHMS between a distance of about two (2) MM. Use sharp Probes to measure it. Anyway, the keypad can be bought from DSE. for about $6.00. I think they refer to it as a rubber membrayne.

I must thank the staff of various Dick Smith stores in Australia for letting folk know of the existance of my LE'VZ 200/300 OOP group. I have even received Phone calls via the DSE. Hot Line in Sydney. THANKS ! ! !

SORRY AGAIN.

SOME PAGES OF THIS ISSUE ARE NOT AS GOOD AS I WOULD LIKE THEM. BUT THERE IS MORE IN THIS ISSUE!!
J.O.

MICRO MAGIC.

I advise OOPs again of the other main VZ user group. Mr.Gordon Browell 7 Abbott Crescent MALAK. DARWIN N.T. 5793. He Prints a newsletter and now Beginner's Guide to the VEEZED. Write to Gordon for details.

VZ 200 RAM EXPANSION UNIT.

by CFN P.Jackson of Glenorchy.

In the VZ200 exp unit, the wire link between 1-4 can be changed to links 1-5. If the unit is plugged into a VZ300 the Top of Memory becomes E000H (57344 Dec). If the link is changed to 5-2, then the TOM becomes FFFFH (65535 Dec). A small switch can be fitted to select VZ200 or VZ300.

(I have not had time to try the changes or study the circuit so cannot vouch for what the contributor has sent me. At first sight it seems Possible. Some OOPs may have seen Steve Olney's article in E.T.I. Feb 1986, whereby he fits an additional I/C to do a similar job. If anyone tries the above, Please let me know the results. ED.)

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* * * TUITION. * * *

Beginners BASIC tuition is available, on a one pupil basis with hands on experience and Printouts of required sections of the lesson. Contact me for further details.