ØRIC

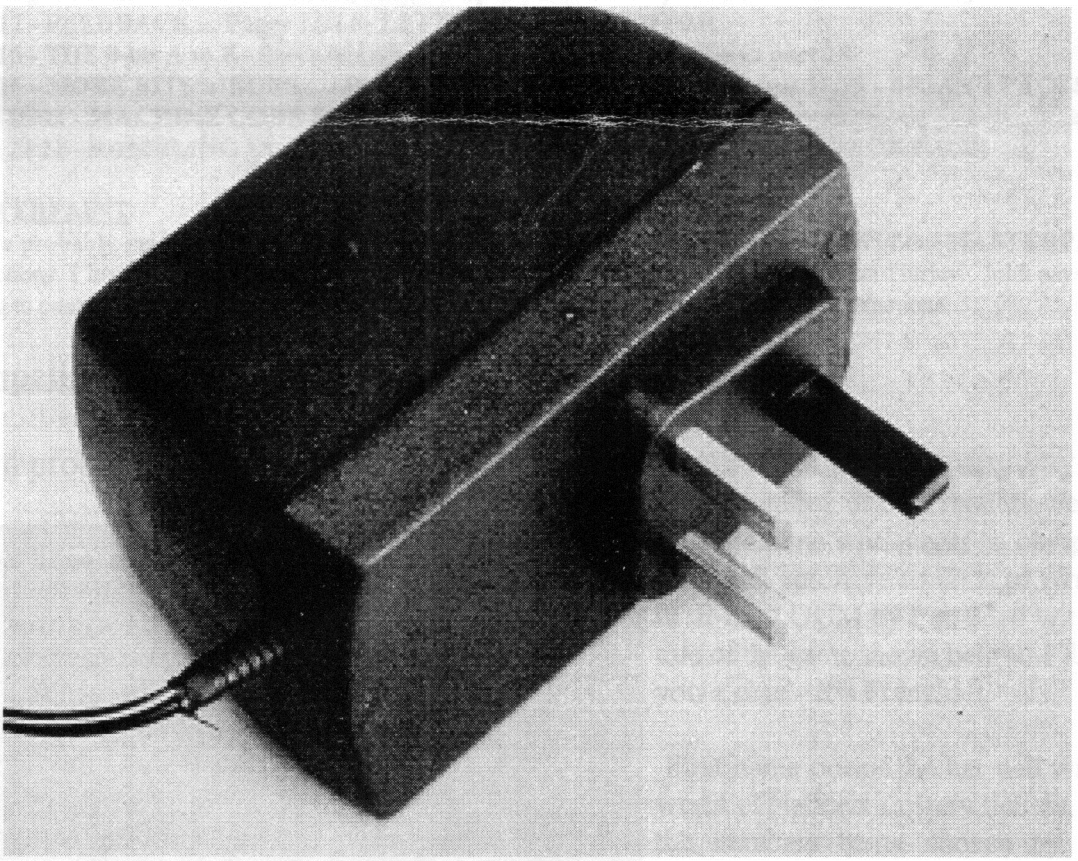
Number 114

February 1997

USER MONTHLY

with Alternative Micros

Keeping the Oric alive



Useless pictures they published No. 1.....

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THE EDITORIAL

Hello and welcome again,

To another issue of OUM. Will the seventh OUMDISC go out this month? You will have to wait and see! Plans on one title had to be re-arranged - see CYBOJUDGE story.

One thing is for sure - this issue is going to be a biggie, and if Judge Jon, and the Welsh distribution team can get their acts together, then we may get it out nearer the beginning than the end of the month!

And so the index.

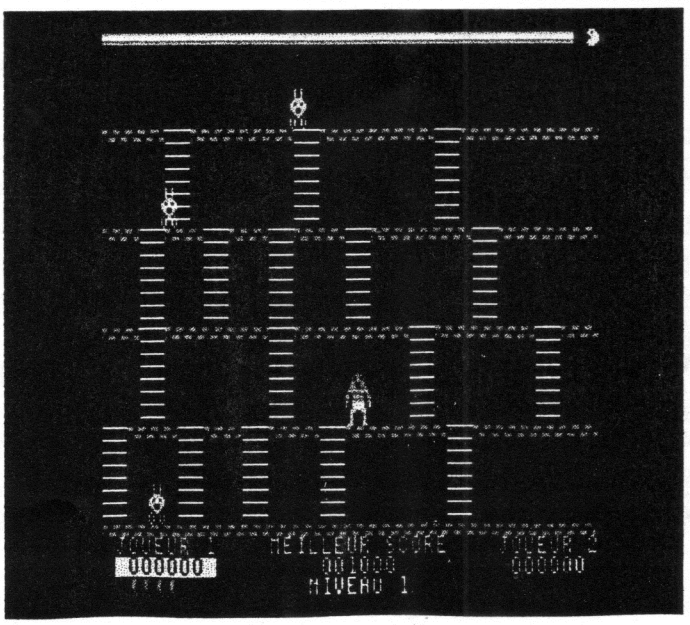
INDEX

MASTERPAINT

I have probably made this plea before, but will try again. Wanted - English translation of the **MASTERPAINT** instructions. I lent mine to someone. Ron Evans also wants a copy, and now so does John Hurley. John says he is willing to convert the screen presentation to English if we can track down the English instructions.

Competition Time

I am probably wasting my time, but we will try another competition anyway!



With an influx of new readers we may find someone who wants to compete. O.K. - all you have to do is to write to or E-mail OUM by Feb 23rd with the title of the game shown below. I'll give you a clue - It's French!

First name out of the hat will win £5 worth of National Lottery tickets, with the numbers being chosen by John Hurley's new Lottery selector program.

NEWS.....NEWS.....NEWS

BULL

Our old friend BULL ELECTRICAL has recently sent me their 214th. Newsletter. Items that may be of interest are:

Switched mode PSUs giving 5v at 4.4 amps, On/Off switch and fly lead. 150x100x42 mm. Originally made for the Archimedes ------ £8

Amstrad 3" disks - £15 per box of 10.

Geiger Counters - £65

12V DC Soldering Irons - £5

PC Pal Kit - converts VGA signals into UHF and/or RGB so that you can use a television as a computer monitor (obviously not as good as a monitor, but O.K for games, large text etc.) - £25

All price exclude post and VAT - orders welcome from outside UK.

EMULATOR BBS

The Emulator BBS now has 400 Oric titles and 10,000 titles for other machines. If you log on - don't forget to say that you are an Orician.

THE EMULATOR BBS
ON 01284 760851
KEEPING 8-BIT ALIVE

WHAT - ANOTHER NEW PRINTER!

You may remember that I have been using a STAR printer. Number 2 was returned to the vendor recently. I had bought it on the understanding that it was Windows 95 compatible. The driver was 3.1, and to run certain programs I was having to pretend that I had an LC-10. Then the printer didn't always work as it should. Enough was enough, and I got a full refund, plus £10 off my new acquisition. Now all is great with my Hewlett Packard Deskjet 400. I hope this is the end of the printer saga for a long time.

ARCADE ADVENTURE

Jonathan Bristow has laid the foundations for his new game. All he needs now is ideas from YOU out there. It is to be an arcade adventure. Have you an idea for the game - a theme, a plot etc.

RETURNING TO THE FOLD

A big welcome back to Paul Baker, writer of such adventures as 'GRANDAD' and 'SAUSAGES'. He now has a PC , is on the Internet, and re-subscribing to OUM. With Emulator to hand, he is planning to transfer over his cassette software.

Though we have been occasionally in contact, I couldn't believe that it was 3 years since I last sent out an issue of OUM to Paul in Staffordshire.

BITS'n'BOBS

With the Atmos system on one table, and the PC on another, I have been busily doing all manner of things. Found some new things out about Euphoric, and had to remember some of the things that I had forgotten about the Oric.

FORMATTING A DOUBLE SIDED 3" DISC!!!!

The idea was to copy one of my Oric disk images from the PC onto a 3.25" floppy, then insert it in my Atmos 'A' drive, format a master 3" disc on the 'B' drive and copy the file across.

The disk from the PC revealed itself to be 82 Track double sided on drives A,B,C,D. Easy thinks I. To format a single sided 17 track, 42 sector 3" disk in my 'B' drive, then all I have to do is type:

INIT B,17,42

I got 17 tracks, 42 sectors, but I also got a double sided 3" disk (on one side!)

To get a single sided, you first have to amend the configuration on the 'A' drive with either the use of TRACK (in memory only) or DTRACK (on the disc).

E.g.: TRACK 82;D,42

PRINTING A WORDSPEED FILE DIRECT FROM PC

Using version 0.99h of EUPHORIC, I am now able to print off direct my Wordspeed text files. To do this you must do two things:

A) Amend your EUPHORIC.INI file so that it contains the statements:

Printer=Yes

PrinterOutput=lpt1

(It previously pointed to Printer.OUT)

B) Prior to printing your document use the F1 key to go to the options menu, and change printer to ON)

Works a treat!

EUPHORIC TEXT FILES

As well as putting a lot of effort into Euphoric itself, Fabrice has also done much on the documentation side of it, both in French and English. The documents on the Euphoric suite of files that us Brits need are: A) The Emulator History - shows all the updates from it's inception as V0.1 on Jan.29th 1995, right up to the present V0.99h. Filename for English version is 'historic.txt'. B) EUPHORIC:ReadMe! Is a short intro - filename is: 'readme.doc'. C) EUPHORIC:Reference Manual - tells you all you need to know. Filename is 'manual.doc'.

The above text files are all ASCII files and easily converted to WORDPERFECT.

If you haven't got a printer, or if you haven't got a PC, and would like a copy of the 3 documents , totalling 32 pages, then please send 2x 25p stamps to O.U.M

THE LISTINGS PAGE

The highest number that the Oric can handle is about **1.7*10 ^38,** and using a single loop, i.e.:

```
10 A=A+1
20 GOTO10
```

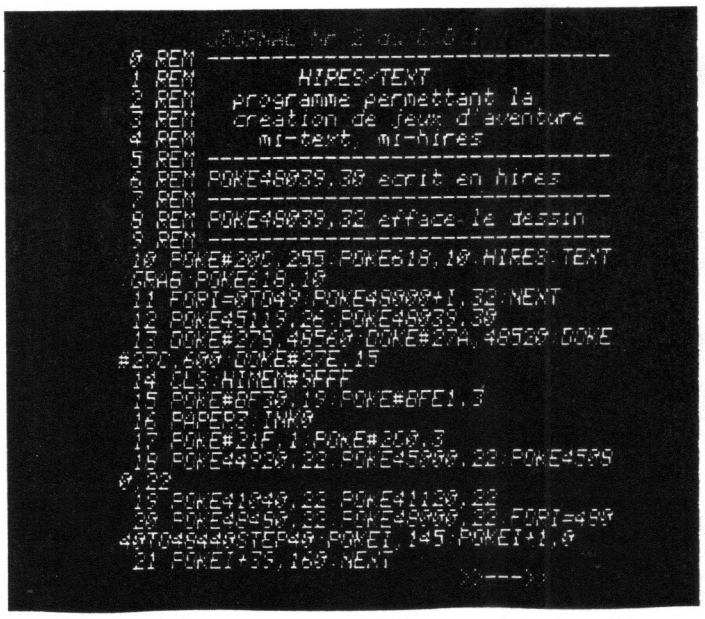
It would take around100000000000000000000 million centuries to reach this number!

==========

SOPHISTOCATED PROGRAM!

```
10 REM SOPH PROG
20 SOUND2,20,15:WAIT20
30 GOTO90
40 FORA=1TO10
45 ABS(-4)=SIN(A)*8
50 READN
60 POKE#22B,N
62 COS(5)=90*A/2

65    NEXTA'    CALL    NEXT
ROUTINE TO HAPPY
70 DATA#22A,#1BA,#30,#FF,#11B,#77,#34,#27B,#11AC,#2AC
80 UNTIL ON A=200,300,400
90 REM TAKES INTEGRATED LOOP PATTERN TO INTERUPTS
100 PLAY0,0,0,0
110 IFA=0THENENDELSE40
120 GOTO40
```

==========



```
 0 REM ------------------------
 1 REM        HIRES-TEXT
 2 REM   programme permettant la
 3 REM   creation de jeux d'aventure
 4 REM      mi-text, mi-hires
 5 REM ------------------------
 6 REM POKE48039,30 ecrit en hires
 7 REM ------------------------
 8 REM POKE48039,32 efface le dessin
 9 REM ------------------------
 10 POKE#200,255:POKE618,10:HIRES:TEXT
 GRAB:POKE618,10
 11 FORI=0TO49:POKE48000+I,32:NEXT
 12 POKE45119,26:POKE48039,30
 13 DOKE#275,46560:DOKE#27A,48520:DOKE
#27C,600:DOKE#27E,15
 14 CLS:HIMEM#9FFF
 15 POKE#BF30,19:POKE#BFE1,3
 16 PAPER3:INK0
 17 POKE#31F,1:POKE#200,3
 18 POKE44900,22:POKE45000,22:POKE4505
0,22
 19 POKE41040,22:POKE41120,22
 20 POKE48450,22:POKE48000,22:FORI=480
48TO48479STEP40:POKEI,145:POKEI+1,0
 21 POKEI+35,160:NEXT
```

see over for details

JOURNAL Nr 2 du C.O.I

```
22 REM ------------------------------
23 REM          EXEMPLE
24 REM ------------------------------
25 REM Il est possible d'ecrire en
27 REM HIRES de l'adresse 0 a 100
28 REM ------------------------------
29 REM ------------------------------
30 REM Il n'est possible d'ecrire en
31 REM TEXT que par PRINT sans @ et
32 REM par des INPUT
33 REM ------------------------------
34 REM ------------------------------
35 FORI=10TO229STEP5:CURSETI,50,1:CIR
CLE10,1:NEXT
 36 FORI=15TO85STEP9:CURSET50,I,1:CIRC
LE5,1:CURSET150,I,1:CIRCLE10,1:NEXT
 37 FORI=25TO65STEP3:CURSET100,I,0:CIR
CLE7,1:CURSET200,I,1:CIRCLE2,1:NEXT
 38 INPUT"Trouves-tu cela beau ??",6▩:
PRINT
 39 IF 6▩="O"THEN PRINT"T'ES UN BRAVE
GARS":END
 40 IF 6▩="N"THEN PRINT"ALORS ESSAIS D
E FAIRE MIEUX "ELSE38
```

>>-->>

The listing on the previous page was for Adventure program writers, who want to split the screen between Hires and Text. The above listing is just an example.

ANOTHER LOTTERY PROGRAM - John Hurley

```
10 REM Lottery Random indicator
20 FOR I=#BB80 TO #BBA7:POKE I,32:NEXT
25 DOKE#FB,DEEK(#276):DOKE#FD,DEEK(#277)
30 CLS:POKE#26A,10
40 FOR N=5 TO 6:PLOT 11,N,CHR$(10)+CHR$(1)+"National Lottery":NEXT N
45 PAPER 0:INK 3
90 FOR N=1 TO 300
100 A%=(RND(1)*49)+1:NEXT N
125 PRINT@6,13;A%
135 REM
147 FOR N=1 TO 300
150 B%=(RND(1)*49)+1:NEXT N
152 IF B%=A%THEN147
155 PRINT@11,13;B%
172 REM
180 FOR N=1 TO 300
200 C%=(RND(1)*49)+1:NEXT N
220 IF C%=A% OR C%=B%THEN180
225 PRINT@17,13;C%
235 REM
247 FOR N=1 TO 300
250 D%=(RND(1)*49)+1:NEXT N
260 IF D%=C% OR D%=A% OR D%=B%THEN247
275 PRINT@23,13;D%
282 REM
290 FOR N=1 TO 300
300 E%=(RND(1)*49)+1:NEXT N
320 IF E%=A% OR E%=B% OR E%=C% OR E%=D%THEN290
325 PRINT@29,13;E%
340 REM
347 FOR N=1 TO 300
350 F%=(RND(1)*49)+1:NEXT N
360 IF F%=A% OR F%=B% OR F%=C% OR F%=D% OR F%=E%THEN347
375 PRINT@35,13;F%
425 PLOT5,24,"Press any key for next sequence"
430 GET A$:PLOT5,24,"                              ":RUN
```

MORE EUPHORIC TIPS

LOADING TAPES FROM DISC

Up to now, if I wanted to load a cassette file on **EUPHORIC**, I have been CLOADing it in from the cassette based version. There is another way. Go into a **SEDORIC** master disk image, and CLOAD it from here. E.g. CLOAD"RATSPLAT" or CLOAD"COBRA". If you are loading the likes of **LOKI**, then don't forget to first do a **QUIT.** Playing **LOKI** for the first time on a PC was a real treat. I really enjoyed the zapping. The game certainly stands the test of time.

It is brilliant to think that you are 'loading' tapes in, without having to keep popping them into a real tape player.

GAMEINIT

Recently I have transferred some games software from 3" Sedoric Gaminit format to 3.5" Sedoric Master format, and then to Euphoric with the READDSK utility. Many games won't run without the QUIT command on a Master disk (and the odd one won't run at all), so I decided to format a Gameinit disc on the PC. With Sedoric3 Master disk in situ in Euphoric, I typed: GAMEINIT:B,17,42 ------ still the maximum tracks/sectors permitted on this format.
I replied 'Y' to Format(Y/N)?, but the counter did not click over.
The problem was that I had been using a method appertaining to an earlier version of Euphoric to the one I'm currently using. You now need to press F1 for the options menu, and insert a disk in drive 'B'. This is also the case for formatting any disk.

SCREEN DUMP/CLIPBOARD

One of the main tasks I am currently embarked on is transferring all my old software from 3" disc to 3.5" disc to the **PC / EUPHORIC**. It is a long winded job, as I tend to delve into the discs that I am transferring. Recently I copied across a disc from **CLUB ORIC INTERNATIONAL** (Predecessors of CLUB EUROPE ORIC). It was disc journal number 2 from September 1987. Those were the days of the electronic magazine. One half of the disk contained the magazine (graphically brilliant), whilst the other contained the software. It's a pity they stopped, even if the text was in French!

Anyway, from the disc I found the listing shown on pages 5/6 of this issue. Not wanting to type it out again, I just pressed the 'PrintScrn' key on my PC, and listened for the whirr, telling me that it had done something. It does in fact put it to your clipboard, where you can Paste it to your wordprocessor or 'PAINT' if you want to invert or change the colours.

THE ULTIMATE LIST

From Jean David Olekhnovitch comes news that he has transferred his 'Ultimate Oric Software List' to the NET!!

With more than 800 references, and 170 software companies involved, it is he hopes - the 'Bible' for every Orician. Unfortunately, no software is available at the moment, but perhaps OUM can help out there.

Jean David is looking for comments/rectifications etc.

If you are not on the NET, and want a copy of the list, then please send an S.A.E to OUM.

If you're on the NET, then check out:

www.geocities.com/SiliconValley/Pines/1073/liste.htm

THE GAMESTER

LAND OF ILLUSION

It is not often that tips turn up for games, but I found the following hints for Land of Illusion from Tansoft in an issue of 'ORIC P.L.U.G'.

GET THROUGH DOOR INTO TOWER - go to the location outside Zed's house, go North twice and you will find the elf. SAY HELLO - you will get a cloak
Go to shrine...
WEAR CLOAK and TOUCH SHRINE
READ INSCRIPTION - note the code, go to the door, SAY code - door will open
Go up the stairs, you will find they come to an end, here you will need the mushrooms, make sure you are wearing the cloak, and EAT MUSHROOMS

To get to well:
TAKE BRANCH (from location 'Overgrown Path'
LIGHT BRANCH (at location 'Shrine')
Go to 'Edge of River'
PUSH LOG and JUMP ONTO LOG and SOUTH
PUSH LOG and JUMP ONTO LOG again DOWN
Then follow the arrows on the *map to get round well. To get through the door you must take the sword, and STRIKE DOOR.

*** N.B. If you want a copy of the map, then please send an S.A.E to O.U.M**

REMEMBER THEN!

What were your favourite games back in the Summer of 1987?
For the French and Club Oric International the charts looked like this:
ARCADE: 1) Damsel in Distress. 2) Manic Miner. 3) Zorgons Revenge
4) The Hellion 5) Xenon III (The Genesis Probe)
Not many surprises there, with IJK having 3 titles featured.

ADVENTURE: 1) Secret De Tombeau. 2) Diamant ile Maudite 3) L'aigle D'or
4) Amnukor 5) Masque D'or
All easily available, with some now in English.

SIMULATIONS: 1) The Boss.(Football Manager type) 2) Objectif Elysee. 3) Mission Delta (Space game). 4) 1815 (Good old battle). 5) Challenge Voile (Sailing).

For those not interested in games, the top **UTILITIES** were:
1) VORTEX - brilliant word processor, with a super sort feature. Did anybody ever crack it so that it would run on Sedoric as well as Oricdos?
2) MCS - the multi cload system that let you take backups of those hard to copy tapes.
3) COPFORM - can't remember what this did. I think it was a SEDORIC utility.
4) NIBBLE - disk doctor available from Jon Haworth. 5) COPITEL

A General Method of Using Dos from Assembler by Stephen Meachen

There are so many versions of DOS available for the Oric that assembler programmers have a daunting task if they aim to achieve compatibility with them all. The obvious solution is to use BASIC but that kinda hurts.

I thought about the problem of saving and loading files when I was writing a text editor about five years ago and came-up with an idea that:

1)is easy to program
2)doesn't bomb-out on errors
3)works with all versions of DOS (that I've used)

The idea is to use an interrupt routine to place the command character by character into #2df so the system responds as if someone were typing the command at the keyboard.

The stages to the process are:

1) build the command from a template
2) divert the interrupts to the command "typer" routine
3) return to BASIC

Here is some code I lifted from my editor to illustrate the idea.

```
.start typer
```
After the command has been built from it's template this routine is called. It saves the interrupt vectors and replaces them with the address of the 'typer' routine.
```
SEI
LDA #229
LDY #22A
STA IRQ VECTORS
STY IRQ VECTORS+1
LDA #245
LDY #246
STA IRQ VECTORS+2
STY IRQ VECTORS+3

LDA IRQ
LDA *-2
LDY *-4
STA #229    \ORIC irq vector
STY #22A
STA #245    \ATMOS irq vector
STY #246
```
Initialise the command pointer then return to BASIC. My editor saves the stack pointer on start-up I just have to restore that value and RTS
```
LDA @0
STA POSITION
LDX stack pointer
TXS
CLI
RTS

.stop typer
```
This routine is executed by 'typer' when it reaches the end of the command. It restores the IRQ vectors saved by 'start typer'.
```
SEI
LDA IRQ VECTORS
LDY IRQ VECTORS+1
STA #229
STY #22A
LDA IRQ VECTORS+2
LDY IRQ VECTORS+3
STA #245
STY #246
cli
rts

.typer
```
This is the interrupt routine
```
STA AR
STX XR
STY YR
```
decrement the BASIC WAIT counter
```
DEC #276
BNE *+5
DEC #277

JSR COM

LDA AR
LDX XR
LDY YR
rti


.COM
```

```
*This is the routine that puts the command
*character by character into #2df
*timer1 interrupt?
LDA =30D
AND @64
BNE *+3
RTS
*yes, clear the flag
LDA =304

*last charcter been processed?
LDA =2DF
BPL *+3
RTS

*yes, get the next one
LDX POSITION
INC POSITION
LDA COMMAND,X

*at end of command, put back original irq
*vectors using 'stop typer'
BEQ stop typer

*put next character in #2df and were all
*finished for this interrupt
ORA @128
STA =2DF
RTS

.TRANS COM
*This routine builds the command from it's
*template. The address of the template is in
*AY.
STA 10
STY 11
LDY @255
.loop
INY
LDA (10),Y
*Lower case letters are either control codes
*or parameters

*cls code?
cmp @"l"
bne *+4
lda @12

*screen off-on code?
cmp @"o"
bne *+4
lda @19
*the assembler cannot handle double quotes
*in a string so they are represented by a
*single quote in the template and swapped
*for double quote here.
CMP @"'"
BNE *+4
LDA @#22
*c = carriage return
CMP @"c"
BNE *+4
LDA @13
*z=end of command
cmp @"z"
bne *+4
lda @0

STA COMMAND,Y
*If we are at the end of the command then
*execute 'start typer'
bne *+5
jmp start typer
*Is the character is still lower case?
cmp @96
bcc loop
*Yes, it must be a parameter
jsr parameter
jmp loop

.PARAMETER
CMP @"s"
BEQ START OF FILE
CMP @"e"
BEQ END OF FILE
rts
*Only 2 parameter routines are listed for
*brevity.
.START OF FILE
lda 2
ldx 3
jmp ax to hex

.END OF FILE
lda 4
ldx 5
jmp ax to hex
.AX TO HEX \a=low byte x=high byte
```

A General Method of Using Dos from Assembler by Stephen Meachen

This routine converts AX to HEX and puts it in the command buffer

```
pha
txa
jsr A to hex
pla
iny

.A to hex
PHA
LSR A
LSR A
LSR A
LSR A
jsr nibble
sta command,y
iny
pla
jsr nibble
sta command,y
rts

.NIBBLE
AND @#F
CMP @#A
BCC *+4
ADC @6
ADC @"0"
RTS
```

Okay here are examples of the command templates that you've heard so much about.

Embedded in the templates are codes: c=carriage return, o=screen off-on, l=cls, z=end of line, s=start address of file, e=end address of file, r=start address of editor and n=file name.

There are two versions of the DIR template listed. DIR2 returns to the editor automatically, DIR1 prompts the user to press 'X'

```
.DIR2
DEFS " lo!DIR:WAIT 500:CALL#r...oc z"
.DIR1
DEFS " loREMoPRESS X TO RESUMEoc
!DIR:REPEAT:UNTILKEY$='X':CALL#r...oc
z"
```

The routines that fill the 'n' and 'r' parameter fields aren't listed.

```
.SAVEFILE
DEFS " loREMo SAVING      n.W'c o!REN
n.W'TO                    n.v.'c   !SAVE
n.W',A#s...,E#e...oc oCALL#a...ocz"
.SAVE
```

This is the file saving routine entry point. Put the start address of the template in AY then execute transcom.

```
LDA SAVEFILE
LDA *-2
LDY *-4
jmp trans com
.command
res 200
.irq vectors
res 4
.position
res 1
```

Disk Errors

Dos should return error codes in #4ff but I don't know if they all do so for completeness I'll describe a trick I use in my editor to dodge loading errors. The system messages are all I need for save errors but loading is a different matter because the editor uses data contained in the file (the file header) to setup it's variables. If they are setup wrongly the editor can crash so here's how I avoid this. Before attempting to load a file, I build a header from the current file and put it in the location where the header from the file about to be loaded will go. If the file loads then it will over-write this header with it's own. If it fails then the header for the current file is still in place. I don't have to know if the file has loaded, I just use the header in the location where the new file header should be.

This method can be adapted to trap errors. Instead of putting the file header where the new file is to be loaded as above, put a randomly chosen number in that location (from #304 perhaps) then attempt to load the file. If the random number changes then the file has loaded. If not then either the file has not loaded or it happens to start with that value. To check this, increment the random number and try again. If this one doesn't change then there are problems with the file, if it does change then the file has loaded.

FEEDBACK

REPLIES FOR TREVOR

Comment on some points made by Trevor Shaw in issue 112 has been received from Robert Crisp, and is as follows: " I totally agree when you say that the **PC** is not a nice computer. Perhaps it is a vicious circle. People buy PCS because there is a lot of software for it, this in turn due to a lot of PCS being sold. The hardware and operating system of the PC is well past its sell by date. The hardware isn't really to blame as it is now being asked to support devices, such as sound cards, CD-ROM drives and Motion picture players, which were probably not considered when the hardware was designed. Sadly, PCS are now consumer items, akin to TVS and VCRs, and many new users aren't capable of using their PCS properly, or doing any programming on them.

The idea of an **Oric technical guide** seems a good one. A few years back I produced one for my own use. It was mainly Basic & DOS (but not Sedoric) commands, and showed details of memory usage and screen modes (Note from the editor: - I have still got the copy you sent me Robert). I have still got a copy of the files on floppy disk, and if anyone is volunteering to get started on a technical manual, then I'd be happy to send them a copy.

It would be nice to have a **mouse driver** for the Oric, but I'm not sure if a graphical user interface is going to be useful on an Oric. The lack of spare memory i.e. 48K less variables/display etc, wouldn't leave a lot of space for any programs to run. The November '86 issue of 'Acorn User' has a program for a graphical interface and on-screen calculator and makes reference to the AMX mouse and software (which is in a ROM). Maybe the AMX software could be adapted to run on the ORIC?"

REPLIES FOR PETER

From Laurent Chiacchierini: " I read Peter Bragg's letter about this Zip Iomega issue. This has nothing to do with 'pkzip' compression (a mere coincidence). Zip cartridges are 100MB removable hard disks which use the SCSI interface. (Iomega also markets the Jaz model, which holds 1 Gigabyte and is far more cost-effective). Unless the 'teccies' tell the contrary, I doubt the SCSI interface could ever be adapted to the Oric. It's not even standard on the PCS (you need to install a special adaptor to get it on your PC, whilst it's been standard on Apple Macs - and possibly Acorn Archimedes?- right from the beginning).

The reason why SCSI does not make sense on the Oric is that this interface allows transfer rates from 4MB to 10MB per second. I'll leave you to calculate how fast a 48K or less Oric program could be loaded! The only thing being that the 1MHz CPU makes this definitely impossible."

From Brian Kidd is the following info,: " Regarding the Acorn 'Zip' drive ---- Once upon a time, when computing was in its infancy, punched tape was the only media. Following this we obtained cassettes and Winchester Hard Drives; then floppy drives (8",5.25",3",3.5").

A company called SYQUEST, amongst others, produced various models on the Winchester technology., e.g. their EZ135. Of course, the type of hard drive has changed from MFM, through to todays E-IDI and SCSI types. However, another company, IOMEGA, decided to discard this technology and create a drive or two based on the now established floppy technology, and one such item is the 'ZIP' drive, which uses a non-standard 3.5" floppy, which has 100MEG uncompressed/non formatted capacity. When formatted, the available capacity is approx. 95.6 MEG.

The ZIP can either be bought as a SCSI or parallel interface connecting drive.

Now providing someone could write a driver to format/read these disks, then there should be no reason why one could not be used on the Oric.

Discs cost about £15, while ZIP drives cost about £130 - the drives are fairly fast, though not as fast as conventional hard disc. I actually use one on my MACINTOSH, and have found it very reliable in use and durability. They are still produced, along with their 'big brother', the 'JAZ', which holds 1 Gig of data.

Of course, we are still using 3.5" double density drives; so surely the first step is to be able to access/use 1.44 meg discs, then the newer 2.8 meg floppies that are appearing - this would provide huge capacity increases, without such a huge output of cash (new 1.44 meg drives are about £15, and the discs now standard). After this, we can go onto OPTICAL DRIVES, Writeable CD-ROM, and the latest offering - Digital Video Disk (read only at present, but due to be writeable very soon, and offering well over 1.4 GIG of disc space!!)

This is what dreams are made of."

MORE FEEDBACK ON PAGE 17

LETTERS TO THE EDITOR

DEAR DAVE,

It is the time of the year to make wishes for the New Year, and for our little Oric world, I wish for a lot of new software/hardware development; but most of all I wish that Oric users will have fun with their little Orics.

I am enjoying designing & building hardware add-ons or extensions for the Oric. As I am not an electronics specialist, it is very pleasing to succeed in one's own builds - a sort of life creation.

I have upgraded an Atmos + Microdisc into a near Stratos system, putting a modified version of the Telemon firmware in the Microdisc eprom (with a very light hardware mod. Of the Microdisc to allow for a 16KB eprom) and Hyperbasic in place of the Oric's Rom allows me to run the Telestrat software. Similarly, with modified versions of the Teleass and Telematic firmware in place of the Oric ROM, I can use them on my Atmos (the latter with a serial add-on). Maybe more English could discover the latest evolution of Oric firmware with this trick? Do you think the fact that Hyperbasic's messages are in French cause a problem?

I promise you big Oric news at Ensica very soon for every Net user.

Happy New Year to all Oricians.

- FABRICE FRANCES (Tournefeuille, France)

DEAR FABRICE,

It is always nice to hear from you (either by letter or e-mail).

I don't think the French messages of Hyperbasic are the problem. After all, many had to endure Sedoric in French before a translation came along. I think it is more the fact that Hyperbasic and the Telestrat in general are subjects that have only been touched on in OUM, whereas the CEO published many articles.

I assume the big news you spoke about was regarding using Telnet for ' magic.ensica.fr' on port 1983, and 'cesame.ensica.fr'. I got Jon Haworth to log on to these 'real on-line ORICS!'. 'AWARI' and 'ZODIAC' are there. You CLOAD them in and they run as normal - over the NET! Black and white text only, of course, with Telnet.

- DAVE

DEAR DAVE,

Haven't written for a few months, so I thought it was time I wrote a few lines (Note from the Editor: surely you mean a few pages, Robert! You'll find mentions on other pages as well as here).

At the 1995 Aylesbury Oric Meet, I bought a disk interface. When I upgraded my PC from 286 to 386, I decided to use the old 286 case for installing an Oric circuit board, the disk interface and a couple of drives - bought at a car boot sale for £1 each. In September 1996, after buying the mounting kits, I was ready. I tried it out prior to installation in the case, and found I couldn't use 2 disk drives. It would work OK with either disk drive as the master, but neither would work as the slave drive regardless of how I set the jumpers on the drives. Whenever I tried to access the second drive, I got the Track 14 Sector 01 error. I read some back issues of OUM (issues 68 & 70), which dealt with this problem, but without success. I lost interest and shelved the idea of putting an Oric in a desktop case for the time being.

Regarding cassette tape loading - Peter Bragg said in issue 108/9 that tapes could be difficult to load if the hadn't been used for some time. Just bought a BBC and loaded first time the first piece of software that I had saved , and not touched for 14 years. No problems in loading it!

I must agree with Jim Groom's letter in issue 112 that you shouldn't throw away your cassette software. There is still lots of interest in older computers and also support for them e.g: software, books, mags., printer & cassette leads, which make the older computer systems useable at the moment.

I have three systems (Macintosh 512k, Apple IIc, and BBC Master) which are working, but I can't make full use of them because of lack of information and operating systems etc. Even some of the older PC items , such as CMOS back-up batteries, are becoming hard to find and expensive.

- Robert Crisp (Meanwood)

LETTERS (Contd.)

Dear Robert,

I think you would be better off with just the one drive in the case. I can see the sense in having two drives if say one is 3" and the other 3.5", but two of the 3.5" drives is not going to do much for you.

Many people have written in for my spare cassette software, and it looks as though the majority of it will find a good home. I do intend to keep a copy of manuals relating to the Oric. I will now keep the remainder of the software until the next Oric Meet - after that it will go!

- DAVE

Dear Dave,

I'm trying to get the Hi-score chart on to the ST to try to tidy it up a bit more. Please would readers of OUM notify me when new hi-scores are achieved using the Emulator. It's great to hear that some of the old members are coming back, and to see some news of programming - how about some tips from Robert Cook???

It would be nice if there was an Oric Emulator for the Atari. The ST can use double density disks, and has an 'un-zip' utility.

- Steve Marshall (Crosby)

I asked Robert for some tips: - " After the tenth pint of lager have a sandwich before supping the eleventh pint" was his reply.

- Dave

E-mail to: dave@oum.softnet.co.uk
From: Robin Kimberley <robk@oldtimer.win-uk.net>
Subject: The Power of the Internet.

Dave,

Just saw my name mentioned in OUM - about time I contributed albeit via the "backdoor"!! This prompted me to write to you about how powerful the Internet is when searching for obscure information. I use Netscape as my resident Web browser, and one of my favourite search engines is Alta Vista. I happened to be on one night digging around for some information for a project I am working on at work, and decided to search for "Rob Kimberley"; just really to see if there was another one like me out there (heaven forbid I hear my wife say!). Anyway, using the "Advanced Search" facility On Alta Vista, it came back with two entries, and guess what, they were chapters in the Oric book of Big Jon's now on the 'net', and there lo and behold were two entries of my name in chapters relating to articles I wrote for Oric Computing ten years ago.

Impressive or what?

Keep up the good work - and hopefully I should make the Meet this year.

Cheers and Beers - Rob Kimberley.

Well Rob,

That is certainly an impressive search. How long did it take for retrieval of the info? As we are holidaying in Turkey this year, I decided to do a search on Kusadasi (where we will be staying). All manner of items retrieved - hotels, restaurants, trips etc.

I read recently that even British Rail has gone 'net'. You can input the time you want to arrive at a place, and you will be told what time train to catch. It sure beats waiting on the telephone for an age, only to be told that the number has changed yet again!

- Dave

The 8-bit A to Z — part 18

Once more we venture back to the eighties and have a look at those old machines we either couldn't afford, or didn't want to. Recently a 'museum' opened down south by a group connected with the movie industry. (Sorry can't remember the proper name.) A brief visit on one of the kids saturday morning programmes saw the old machines still have merit. Of the old coin op's 'Space Invaders' and 'Pong' (!) are still voted favourites. I don't know if they have an Oric on display but perhaps one of our members could pop in for a look and do a report for us.

Continuing with the Sinclair saga I thought we should have a quick look at the QL and Z88 machines. Strictly speaking, the QL is a 16-bit machine but many people have shoved it into the 8-bit category because it has some 8-bit architecture and ports so isn't fully 16-bit.

* **Sinclair QL** Sir Clive had never intended the Speccie to be mainly a games machine. He Knew that would be part of the interest but never imagined it to develop into the huge industry it did, taking the Spectrum along with it. Once the Spectrum had become established he set about designing a machine for the 'more serious user'. Using newer 16-bit technology Sir Clive thought this was such an incredible step-up from the Speccie that he called it the 'Quantum Leap'.

Insisting on using that familiar black plastic, the QL resembled a somewhat stretched Specrtrum +, having the same dodgy keyboard. The extra length was due to a couple of Sinclairs microdrives in-built. The machine has only eight colours. Sinclair really should have gone on to proper disk drives and proper keyboards for this model. Using his naff old toy technology really wasn't going to impress the serious users he was trying to attract.

In his favour, Sinclair opted for a chip from the 68000 family - at the time the most sophisticated microprocessor. (Used in the innovative Apple Lisa and later the Atari ST and Commodore Amiga.) Unfortunately Sinclair again opted for a cut down version and used the 68008 which has 16-bit registers but the external BUS is only eight bits wide. Most saw the machine as being somewhat lacking in identity - a lot of the design resemble the Spectrum range but it was trying to be a business (type) computer. It Just wasn't serious enough.

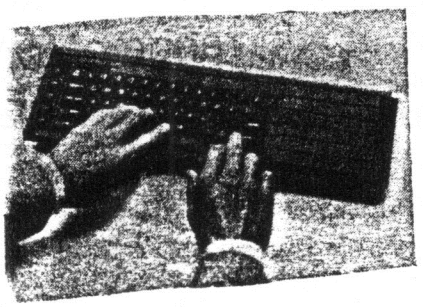
SPEC: 68008 CPU. 128K RAM (expandable to 512K) 32K ROM (expandable to 64K). SCREENS: 25 x 85 text (with a monitor) 256 x 256 graphics with 8 colours - 256 x 512 'high resolution' graphics with 4 colours. PORTS: 2 x RS232, 2 x joysticks, LAN (=Local Area Network, upto 64 QLs and Spectrums can be linked together - God knows why anyone would want to !!!), TV & RGB monitor. BASIC included.

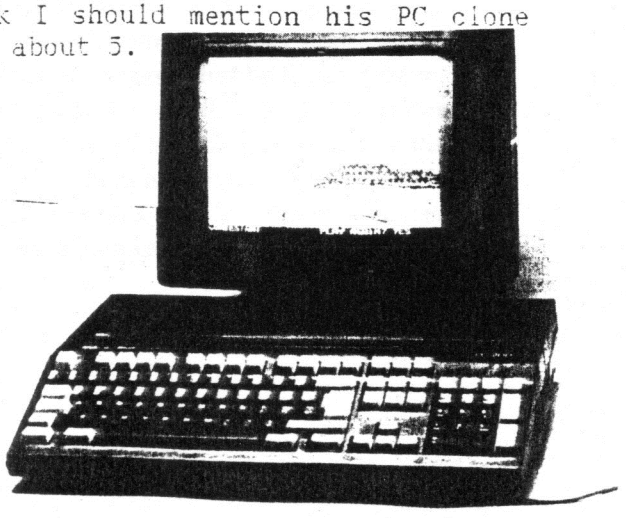
Like many other computers, Oric included, QL suffered all sorts of problems with there early models. This and the QLs lack of image saw the end of the machine.

* **Cambridge Computers Z88.** After selling Sinclair Research to Amstrad Sir Clive thought he would get back into the computer business and bought out a portable laptop that was actually not a bad machine. It had a proper keyboard and came with a built-in word processor. I believe the on-board BASIC was BBC BASIC. In fact the machine *seems* to be identical to the later Amstrad NC 100. Dave and those who bought this model may tell us more about it and its failings.

Before saying fairwell to Sinclair I think I should mention his PC clone the PC 200. It looked like a dark Amiga and they sold about 5.

MUSO





MORE BITS'n'BOBS

ON THE MOVE

David Clifford has moved recently, and is now to be found at:

Flaxfort Cottage, Harbour View, Kilbrittain, Bandon, Co.Cork, Eire

Now doesn't that sound idyllic?

WERE THEY RELEASED?

Some while back Jim Groom sent me a list of Oric software. He had 485 titles shown, and hadn't even started on the French goodies. There were queries on some titles, and therefore we seek your help on whether some were released etc.

TITLE	SOFTWARE HOUSE	JIM's NOTES	EDITOR's NOTES
10K Othello	Epsilon	Released ??	Yes?
10K Startrek	"	"	"
12K Backgammon	"	"	"
50 Games	UTS	Released?/Sane as Cassette 50	?
Ace in the Hole	Kayde	Released??	?
Alien Fallout	Eltronics	"	?
Amazea	Quark Data	"	?
Arcane Quest	Add On	"	
Asteroids	Arctic Computing	This must refer to Cosmic Debris?	I think I have Inlay for Asteroids.
B7	Polar Software	Released	?
Battleship Patrol	Epsilon	"	?
Beseiged	Sulis	"	?
Blockbuster	Dream Software	"	?
Character Design	Tomorrows World	"	I think so.
Character/Graphic Generator	Headfield	"	"
Character /Sound Package	Nebulae	"	"
Chicken	Durell	"	Never released.

Well, I think that will do for this time. If you know of the above, please write to OUM. We will publish another list of queries next month. Meanwhile, I will send Jim's list to Jean David Olek.....

Quickly glancing through the remainder of Jim's list, I can confirm the following: DIGGER by Mercury and Lothlorien are the same (I think Merc.. Leased to Loth..). GAUNTLET by PSS not released. JUNGLE TROUBLE by Durell not released. The PSYCHO series I have. RESCUE by CRL was definitely released as I have the original tape. RIGRUNNER from Tansoft - I believe this may be the game written by a guy now in Australia that Jon Haworth tracked on the NET - check back issues of OUM, about 9-12 issues ago! SPACE MISSION by CRL was definitely released - I think I've got it.

A PLEA FROM JIM

As well as compiling lists of Oric software and books, Jim is also compiling lists of software/books for other machines. He has so far listed 1893 Speccie games, 919 for the CBM64, and 959 for the Beeb. In books he has found 98 for the Speccy and 109 for the BBC. He uses his old computer mags. From which to glean this info., but of course there are many issues of the old mags. That he doesn't have.

If anyone wants to 'dispose' of old magazines, then please telephone Jim on: 01386 561518 (after 6.p.m) or write to him at: 106 High St, Pershore, Worcs. WR10 1EA. Jim is prepared to buy the mags. Main area is pre- 1986, especially PCN, HCW, and C&VG (others also considered).

Jim would also like to hear from others interested in digging up these relics, and from users of rarer machines such as: Aces, Lynx's, Sords, Genies & Dragons - perhaps you can help with compilation of a software list for these machines!

We wish Jim luck with his 'Project', as he calls it!

MORE FEEDBACK

From: "Paul Baker" <paulbaker@ms.webfactory.co.uk>
Date: 28/01/97 15:38
Subject: hidave!
Address: To: dave@oum.softnet.co.uk

My E-mail address is paulbaker@webfactory.co.uk, I have a letter for your page to Peter Bragg (of the planet Sutton) regarding the ZIP drive;

Dear Pete and O.U.M readers,

A zip drive uses a floppy disk with a higher density than normal disks and I think a laser is used to format and read/write data to the surface more accurately, hence, you get a greater amount of data on a £12 floppy disk. I think they call this floptical technology. The data is compressed by the software in run-time using PKZIP or LHA technology.

Anyway It would be possible to plug the drive into the oric with a bit of jiggery pokery on the cables. The tricky part would be to actually control the thing from the Oric. I would imagine you would need some pretty nifty software to control the drive, compress the data and retrieve etc., almost certainly in machine code. Perhaps someone could convert the software from the Acorn or PC version?

I hope this helps a bit.

THERE WAS MORE!

Also for inclusion on this page was some feedback from David Clifford. Unfortunately I seem to have mislaid his letter. We will include his comments next month. Meanwhile a plea and some more on Euphoric.

DOPPEL who!

Steve Marshall asks if anyone knows who the DOPPELGANGER of 'ORIC COMPUTING' magazine was? This I think is Rob Kimberley territory. Any ideas Rob or anyone else?

EUPHORIC V0.99h

I recently updated the version of Euphoric I am running, from 0.97c to 0.99h.
There are a whole host of additions and amendments. Here is a brief resume of them.

Pressing **F1** takes you to the new **ENVIRONMENT SCREEN**, where you can toggle between printer on/off, use the **Hardware Tape** facility, eject a disk with the **DEL** command etc. You know return to where you were with **F1** and not **ESC.**

A **SoundBlaster** driver is added - 31250 Hz digital sound. A **Wav-player** with real Oric tape.
You can create 10 blank discs per directory. You can disable the 'record' button of your tape recorder by way of a write-protect feature.

There are 'key' changes so that your **PC** is more **ORIC** friendly:

The **TAB** on your PC is the **ESC** on your Oric.
The **CAPS** on the PC is **CTRL** on the Oric.
The **CTRL** on PC is also **CTRL** on Oric.
The **ALT** on the PC is **FUNCT** on Oric.

There is now direct printing (see note elsewhere).
The **TELESTRAT** has had an update.
International **Basic ROMs** and National **ASCII** sets are provided as files to CLOAD.
IJK Joystick emulation has been added.

BRIAN'S PAGES

EXERCISE FOR THE BRAIN

32
KIER HARDIE CRES.
NEWPORT
S. WALES
NP9 9DQ

Oric User Monthly
February 1997
Issue No. 114

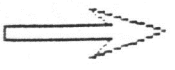
1997 is well underway , and as usual , people can't be bothered to reply to my pages , on a regular basis that is .

There are the odd few , but what about the rest of you ? I know times are difficult , but surely a second class stamp , some paper an envelope and a little time are not above even the poorest of us .

Gripes aside , I've a new computer , this time a Power Mac Performa 5300 (for those inclined ... 16 / 1.2 / 100mhz / 4 * cd / 14.4 fax - modem / Mpeg / TV) , which these pages are produced on - gone are the days of Easytext or Wordspeed , which have served well in the past , but just can't offer the flexibility of Claris Works etc .

The Oric is not forsaken though , else these pages would not be written . I would however like to see an Oric emulator on the Mac , and that is why I have sent details of two people , to Dave , who wrote an Apple 11e emulator for the Mac . As with Euphoric , the emulator supports various drives , add on cards and full 6502 emulation , and I can't see why , with a little work , an Oric version could not be produced . Dave is to enquire with an E mail , so lets hope , after all , the more the Oric is spread , the better for it's survival .

Turn the page for answers and some new posers to do .



LAST MONTHS ANSWERS

1) To Yenn Or Not To Yenn

14 liked both sports

2) If It's Not The Wife It's .....

Easy really - pocket money amounts are doubled for each child , but realistically speaking , pocket money is as follows :

Malcolm	& Kevin	receive	£1.00
Maria	& Karen	receive	£2.00
Mark		receives	£0.50
Kent		receives	£4.00

4) Anagrams Abound

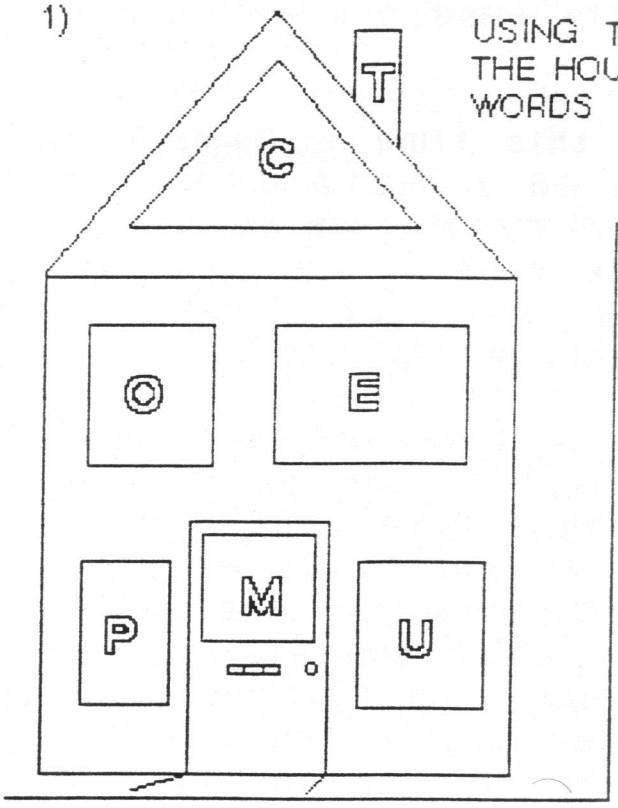
Monthly , Month , Hymn , Moth , Myth
Hot , Lot , Not , Thy , Ton , toy , Yon

3)

4	6	1	9	5	3	7	2	8
8	7	5	2	4	1	9	6	3
3	9	2	7	8	6	5	4	1
9	8	4	3	1	7	2	5	6
5	3	7	6	9	2	8	1	4
2	1	6	4	8	5	3	7	9
1	2	3	5	6	9	4	8	7
6	5	8	7	3	4	1	9	2
7	4	9	1	2	8	6	3	5

NOW FOR THIS MONTH'S POSER SELECTION

1)



USING THE CONTENTS OF THE HOUSE MAKE AS MANY WORDS OF 3+ LENGTH AS YOU CAN .

2) NAME GAME :

Solve the clues and to reveal an Oric related word (also related to one clue !)
Use initials only .

1	2	3	4	5	6	7	8	9	10

Our Editor (Surname) - 8
Big Blue Itself (last word) - 6
Jon the Rambler (Surname) - 4
Not the hedgehog ? - 10
A popular Oric wordprocessor - 7
.... Rage (Softek title) - 1
The predecessor to the first clue - 2 , 3
Does Fabrice feel this way ? - 9

3) All change ... Changing one letter at a time , get from the 1st to last words .....

STEWS					THORN
SPARK					QUITE

Machine Code for the Oric Atmos (Part 61)

Peter N. Bragg

The Story so far

We have been looking at the subject of Interrupts in recent articles and have seen that the Interrupt operation is triggered by an electrical signal from the computer hardware, which activates a brief, but essential set of service routines.

We have also been looking at possible ways to gain access to the Interrupt system, in order to allow us to make use of it, for our own purposes. There is a vector location in Page 02 of the Oric's RAM at #024A-4C, which we could use to extend the Operating System Interrupt routines, to include a routine of our own. At this point, we could use a small demonstration.

Before we start to mess about with the Interrupt system, we need a simple test routine to show what is happening, when it happens. The routine shown below, is not very dramatic, but it will help to give a fair idea of how interrupts can work quickly and continously in the background. It is short and simple, as it is only used to indicate what is happenning and is not required for the actual access to the Interrupt system itself.

Interrupt Test routine

The test routine shown below, simply adds 01 to the contents of a location (#BBA5) on the screen display. The location is easy to find on the screen. Set the Oric for capital letters and the word "CAPS" appears in the top right hand corner of the screen. The "A" of the word "CAPS" is location #BBA5 and it will contain code 41h, the ASCII code for that letter. The routine can be used as an indicator to show that things are working correctly. Each call to it, will change the character displayed in location #BBA8, to the next one up, in the ASCII code range 20h to 80h.

```
Oric                          Demo Routines                          26 Dec 96
----                          -------------                          --------
[ CALL#8070 ]-------------[ Test Indicator ]----------------------[ / ]

         ---start---        ---Add 01 to Display Location contents---
8070:EE A5 BB : INC BBA5    : Increment location #BBA5 contents.

                           ---Test Progress so far---
8073:AD A5 BB : LDA BBA5    : Fetch copy of #BBA5 contents for test.
8076:C9 80    : CMP #80     : Test - have contents reached 80h yet ?
8078:D0 05    : BNE"807F"   :   No - so skip to finish now.
                              Yes - so........

                           ---Reset to Code 20h---
807A:A9 20    : LDA #20     : Load Accu with code 20h for "Space"
807C:8D A5 BB : STA BBA5    :  and copy it into location #BBA5.

                           ---Finish---
807F:60       : RTS         : Exit
          ---end---
[-------------------------------------------------------------------------]
```

Enter the routine as listed above and then use CALL #8070 to run it. You will find that it will do just one thing. It will change the second letter of the word "CAPS" to "B". This is because the code for "B" is 42h, the result of the routine adding 01 to 41.

Call the routine again, to add another 01 and you get "C" and so on. Each time you call it, if you have that much patience (which I haven't !), you will get the next character until you reach code 80h. At that point, the branch instruction ("BNE") at #8078 is disabled and the code in location #BBA5, is reset back to 20h (character SPACE). The count will start up again from there, on the next call. Needless to say, it doesn't matter if the word "CAPS" is on display or not, the routine will still work with code 20h, for "Space" in that #BBA5 location.

Check that the routine works correctly. I cheated. After a couple of calls to the routine, I poked code 7Eh into location #BBA5 and made a few more calls to check that the BNE branch reset location #BBA5 contents back to 20h.

The routine can now be used as an indicator to show that things are working correctly. The idea in this example, is to tack it onto the Operating System Interrupt routines. It will then indicate each and every Interrupt, by changing the character displayed in location #BBA8.

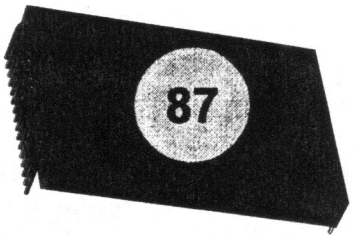
That covers the test routine. Feel free to substitute one of your own, if you wish, but do check that it works first and remember, keep it simple.

Interrupt Extension Routine

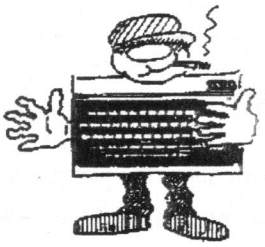
Having got our test routine, we now need to make it "transparent". The reason is simple. Any routine we use is bound to corrupt one or more Registers. Our simple "test indicator" routine above, will corrupt the Accumulator. So we need to add something like the routine below, to ensure a safe return from the Interrupt system, for any operation.

```
Oric                          Demo Routines                      26 Dec 96
----                          -------------                       --------
[ CALL#8060 ]--------------[ Interrupt Extension ]-------------------[ / ]
          ---start---       ---Preserve Registers---
8060:48       : PHA         : Preserve Accumulator on the Stack.

8061:8A       : TXA         : Copy Register X to Accumulator and
8062:48       : PHA         :  then preserve it on the Stack.

8063:98       : TYA         : Copy Register Y to Accumulator and
8064:48       : PHA         :  then preserve it on the Stack.

8065:20 70 80 : JSR 8070    : Call "Test Indicator" routine.

                            ---Retrieve Registers---
8068:68       : PLA         : Retrieve Register Y item from the Stack and
8069:A8       : TAY         :  then copy it back into Register Y.

806A:68       : PLA         : Retrieve Register X item from the Stack and
806B:AA       : TAX         :  then copy it back into Register X.

806C:68       : PLA         : Retrieve Accumulator item from the Stack.

                            ---Finish---
807D:40       : RTI         : Exit (& retrieve Status & Prog Counter).
          ---end---
[-------------------------------------------------------------------------]
```

Now we have a simple test routine. The next question is, how to link it up with the Interrupt system. We will look at that next time.....



RAMBLING IN THE ROM



Club Europe Oric

I was not entirely accurate last month when I said OUM was now the only English Oric magazine. In fact it is the only wholly English Oric magazine. The January issue of CEOmag has arrived, complete with at least two articles in English! Thanks to an excellent response by those re-subscribing, we are also continuing the quarterly CEO disks. So if you were waiting to see what happened, now is the time to re-subscribe if you are interested, either to the monthly magazine, or to the 4 disks, available in Sedoric 3" and 3½" and Euphoric formats. Cost is £11 for the magazine, £12 for 3" discs, £8 for 3½" disks.

Rambling on....

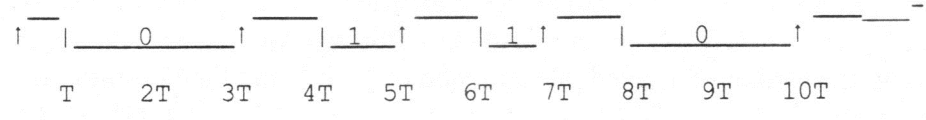
Onward with the introduction to the cassette routines...

2 - Format of a byte

Format of a bit, Fast mode

It is here that the format used falls down due to its lack of optimisation. You record at 2400 baud, but with a reliability that is equivalent to recording at 4800 baud. The writing of data to the tape is done by successive impulses, the interval between which enables the nature of the bit received to be determined.

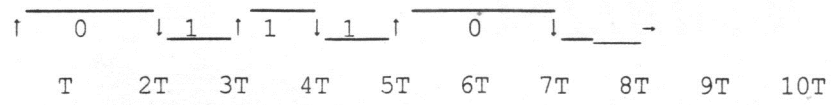
Let's call an interval of 208 microseconds T. Before each bit of data, a pulse of length T is sent, followed by the bit, which is characterised by a pulse of T for a 1 or 2T for a 0 (each pulse inverts the level on pin PB7 (tape out) on the 6522 VIA). So, the following diagram shows the sending of 011, for example:



The arrows show the rising fronts detected by pin CB1 (tape in) on the 6522 VIA.

So, 2T is required to write a 1, and 3T to write a 0. The frequency therefore oscillates between real baud rates of 1600 and 2400 Hz. You can calculate the actual speed in Fast mode if you consider an 'average' byte composed of 4 x 0 and 4 x 1, which gives, with stop, start and parity bits, approximately 2000 baud. That is 154 bytes per second, or 1k approximately every 6½ seconds.

T is lost on each bit to adjust the fronts (CB1 is configured to detect rising fronts). The following diagram almost doubles the speed of transfer without affecting reliability, although it involves a complication because CB1 would have to detect both positive and negative variations (again the arrows show CB1 detection):



The arrows show the rising and falling fronts detected by pin CB1

Format of a bit in Slow mode

This time a 1 and a 0 are of the same length - 16 blocks of length T for a 1, or 8 blocks of length 2T for a 0. A bit therefore always takes 16T, 3328 microseconds, which gives us 300 baud. The actual speed of transfer is 23 characters a second, or 1K each 45 seconds.

The increase in reliability arises from the load routines (see later).

Format of a byte

The format of a byte (8 bits) is a classic one, and resembles that used in all serial data transmission. It is composed of a START bit, followed by the 8 bits of the byte, an odd parity bit, and 3 STOP bits, which gives:

ST b0 b1 b2 b3 b4 b5 b6 b7 P SP SP SP

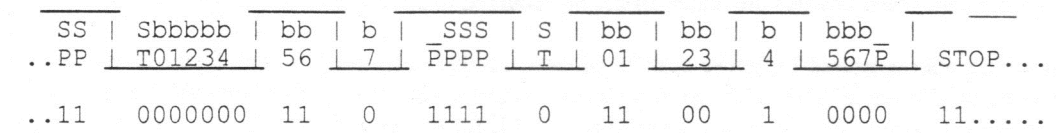
Or, for byte #AA for example:

0 0 1 0 1 0 1 0 1 1 1 1 1

so that, in all, it takes 13 bits for one byte. The byte is in reality 9 bits, the ninth (the odd parity bit) is a control bit, configured so that the nine bits always contain an odd number of ones. If an even parity bit had been chosen, the 9 bits would have contained an even number of ones. The parity bit is used in loading to detect errors.

The STOP bits, here three, allow the CPU to process the byte received or sent. The START bit, which is necessarily the inverse of the STOP bit, is used to detect the start of a new byte of data.

Below is the theoretical diagram for the sending of 2 bytes, #60 and #13 for example. Note that the bits are represented by logical levels, although for the Oric they are represented by different frequencies - see the description of the format of a bit.



Next month we'll move onto the format of a saved program and of arrays, and then on into the code itself.

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THE BACK PAGE

Well, this has certainly been an interesting issue to put together - 24 pages and I could of kept going!

We already have plenty of little items for the March issue, such as GOLDMINE tips and SOKOBAC info. from Henry Marke for Fabrice and all the other Gamesters. From Fabrice himself comes his thoughts on why we shouldn't let cassette loading screens die, and more on Euphoric.

It is all in your March issue. Your articles etc. for inclusion should reach me by post or e-mail - dave@oum.softnet.co.uk By February 23rd at latest please.

CYBOJUDGE

Over a long period of time, the 'MUSO' (Steve Marshall) has been writing a game for our beloved Oric. The title is CYBOJUDGE. I have been in a position to see it's growth over this period. Also witness to this game has been Laurent, our friend from Club Europe Oric. The game was to appear on an OUM DISK in an unfinished format, so that you could add to it. Meanwhile Laurent came up with a Telestrat version of it, and has released a Sedoric version on the Winter CEO DISK. There has been some confusion on whether this should of happened, and I will not get drawn into an argument over it. Those subscribing to the CEO will have seen it, whilst those taking the OUMDISKS will see another version on an OUMDISK.

PRESTEL

Coming next month are The views on Prestel from David Harrison, plus his ideas on e-mail with an 8-bit micro.

METEORIC

I recently sent the correction sheet to Paul Hill for the games in the Melbourne House publication titled 'Meteoric Programming'. Apparently all the errors are not corrected. On the Machine Code monitor program it uses RIGHT$, but has 3 parameters, which is incorrect. If you know this one, then please write to OUM.

CHERUB IS IN THE POST!

One thing wrong with using an American spell checker on my e-mail composition program is it's failure to recognise some words. When I type the word 'CHEQUE', it asks me if I want to replace it with 'CHERUB'!

NEW HI-SCORE

Robert Cook has been busy tackling those old zap 'ems, and has come up with a new hi-score for LOKI. It is 68,050 (Steve Marshall - please take note). Robert is currently working on a couple of new software projects for the Oric.

ON THE MOVE

John Hughes is now to be found at: 46 BROMYARD ROAD, WORCESTER. WR2 5BT. Telephone number is unchanged. E-mail to: John.Hughes.LSL@compuserve.com

AYLESBURY MEET

Saturday May 24th (Bank Holiday weekend) may well be the date of the next ORIC meet. Unfortunately Jon Haworth and David Wilkin can't make it. Can you? What are your views on this date. Reply ASAP.