⊘RIC
USER
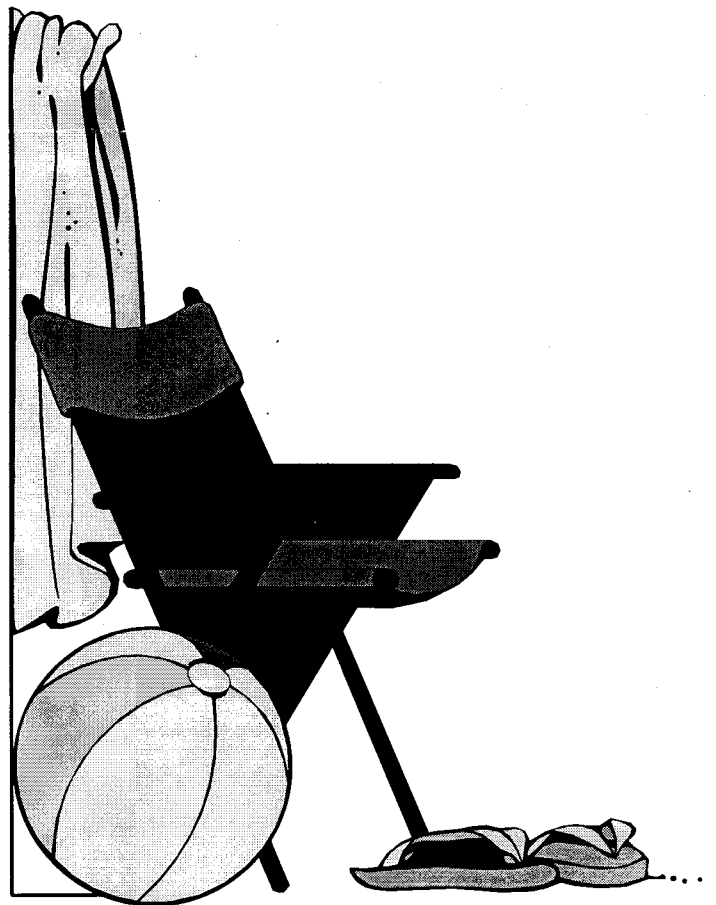## MONTHLY
with Alternative Micros

Keeping the

Oric alive

HI EVERYONE!

if August turns out to be as Hot as June and July, then this will really have been a Summer! Computing has had do be done when the sun is not in the back bedroom, but I have still managed to get through a great deal. I think I've finally broken the back of the backlog; OUMDISC #5 goes out with this issue, and I have managed to put together a few articles. Work on the PC has progressed, as that is in a front bedroom, and I can split the day.

This issue is not as big as I would have wished, due in part to no "Rambling in the ROM".

Poor old Jon Haworth has been in the wars ago. All seemed to be going well with his ankle injury and then he slipped a disc. This caused further problems with the ankle, and Jon ended up in hospital. By the time you read this Jon should be back at home, but still,I'm told, won't be able to sit. It's a case of stand up or lie down.

Jon hopes to be RAMBLING again in September and I'm sure you all join me in wishing him a speedy recovery. Many thanks to Nick Haworth for sorting out the Covers,chase letters and labels for this issue.

THE INDEX
___ _____

===

R.P.M & H
_____

I HAVE JUST RECIEVED A LETTER FROM ONE PAUL HILL OF STEVENAGE, WHO RECENTLY RECIEVED A LETTER FORM THE 'R.P.M & H SOCIETY' INFORMING HIM THAT I WAS EDITOR OF ORIC USER MONTHLY. WHO ARE THIS SOCIETY? SOUNDS LIKE THEY MIGHT BE ON SPEED! ALL WILL BE REVEALED WHEN I FIND OUT.
===

TOSHIBA HELP
_____   DOES ANYONE KNOW THE CONNECTIONS
FOR THE CASSETTE PORT OF THE TOSHIBA MSX?
IF SO,PLEASE LET ME OR STEVE MARSHALL KNOW.
===

COMING SOON TO O.U.M
_____ ____ __ _____

WE HAVE PLENTY OF ARTICLES FOR THE NEXT COUPLE OF ISSUES. INCLUDED WILL BE: MORE MARSHALL'S MUSIC (THIS TIME FROM HIS ASSOCIATE ALLY SCOTT), ANOTHER ARTICLE FROM MATTHEW COATES, SOME EXCELLENT LISTINGS, HELP ON WRITING A GAME IN BASIC, THE HI-SCORE TABLE AND LOTS LOTS MORE. HOW DO WE DO IT?

N E W S ... N E W S ... N E W S

A LOT OF NEWS HAS COME INTO THE OFFICE JUST AS WE GO TO PRESS. THERFORE FULLER DETAILS OF CERTAIN ITEMS WILL BE PUBLISHED IN THE NEXT ISSUE.

6502 EMULATOR

MIKE BROWN IS THE SON OF OUM SUBSCRIBER DON BROWN. MIKE HAS WRITTEN A 6502 EMULATOR IN 80x86 ASSEMBLY CODE.
IT WIL BE AVAILABLE TO PC USERS VIA SHAREWARE. INITIALLY YOU WILL RECIEVE: A) THE COMPILED (NON OPTIMISED & INTERRUPT-LESS) EMULATOR PROGRAM, B) A MEMORY DUMP OF THE MONITOR PROGRAM, AND C) ASCII DOCUMENTATION ON DISK WITH INFO ON USE,AND MORE DETAILS ON THE EMULATOR.
IF YOU LIKE WHAT YOU SEE THEN YOU CAN OBTAIN FURTHER GOODIES.
AS SOON AS MIKE FINDS TIME HE WILL FURTHER EXTEND THE 6502 EMULATOR SO THAT HOPEFULLY THE ORIC CAN BE MODELLED.
FULL DETAILS IN THE NEXT ISSUE.
===

EMMERDALE FARM

RON EVANS WAS WATCHING THE ITV SOAP 'EMMERDALE FARM' RECENTLY, AND APPARENTLY HUNDREDS OF YEARS AGO YORKSHIRE WAS INHABITED BY A LOT OF ORICS. DID THE ANCIENT BRITONS KNOW SOMETHING THAT WE DON'T?
===

AMS8

THE 'ALL MICRO SHOW 8' RADIO RALLY & ELECTRONICS FAIR WILL TAKE PLACE ON SATURDAY NOVEMBER 12th. VENUE IS BINGLEY HALL,STAFFORDSHIRE SHOWGROUND,WESTON ROAD,STAFFORD. ENTRY ON THE DAY IS 2 POUNDS.
FORMATS SUPPORTED INCLUDE: IBM PC,AMIGA,ATARI ST/8 BIT,EINSTEIN,ACORN,APPLE ETC.
ALSO THERE WILL BE: HARDWARE,SOFTWARE,RADIO,SATELLITE,PRINTERS AND AN ELECTRONIC BRING AND BUY.

ALSO RUN BY SS PROMOTIONS IS THE EAST COAST AMATEUR RADIO & COMPUTER RALLY AT CLACTON LEISURE CENTRE ON SUNDAY AUGUST 28th.
===

STEAM COMPUTER SOCIETY

NEW ROMNEY IN KENT IS HOME TO THE ROMNEY,HYTHE & DYMCHURCH RAILWAY. IT IS ALSO HOME OF THE STEAM COMPUTER SOCIETY, WHO ARE SPONSORS OF THE TATUNG EINSTEIN USER GROUP. AFTER 10 YEARS THE GROUP IS STILL GOING STRONG. FULL DETAILS NEXT TIME.
IF YOU CAN'T WAIT THEN SEND A LARGE S.A.E TO THEIR SECRETARY: MR. A E ADAMS, STEAM COMPUTER SOCIETY, IVY COTTAGE, CHURCH ROAD, NEW ROMNEY, KENT. TN28 8TY.

===

LOOKING AT CLASSIC GAMES
with Arnt Erik Isaksen
Part 1.1

In my reviews I will rate arcade games in four categories, which include originality (O), graphics (G), sound (S) and addictiveness (A).
For the four categories, I will use the following marks :
****** Superb
***** Very good
**** Good
*** Ok
** Bad
* "Rubbish"

Since I am calling my new series "Looking at Classic Games", we start with the most classic of all games, **PAC-MAN**.

GHOSTMAN. Severn Software 1984. Stephen Haigh.
GHOST GOBBLER. IJK Software 1984.
ORIC MUNCH. Tansoft 1983. Geoff Phillips.
CROCKY. Loriciels 1983.
In this famous game, you control Pac-Man around a maze. Eat all the dots - but watch out for the terrible ghosts. Powerpills, which make you able to eat the ghosts, and bonus fruits are standard in these four versions of the game. In the two first versions, we can also use a tunnel to transfer Pac-Man from one side to the other of the screen. In my opinion, Ghostman and Ghost Gobbler are the best, even though all versions are very similar.
Ghostman. O:* G:***+ S:*** A:**
Ghost Gobbler. O:* G:***+ S:*** A:**
Oric Munch. O:* G:*** S:***+ A:*+
Crocky. O:* G:**+ S:**+ A:*

That's Pac-Man. Then it is time to shoot'em up with some of the many versions of **INVADERS**.

INVADERS. IJK Software 1983.
GALAXIANS. Softek 1983. Gordon Russel.
Shoot the invaders that are moving back and forth at the top of the screen. But watch out, they are getting closer to you all the time. "Galaxians" is similar to Invaders, even though the objects are just moving back and forth, whereas one at the time dives down at you. "Invaders" from IJK Software is a good version, maybe the best for the Oric.
Invaders. O:* G:***+ S:**+ A:**+
Galaxians. O:* G:** S:** A:**

We move on to frogs. **FROGGER** must be very popular for the Oric, since a lot of versions have been made for it.

ROAD FROG. Ocean Software 1983. Stephen Hulme.
HOPPER. P.S.S. 1983.
GREEN X TOAD. IJK Software 1984. Stephen Haigh.
FROG-HOP. Tansoft 1984.
Cross the busy road before jumping on logs and turtles to cross the dangerous river. In my opinion "Road Frog" is the best.
Road Frog. O:* G:***+ S***+ A:***+
Hopper. O:* G:***+ S:***+ A:***
Green X Toad. O:* G:** S:** A:*+
Frog-Hop. O:* G:*** S:*** A:***

HUNCHBACK. Ocean Software 1983. Stephen Hulme.
Control Quasimado, who must rescue the lovely Esmerelda. You must try and get to her, but watch out for soldiers, arrows, fireballs etc. There are 15 exciting screens. Are you able to prove your manhood?
Hunchback has been a favourite for CBM-64, ZX Spectrum and Dragon. It was number 22 in Your Oric's last charts. In my opinion a very good game.
O:**** G:**** S:**** A:*****

MR.WIMPY. Ocean Software 1983. Stephen Hulme.
First, transport everything you need for your burgers from one side to the other, before you start to make your lovely burgers. Move up and down ladders and step on different parts of your burgers. Beware of your enemies, but you have a secret weapon - a pepper-pot. This is as good as the version for the CBM-64. A very original game.
O:***** G:***+ S:*** A:***

LODE RUNNER. Oric International 1985.
Climb ladders, pick up boxes. Try to trick the computer men by digging holes. This game makes you think fast. You can also construct your own screens. Graphics and sounds are not everything - this game is the proof. Original and addictive game. Lode Runner was a hit for the CBM-64 - get this Oric version now.....
O:***** G:** S:** A:*****+

HONEY KONG. Sprites 1984/5.
This is the best version of Donkey Kong for the Oric. "Dinky Kong" by Severn Software is rubbish compared to this. Rescue the lovely princess but watch out for the terrible gorrila, who is throwing barrels at you. The graphics are well animated. Not many sounds. Too slow?
O:** G:***** S:** A:***

SUPER METEORS. Softek 1983. Gordon Russel.
This is a version of the classic shoot'em-up-game called "Asteroids". You control a space-ship by rotating it and giving it thrust. The mission is to destroy all the meteors and the enemy's space-ships. Compared to my modern version for my Macintosh, this is "garbage", but it is however quite addictive, as I recall that I was hooked on it for a short period all the way back to 1986.
O:*+ G:**+ S:** A:***+

ROCKRUN. O.N.Software 1989. Ståle Eikebråten.
Pick up all the diamonds and eat the "dirt". Move Rocko around the large diamond mine, but don't trick yourself when you move the rocks. Four levels that forces you to use your brain. This is in my opinion the best version of "Boulderdash" for the Oric. Dave Dick has told me that there is a clash of colours, but I haven't noticed it as I use a b/w monitor for my Oric. Robert Cook, the original editor of OUM, told me this : "I was taken with the good quality of Rockrun". This says it all. Somebody likes it - somebody doesn't. It is a personal choice....
O:** S:**+ G:*** A:***+

Governtment health warning : Don't play too much videogames as it can cause illnesses.

See you next month........

R E A D E R S   L E T T E R S

DEAR DAVE,
                   thanks   for   a   great MEET weekend,and for the place to the
sleep,and for feeding me. It was good fun and especially nice to talk to
Kieron Smith,Jonathan Bristow,and Peter Thornburn.
    The new disc system works fine and is a lot of fun to play around with.
It's vital for writing and debugging programs! I strongly advise people
to try and get on 3.5"disc,even a Master contains 2000+ sectors. I've got
every BASIC program I've ever typed in on one disc. That's 124 programs
and still the disc is only half full!

                                   - JIM GROOM (Halesowen)

    DEAR JIM,
               it's always a pleasure to house the ORIC fraternity. It was
so nice to see some younger faces this year. Glad to see that you
appreciate the disc system, and it should re-awaken your interest in the
ORIC for a few more years.

                                                  - DAVE
===

    DEAR DAVE,
                   you may have noticed that I have been relatively quiet of
late.
    Well,there is a very good reason for that,because I am now using a PC-XT
with a 20 MG hard drive;thanks to my son Mark's generosity.
    However, I have not fully abandoned the ORIC because I have passed it on
to my younger son Edward,who thogh more interested in dogs than
computers,has learned to use WORD-SPEED,and is now progressing to
ORIC-CALC spreadsheet;both of which he finds useful in his work.
    I have enjoyed being a member of O.U.M and learned a lot in the
process. Thank you for all the help given so generously and I wish you
continued success. Thanks again.
                                   - EDMUND WISNIEWSKI (Bradley)

    DEAR EDMUND,
                   I wish you luck with your PC,which incidentally has the
same specification as mine. Please feel free to contact me if you have
any problems with it. I expect you may me going through the same learning
curve as me as I get to grips with the likes of WORDPERFECT and DBASE.
    It is always sad to lose a member,but at least the ORIC still has a
place in your family. I sincerely hope that Edward will get in contact if
he wants to progress on the ORIC,beyond what he is already achieving.
    It has been a pleasure dealing with you and it was so nice to meet up
with you at one of our previous MEETS.
                                                  - DAVE
===

    DEAR DAVE,
                   can it really be a year since you saved me from total
sanity?
    I suppose it must,as it is time to renew my subscription.
    I must first apologise for not responding to your letter of late July
'93.

LETTERS (Contd.)

The year has flown past and I've been so busy with work etc., that there hasn't been a lot of time for computing of any sort. I have,however,been able to make time to read O.U.M every month,and have been very impressed both by the varied content and the feeling of brotherhood omparted by both the subscribers (through their letters) and the contributors (through articles). Thus cheque enclosed for another year and for the INDEX.

I am currently using the original(?) ORICDOS system with the 3" drives. I did get a copy of SEDORIC V1.0 when it first became available over here. Unfortunately,the manual was in French and there was a note in with it to say: "English manual to follow shortly" — I'm still waiting, despite having phoned several times and getting various excuses as to why it was not yet ready. (This was some time ago of course). Perhaps you know of someone with a spare English manual,or alternatively could remind me of how to go about obtaining a copy of SEDORIC V2.?, which sounds even better than the original.

I could also do with some reminding about how to order the OUMDISCS as they become available.

Now a little about the aspects of the ORIC which interest me. With the exception of Role Playing games; I think you can safely say that I am interested in every aspect of the machine; from programming down to gaming. Though my programming tends to take the form of "improving" (or perhaps I should say "customising") other people's work from listings published in various magazines and program books. I've not yet come up with much in the way of a totally original program of my own. No doubt that will come in time. I've found the machine code series of articlesparticularly interesting and may give it another bash. I tried some years ago,but the book I had was not "user friendly" and I eventually lost interest.

- TREVOR BANYER (Hartlepool)

DEAR TREVOR,
                    great to hear from you.
There may be a delay in Jon sending out the INDEX,due to his incapacity - please be patient.

Regarding ORICDOS — the latest version is V1.13. It had a few bugs removed from the earlier versions. If you require a version,then just send me a disc.

Regarding SEDORIC — I can only assume that you were dealing with W.E Software, as they imported SEDORIC originally and Allan Whitaker handled the manual for them. SEDORIC V2.1 is the latest version and has many bugs removed and added features. It also has an English manual. It can be obtained by sending 8 pounds to Jon Haworth (see address in Contact List). For your money you get the disc (many utilities), the game KRILLYS, the manual, and you are also officially registered,which means you get to know about more updates. Well worth the investment. The price applies to 3",3.5" or 5.25" versions.

Jon tells me that he is now working on a further improvement to the manual,which will be made available to registered users.

With the OUMDISCS it is a bit like belonging to a Book or Record club. You are sent one,and unless I hear from you to the contrary,then you recieve each new one as it is released. I will start you with the new one and the one before. If you like what you see,then please drop me a line to get the first 3. Prices are 3.50 each.

As well as games and utilities, the discs also include updates to SEDORIC from Dr.Ray.

I see that like many others, you enjoy tinkering with other people's programs. It is certainly a good way of improving one's own programming ability. I hope to see a program in machine code from you in times to come.

- DAVE DICK

T H E   H E L P - L I N E

     A couple of queries that may be of interest to others.
  The first from John Hurley who has been trying to print to printer a disc
directory,whilst in ORICDOS. He has tried calling the printer using codes,and by
the use of !PRINTER ON (as per the ORIC OWNER magazine, but all to no avail.
     I tried, and with !PRINTER ON did in fact get the 'Ready' prompt. Still, I'm
afraid, no printed directory.
  CAN ANYONE OUT THERE PLEASE SOLVE THIS ONE? OR WILL IT JUST NOT WORK.

===

     The following two items are from a selection of queries that Peter Bragg has
dealt with following his series on Machine Code, and I feel they may benefit
other programmers,either now or in the future.

QUESTION

     How do I disable the 'Interrupts' used to strobe the keyboard,blink,and plot
the cursor etc.? I tried ROM routine at E76A,but it crashes the system. I still
need 'Interrupt' for sound effects. 'Jump' for these,placed at 024A.

ANSWER

     The ROM routine that you used at E76A sets the VIA and the interrupt for the
cassette system,so I am not entirely surprised that the ORIC hangs up on that.
  If I wanted to disable selected items in the Operating System, I would
probablystart by trying to modify the ROM routines at EE22 and/or F8B2. O.K, I
know that they are ROM routines and you cannot alter them. However,that is no
problem. The trick is to copy one or both routines into RAM and then adjust them
to operate from there. I have used this technique on other machines and found it
very useful. Do not forget to change the vector addresses in 0244 & 0247 to
point to the new addresses in RAM. Once you have done that,it should be easy to
modify and alter the routines to your own requirements.
     Two points,that I should mention. First,it is best to check that you have got
everything working correctly in the new location,before you start making your
own modifications. Second,I notice that Sedoric modifies the two vectors at 0244
& 0247. Cumana Dos leaves them unchanged,but Sedoric re-directs those two
vectors tp Page 04,so you would have to make the neccesary adjustments there if
you want to make use of the Sedoric disc system,as well.
  Finally, I have also used the 'INTSL' vector at 024A for my own Mouse control
routines,an it worked O.K, with no problems.

QUESTION

     If I don't use Basic can I use all of Page Zero? Or is it reserved for NMI?

ANSWER

     The Operating System and interrupts almost certainly make some use of Zero
Page,although, I have not checked this out for myself,as yet. If you are not
using Basic, I would think that most of it would be free. The input buffer
(0035-0084) is a good size chunk to start with. However, it is really a case of
"suck it and see", and it depends on how much of Zero Page that you need.
  One little trick that I have used,to increase access to Zero Page,is to set up
a block somewhere else in RAM and then when needed,do a swap with a blockin Zero
Page. When finished with Zero Page,the swap is repeated,which restores Zero Page
to it's original state. The "swap" is done by a simple copy/exchange routine.
This trick works,providing you do not use any location accessed by the interrupt
routines.
     There can't be many locations in Zero Page that are "out of bounds", because
they are used by the Interrupt routines. The best way to find out is to look at
the "Advanced User Guide' (page 260). Make a list of any dodgy locations and
then test them,one at a time,to locate those which must be avoided.

THE   NORWEGIAN   CONNECTION

Arnt Erik Isaksen has recently sent me two copies of his historical clips from Norway with regard to the Oric scene. I have sent one on to Jon Haworth to use in his next HISTORY OF THE ORIC. Looking through my copy, I came across some interesting facts which I will now impart to you all.

1) The MCP 40 plotter/printer was never approved for sale in Norway.

2) It is estimated that between 3000-4000 Oric-1's were sold in Norway and about 1000 Atmos's.

3) In the February '84 issue of 'Data & Elektronikk', there was an advert (in English) for the HEBOT II Robot Turtle. It was compatible with the Vic-20,Commodore 64,ZX-81,Spectrum,AIM-65, and the ORIC.
   When connected to the I/O port of the ORIC the turtle runs around under computer control. It moves in 4 directions,has blinking eyes, bleeps, and will evenpress down a pen to chart it's progress and thus provide a hard copy of the results of the program.

4) In the November '84 issue of 'Mikrodata' (later to become 'PC Mikrodata) was a list of the most popular computers in Norway.
   The CBM 64 was top with 34.5% and the SHARP MZ-700 came second with 19%.
   Next came the DRAGON 32,ZX Spectrum and ENTERPRISE 64. The Oric-1 was joint sixth with the Dragon 64. Behind these came the VIC 20,BBC,Tiki 100,Commodore +4, TI99/4A and the Sinclair QL.

5) The TIKI-100 was a Norwegian computer,which can said to have had the same role in Schools as the BBC in the U.K.

6) 'PC Mikrodata' often released games on cassette. In 1985 they advertised what was to be their only cassette for the ORIC. It was part written by OUM subscriber Staale Eikebraten, and was titled MOON BUGGY. Like many of the Norwegian games, the screens were in English.

7) In the Autumn of '83 it would of cost you about 20 pounds for a game like HOPPER from PSS. In 1985 titles like XENON I were still costing around 15 pounds. In 1989 a company called Scandomatic were still selling Oric cassettes. In all their catalogue consisted of 18 titles. CENTIPEDE cost about 11 pounds,whilst SPACE SHUTTLE from Microdeal would set you back about 15 pounds. Also on offer were 6 utility programs, e.g: AUTHOR & ORIC BASE.
   Yes - even as late as 1989 the prices were high and the catalogue small. We are only talking 5 years ago. It makes you wonder if some enterprising person could of got better programs into Norway!

8) In 1984 a company named Orkla Elektronikk marketed their EFO-BOX.
   Retailing at around 25 pounds,it was a filter which made tape signals clear,and thus solved the loading/saving problems. It was driven by a 9V battery that would last for about 20 hours.

9) Many adverts for British Oric companies were to be found in the Norwegian magazines. They included: EXPRESS COMPUTERS of Rugby, The HELL's TEMPLE Fan Club (Kenema), and ITL Kathmill with the BYTE DRIVE 500.

If you would like more facts on the NORWEGIAN scene,then please write and let me know,and I will publish some more.
   Perhaps our readers in Germany,Finland and Austria etc. could give us information on the history of the Oric in their countries.

- DAVE DICK, with thanks to Arnt.

With Sonix and Software Sounds bringing a bit of interest in the Orics's
sound capabilities, I thought I'd have a look at how to amplify the sound so
you can really annoy the neighbours.

1. THE SIMPLE METHOD. If you have a hi-fi or ghetto blaster that has a mixer
mike socket, then you're laughing. All you need is a screened cable, a jack
plug and a 5-pin DIN plug. Solder one end to pins 4 and 5 of the DIN - you
can use your cassette plug if you like - and solder the other end to the jack
plug connectors. Stick the DIN plug in the cassette socket at the back of
your Oric and the jack into the mixer microphone socket. Switch everything on,
and off you go !
You might need to press the play button on the cassette player of your hi-fi
to get the sound working, but apart from that there should be no
complications, and this is one of the easiest ways of amplifying your Oric
and you can record the sound too!

2. AMPLIFIED SPEAKERS. Details of this method were given in OUM No.79 p13.

3. CUSTOMISING THE SPEAKER. This method is a bit more drastic is it involves
altering your Oric. Details of the procedure are given in CEO mag 15-16, so
contact Mr. Jon Haworth if you're interested. This is an excellent little
project which gives you a volume control, on/off switch (for the sound), and
a headphone socket. The only problem I had was obtaining a pot, (variable
resister - the volume control), that was small enough to fit inside the case
of my Atmos. (The electronics shop I get my bits from said that 4.7 Mohm was
a silly amount, and I ended up using a 10 kohm pot.) In the end I squeezed it
between the printer and cassette sockets. This involved carving away a little
of the casing with the pot I usef. I put the switch in thecorner of the
orange casing, near to the screw hole, and the headphone socket in the side,
under the circuit board. This means that none of the extras are visible from
above, unlike the method described in CEO. To amplify the sound you can
connect the headphone socket to the microphone socket of your hi-fi cassette
player and press record. You should be careful when doing this as having too
much volume coming from the Oric to the hi-fi could damage the hi-fi
amplifier. So if you try this, keep the volume turned down, and then turn it
up to suit - NOT the other way round.

4. THE ELECTRONICS PROJECT. If you like fiddling around with electronics, you
can buy an amplifier to build. These usually come with a drilled PCB and you
just push in the components and solder them. I bought a stereo kit for twenty
pounds, so don't pay any more than this. You then need to buy a speaker or
pair of spekers - get mid-range ones and make sure the impedance matches the
amplifier. You'll need some stranded wire to connect some components and a
cable and din plug to connect to the Oric's cassette port. Then you will
probably want a box/case to put all this stuff into.
All in all this could cost you quite a bit and may not be worth it
financially, but it is fun if you like electronics and your Oric will benefit.

Well, you pays your money and you makes your choice. Having Two Atmos's, I've
gone for the CEO project also adding a switchable ROM, (details in CEO 24),
and left the other Atmos 'untouched'. With my headphones I get enough volume
to keep me happy and the switch turns off the Oric's speaker so the sound
doesn't bother anyone else. If anyone has a better way of improving the Oric
sound then write in and let us know.

Muso.

Machine Code for the Oric Atmos (Part 38)   Peter N. Bragg

The Story so far
--------------- We have looked at essentials for machine code programming
and a small selection of useful 6502 Instructions appeared in Part 22 of the
series. The last two articles listed a simple utility that would enable us
to display any hex byte value and then added a short demo routine, which
made use of the utility to show the codes for each key on the keyboard.

This years Oric Meet was very enjoyable, with interesting things to see and
new software from the UK and France. A certain person, who shall remain
nameless, showed me the assembler listing of a very clever piece of software.
He only uses a bare assembly listing and doesn't make notes on how it works.
Would he remember enough about it if he wanted to make use of it in couple
of years time ? Yes. he thought he would, but I noticed a slight hesitation
there. Buddy !! If it was me, no way would I remember. Writing instructions
and entering them into the computer is the easy bit. Thinking up the program
is the hard part and it is the part that you need to preserve, preferably on
paper. So let's have a look at how to do that with the minimum of effort.

Programming
----------- We have already looked at some of the techniques that I have
found, make programming easier for me. Of course a lot depends on your own
preferences and personal circumstances. but there is no doubt that the right
technique for you. can make life a lot easier when programming. So have a
look at what other people are doing and be prepared to experiment a little.

Listings
-------- My own software in the computer. consists entirely of hex code for
the instructions and the hex data required by them. It makes the programs
very short and easy to enter and very much less prone to typing errors.
This means that information about program operation and instruction labels.
is confined to the paper listings only. I find that a listing on paper is
essential when writing software. because it is far easier to deal with, than
on the computer screen. particularly when checking for errors.

For very good reasons. which I will come back to later, my program listings
are written or printed out on seperate sheets of 5"x 7" notepaper. These are
are then stored in simple card folders of that size.

The program listings are arranged in a very similar format, to those
published in this series of articles. that is, a headed sheet with a number
of columms. one each for address. code, assembly labels and description.

As a single routine may take up more than one sheet. each and every sheet is
headed with four essential pieces of information. These are Software Label,
Routine Label. Routine Call Address and the Date. As the listing consists of
seperate sheets. it is advisable to put these four items on all of the
listing sheets. so that they don't get muddled up with other software.

The first two Labels are obvious, they describe the software and the
specific routine, respectively. Just keep them short and easy to pronounce.
Jaw cracking labels can be confusing and are more difficult to remember.

Next item is the Call Address. which is normally a "JSR" address, used to
call the routine into operation. Life is easier if the Call Address and the
routine's first instruction address. are one and the same. That may seem
obvious but not all programmers do it.

Some programmers start by jumping into the middle of a routine and quite often exit from the middle of a routine as well. That may be clever programming, but it seems a bit haphazard to me. I prefer to start at the beginning of a routine and exit from the end, with a clear Finish/Exit operation. It makes the routine easier to understand.

The listing sheet may hold a parameter block full of data instead of a routine, in which case, a Parameter Block address would be used for the heading, instead of a Call Address. The location of the first data item is used as the parameter block address.

The final item at the top of every listing sheet, is the date. This is the start date for that particular software project and it is used throughout the software listing, even if that software project takes months to complete. A date is more useful than a "version number" for software.

Down the Tubes !
----------------- Initially, my own programming technique was very much influenced by the fact that I had very little time to actually use the computer, but quite a lot of time to spare, for example, sitting around in London's Tube trains, experiencing the dubious pleasure of commuting to and from work. It seemed a good idea to make the best use of available computing time, by writing as much software as possible on the train and anyway it is a good way of livening up a boring journey. A small writing case and a set of minature crib cards, to hold the essential machine code instruction sets plus other useful computer details, was all that was needed. The result was usually something ready to try out when I had time to switch on and go.

This is where it pays to split up the programming into small tasks, each of which can be written and tested out individually, before adding it to the latest software masterpiece. A large piece of software can be built up this way and is more likely to be successful. It also makes programming a lot more fun. If you don't enjoy it, there isn't much point in doing it.

All Change !
------------ In the last few years the situation has changed and I now have more time at the computer and as a result, I now use it more, for writing programs. That has some advantages, but there are pitfalls too. Repetetive listings are easy to write using a wordproccessor but that also makes it easier to duplicate errors. A pencil is far more versatile than a printer which is limited by the character set and number of columms available, but pencilled listings are a heck of a lot slower to produce. In the end, I have found that a mixture of word processing, plus some pencilled in items, where more details or a sketch are required, works best for my listings.

The 5"x 7" paper size for the pencil listings is provided by those handy spiral backed "reporter pads". It is also possible to produce a listing sheet of the same size, from a printer. Our MP 165 dot matrix printer can produce a 46 line, 80 columm listing, on a 5"x 7" sheet, using "Elite".

I have also made a lot of use of the Tandy GCP 115 printer, which is virtually the same as the Oric MCP 40. These produce slightly narrower sheets at 4.5" width. This is used with a dis-assembler to produce quick listings in 80 columms ("S0" size). The necessary information about program operation is added to the listing in pencil.

That's it for this month.................more instant crash gen next time !!

BITS 'n' BOBS

MESSAGE TO ALL FROM SIMON ULLYATT

I've recently finished my two year HND Computing Course, and am currently searching for a job (I'll probably end up in McDonalds). Unfortunately I have to put an end to my SUBEFFECT magazine. I would like to thank all readers for their support.

I've recently got hold of a few extra machines, and so here is my up to date list: ORIC-1, SPECTRUM (x2), AMIGA A500, C-64 (+ DISK), NCR PC-XT (512K,20MB,5.25" CGA), ZX81 (16K), VIC 20 (16K), ATARI 2600 VCS (x3), COLOUR GENIE, NINTENDO GAMEBOY, PRINTER IS A STAR LC-100 COLOUR.
I'VE RECENTLY GOT HOLD OF A DRAGON 32 C/W SOFTWARE FOR 8 POUNDS, AND A PHILIPS NMS9100 PC-XT (786K,20MB,3.5",COLOUR VGA) FOR 70 POUNDS.

BRICKY

STEVE MARSHALL INFORMS ME THAT THE VERSION OF 'BRICKY' FROM 'BREAKPOINT', AS SENT OUT ON THE LAST CEODISC, DOES NOT WORK PROPERLY, AND WONDERS IF ANYONE ELSE HAD THE SAME PROBLEM.
WELL MINE DIDN'T WORK EITHER. I'VE LET JON HAWORTH KNOW,AND WILL PASS ON HIS REPLY WHEN I GET IT. IT WILL EITHER BE A CASE OF SENDING THE DISC BACK,OR GETTING A GOOD VERSION ON A FUTURE CEODISC.

MESSAGE FROM W.FALCONER TO ALL

I WOULD LIKE TO EXPRESS MY SATISFACTION WITH MY RECENT PURCHASE OF DR.RAY'S 'COMPILER'.
AN EXCELLENT UTILITY,WHICH NO ORIC HOME SHOULD BE WITHOUT.

COLUMNS

THE LATEST BUG IN 'COLUMNS' HAS NOW BEEN RECTIFIED. JUST AS SOON AS I RECIEVE THE UPDATE FROM NICK HAWORTH, NEW VERSIONS WILL BE SENT OUT.

VIKING DIRECT

Sounds like a company that imports Scandinavians!
In fact they deal in stationery,and computer supplies.
They sell their own brand of 3" discs at 19.99 + p&p. VIKING DIRECT are at: Bursom Industrial Park, Tollwell Road, Leicester. LE4 1BR (Tel: 0800 424444: Fax: 0800 622211).
WARNING: - if you do order from them,be prepared to be bombarded with catalogues offering all sorts of staionary etc. All at discount prices (?) with further discounts for bulk orders.
Our thanks to Trevor Banyer for the information.