

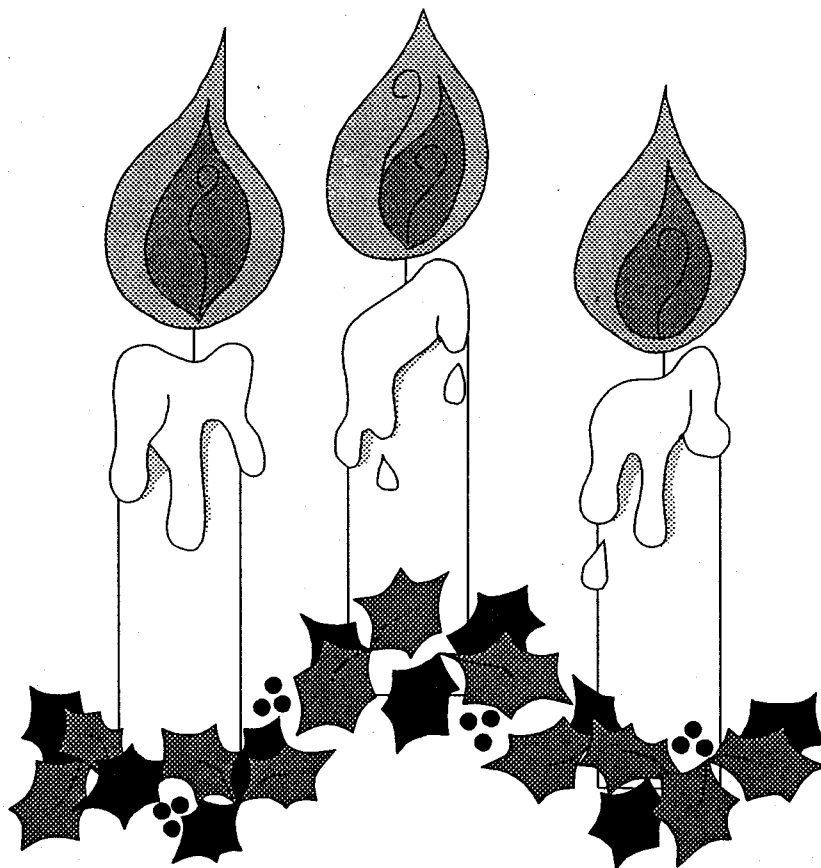
ORIC

**USER
MONTHLY**

with Alternative Micros

*Helping to keep
the Oric alive*

**Number 76
December 1993**



HELLO,

AND A VERY MERRY CHRISTMAS AND HEALTHY NEW YEAR TO ALL.

1993 HAS BEEN A VERY BUSY YEAR AS FAR AS THE ORIC IS CONCERNED. MANY NEW PROGRAMS HAVE BEEN RELEASED, PROJECTS UNDERTAKEN AND IDEAS FOUNDED.

THOUGH WE HAVE LOST A FEW READERS OVER THE YEAR, WE HAVE GAINED A FEW, AND ALL IN ALL HAVE PROBABLY BECOME A STRONGER UNIT. THIS IS THANKS TO SOME STERLING INPUT FROM OUR NEWER READERS AND OF COURSE THE EXCELLENT EFFORTS FROM OUR REGULAR TEAM.

1994 PROMISES TO BE NO LESS HECTIC, AND I LOOK FORWARD WITH RELISH TO SEE SOME OF YOUR IDEAS PUT INTO PRACTICE.

I THANK YOU FOR YOUR CONTINUED SUPPORT.

THE INDEX.

The Index to this issue is to be found on the back page.

THE BACKLOG

The Xmas rush at work seems to start earlier and earlier each year, with this year being no exception. My Saturday night 'gigging' has not helped the cause of the Oric, and subsequently I am now a long way behind in dealing with Oric matters. With only 2 days off over Xmas I cannot see me making any in-roads into the backlog until the New Year.

Contingency plans have been put in place, and include the following:

A) The Contact List is being revamped by Richard Farrell. There have been so many amendments to Part one that it was felt best to re-do the lot. If Richard can get his typing together, then the Contact List will be sent out with the January O.U.M

B) The Hi-Score table is now the responsibility of Steve Marshall, and we will bring you an updated table in the January O.U.M. You may send your new hi-scores direct to Steve or to me.

C) OUMDISC No.4 is still being worked on. This has been quite a task to put together, but I believe will be shown to be worth the effort. Plenty of Sedoric updates, games, utilities etc. I will despatch this as soon as time permits. Apologies to those who paid in advance.

D) Software orders were remarkably high from mid-November and hopefully will all be despatched in time for Xmas.

E) The postbag has been extremely busy with queries etc. These are being dealt with through the letters pages and by post. Please be patient.

Well - they are the plans, and I extend my sincere thanks to those who are helping out.

SOFTWARE CHARTS

The new software - "Sonix", "Compiler", and "Columns" (to name but three), is proving most popular.

On page 3 of the last issue we mentioned a competition. No response yet.

COLUMNS

After a request from Matthew Coates, there has been a quick response from COLUMNS author, Nick Haworth.

The updated game now gives you the facility to alter volume and tune, whilst in the game.

This updated version is being sent out to all who received the original version.

NEWS . . . NEWS . . . NEWS

GAMEINIT

SEDORIC users will be pleased to hear that it is now possible to format a GAMEINIT disc to 82 tracks, double sided. This feature was not updated when Sedoric was, but thanks to Dr. Ray this omission is now put right. It is a handy way of formatting for games users as many will not generally work on a Master disc without the QUIT command.

The updated program will be on OUMDISC No.4 in such a way that ONLY Sedoric V2 version users (those registered) can make use of it. This update, along with other recent ones is on it's way to Allan Whitaker and we will advise you when SEDORIC V2.1 is available for new users.

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HOPPSIES HOLIDAYS

If you are looking for some time in the sunshine next year, then why not try one of Steve Hopps' apartments in NERJA on the Costa Del Sol. The resort was given an impressive write up in a recent issue of the 'Sunday People'.

Rob Kimberley won a week at our last Meet and we hope to have a report on his visit next Spring.

Prices start from around 80 pound and full details can be had by sending a large S.A.E to Steve Hopps.

Talking to Steve the other night and I found out that he really enjoys adventure games like 'The Hobbit'.

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BULL ELECTRICAL

The 1994 catalogue from BULL's is out now. Just send them an A4 envelope with a 43p stamp.

Their December list includes: (WAIT FOR IT!) - US AIRFORCE LANDING LIGHTS at 25 pound and Portable Radiation Detectors at 50 pound.

I'm sure you will all order some of those!

=====

OUM CASSETTE NO.1

Brian Kidd has now completed the first OUM CASSETTE for those not lucky enough to be on Drive.

A nice 'loader' introduces you to each side of the cassette, which at present is ATMOS only. If ORIC-1 owners are interested, then please write.

The cassette includes: JACK (an adventure), BUGEATER, SIMON, TWINKLE (a nice little tune, PLUS an excellent French arcade and a good old British shoot-em-up.

Release details and price will be published in the next O.U.M

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HAVE YOU LOST IT?

Somebody out there told me that they had lost either their October or November issue of O.U.M. Please let me know who you are and which copy you want.

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A PSION OF THE TIMES!

Jon Haworth had a habit of mis-filing things (just like me eh!). He now has a new organiser to store all your orders and requests. I rang him the other day to order some OUM indexes. "Hang on a minute", says Jon. "I'll just tap that in to the machine".

Hope you've got long-life batteries, Jon.

=====

DEAR DAVE,

after being convinced that I wanted nothing to do with discs - I've been seduced. My daughter has landed me with their cast-off contraption - PC 286 with EGA display, mouse, WordPerfect etc. I'm happily writing and producing loads of pictures through CAD and DTP discs given with mags.

Therefore I will not be renewing my subscription to OUM. Good wishes for the ORIC's future, and thanks for help received from you and other enthusiasts.

Therefore the following are for sale:

ORIC-1, ATMOS, Oric games, Basic manual, Atmos manual, Atmos Programmer (James and Gee), Advanced User Guide (Whewell), Wordworth c/w manual, CAD etc.

ANY OFFERS?

Replies to NICOL BLOUNT, 74 Branksome Drive, Filton, Bristol.. BS12 7EF (Tel: 0272 792288).

DEAR NICOL,

I'm sorry to hear that you are forsaking the ORIC, but glad to hear that you are getting some satisfaction from the PC. I only wish that you had invested in a drive system for the Oric and then you wouldn't of needed to go through the learning curve again.

- DAVE

=====

DEAR DAVE,

I've been in touch with Jon H recently, who sent me details of a project to give the Oric 16 colours from a palette of 4096. I want to build this, but am having difficulty finding the parts. The main difficulty is getting a EF 9369 (colour palette IC).

Do you know of any electrical suppliers that might have it? (It's not in Maplins etc.).

I would also be interested to hear from anyone that has built the board or anyone else who would like to build one. Details of the project are shown in an issue of the French magazine "MICR'ORIC".

-STEVE MARSHALL (Edinburgh).

DEAR STEVE,

I have Wilkie checking out the chip for you and I will also check with Steve Hopps. I only company that I can think of is GREENWELD ELECTRONICS in Southampton.. I think Peter Woolley from Portsmouth has dealt with them.

Perhaps readers could help. Also - you could try Peter Bragg's famed library - W.H SMITH. Have a peruse through the Electronics magazines.

As the project was from a French magazine then perhaps our French readers may be able to supply some input.

- DAVE DICK

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DEAR DAVE,

I have purchased an AMSTRAD DMP 1 Printer. I have been using WORDSWORTH with the printer, but have encountered a couple of problems.

Firstly it will not underline, and secondly the centre heading in enlarged print, prints all lines in enlarged print.

The printer was bought second-hand without instructions, so I would like to know if any member can give me any information on the printer?

Do you know of a program for drawing, where the drawing can be printed when finished? I have PICTURE DESIGNER from OPEL, but there is no print facility.

IAN BRADBURN (Middlesbrough).

DEAR IAN,

I'm afraid that I know absolutely nothing about the Amstrad printer. At a guess, the problem could be either a) that the printer is not EPSON compatible and therefore does not recognize all the Control Codes or, b) WORDSWORTH is not 100% fully EPSON compatible. I don't use WORDSWORTH, but seem to remember this slight gliche in it. Try playing about a bit with WORDSWORTH e.g SPACE across to where you want to underline. After you have gone into enlarged print have you gone back to normal print? Is a RETURN required first. Sorry to be so vague and therefore I ask that other

WORDSWORTH users help out here.

Regarding the printer itself: A) any readers own one, B) Come on Tony Clark - you must know about this one, C) Try Bull Elect. - they often sell Amstrad printers and may have a spare manual, D) Try writing to or phoning Amstrad - they may even send you a manual free of charge. Don't mention the Oric. Just give them some 'Bull' about the marvellous Amstrad. (you'll probably even get season tickets for Tottenham!), and finally if all else fails: E) Place a free ad. for a copy of the manual in MICRO MART. Remeber to say that you are a Student,Unemployed or have a wooden leg. That's what half of the advertisers do!

Regarding a program for printing your own drawings - I and many others use LORIGRAPH,which is a French design utility from Loriciciels. As well as drawing your own pictures,it is also possible to load and print screens from programs. I have used it in DUM with screens from GRENDDEL and ZOOLYMPICS. The program is available from the CEO mailorder section via Jon Haworth on cassette. It is quite expensive,as was all French software. Though the on-screen prompts are in French, Jon has produced an English Manual. Subscribers to the disc section of the CEO would of recieved LORIGRAPH recently,and in fact Jon even translated the program into English. I know that Nicol Blount (see letter on this page) did in fact buy LORIGRAPH on cassette from Jon. I would advise that you got in touch with Nicol and made an offer for the program.

Other programs in this vein that I know of are MASTERPAINT from ERE INFORMATIQUE (again French,a stunning demo,unfortunately I only have the French manual and therefore haven't got to grips with it. It may be available from France. As well as the short software list of Jon's;there is also a full one - Jon can you check this out please?) and D.G.D.S (Oric Graphic Development System),which is a German program by Patrick Dockhorn (I have an English manual for this and will check out who owns the copyright).

There may be others and so readers may be able to help.
Of course,there is always the CAD program from Tansoft.

- DAVE DICK

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DEAR DAVE,

I'm coping quite well with my new disc system at the moment. The only problem I'm having is with a freezer in the kitchen. When the freezer switches on or off,it stops whatever program I happen to be using,due to spikes on the mains. The only option I have at the moment is to switch it off while I am using the computer,and hopefully remember to switch it back on again when I've finished.

As a matter of interest,would a 1.44 Mbyte disc drive be compatible with my Oric system and what extra cabling would be necessary to connect a second drive should I feel the need to add one?

- CHRIS EVANS (Northampton)

DEAR CHRIS,

when I had my old MICRODISC I often had trouble with the machine hanging up and in fact traced it to the fridge. The thermostat was on the way out. Try checking yours. Alternately,try a device from MAPLIN. Reccomended are both on P.158 of their latest catalogue - a) Surge Protecting Mains Plug - order code KU20W at 12.95 or b) 3A Filtered Mains Plug - order code KU19V at 22.95.

A 1.44 Mbyte drive will work with your Cumana disc set-up. Due to the restrictions of the DOS's, you will only be able to format just under 720K and therefore rather than buy DS/HD discs,you should stick with the cheaper DS/DD discs that you use with your current 3.5" drive.

The power supply that I supplied you with will power another drive. I will send you a diagram of the extra connectors required to utilise a second drive.

- DAVE DICK

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ALTERNATE MICROS

8-BIT FANZINE

I have recently recieved the first issue of 'SUB EFFECT', which is a Fanzine dedicated to 8-bit machines, and produced by O.U.M reader Simon Ulliyatt. The 16 page mag. is full of news, reviews, listings, tips, ads, and competitions. Machines covered in the first issue are: Spectrum, C64, CBM64, Atari 2600 games console, Vic 20 and even a whole page dedicated to the Oric. More machines will be covered and Simon is looking for input from users of Amstrads, BBC, ZX81, Dragon, MSX, Electron etc.

To get the first issue, just send 75 pence plus a stamp to Simon. For 1.50 plus a stamp you get the mag. plus a cover tape (multi-format with something for most of you). For the same price, but instead of the tape, you can get a C64 disc version on 5.25"

The full address is : SUB EFFECT, c/o Simon Ulliyatt, 6 School Lane, Boston, Lincs PE22 0HU.

Those who are into various machines and enjoy games, will find this publication very worthwhile, especially since the demise of other 8-bit publications.

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NINTENDO

Those with a fetiche for old machines amy be interested to hear that the original NES Control Deck is now available in most large stores for 29.99 and includes a 'Mario Bros' game. Depending on the store, you could end up with 'Mario', 'Dr. Mario' or 'Mario 3'.

New titles are still coming out for this popular games console e.g some Disney titles, and old titles can be had for around ten pounds.

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ATARI LYNX

After a plea from young Matthew for help on 'BILL and TED' on the Lynx, we have recieved much help from Steve Marshall.

Someone wrote to me asking if we had any response and I've mislaid the letter. If he would like to drop me a line then I will pass on the tips.

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ATARI JAGUAR

As mentioned in the last issue the Atari Jaguar is now a reality. It should go on sale Wednesday Dec 8th in selected shops. Probably either HMV or VIRGIN stores at 199 pounds. It comes complete with a controller and the game "Cybermorph". Amongst it's features are movement of 3D images in real-time, and CD-quality sound.

The official launch of the machine will not take place until early 1994.

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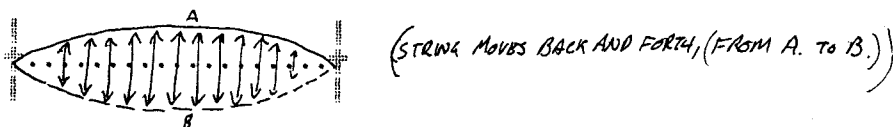
TIP ON THE GAME GEAR

Codes for higher levels of 'Ninja Gaiden' on the Game Gear are:
Level 2 - NINJA, Level 3 - GIDEN, Level 4 - DRGON, Level 5 - SWORD

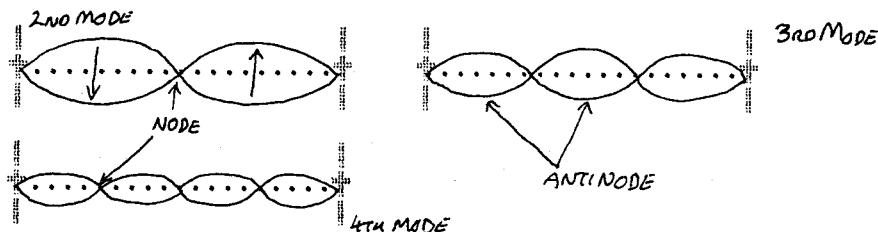
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We will continue where we left off and have a look at a vibrating string. From this I hope to give you an understanding of harmonics and how these can effect the tone of a note.

THE VIBRATING STRING. When a string is caused to vibrate, it does so in quite a complicated manner. The basic vibration is like this:-



If you look at a guitar string that has been plucked, you can see this. If you take a closer look you can see other vibrations taking place. The next three modes of vibration are as follows:-



A node is a place where there is NO Displacement i.e. the string is not moving. The antinode is where there is most movement. The first mode is half a cycle, and the frequency is therefore 2 times the string length. If we call this frequency f_1 , then the frequency of the second mode is $2 \cdot f_1$, the third is $3 \cdot f_1$, and so on. A harmonic is the note produced by one of these frequencies. (Sometimes called 'overtone'.) If you pluck a guitar string and touch it at the half-way point (12th fret), this will stop the first mode from sounding, but not the second, as this is a nodal point on the second mode. The sound heard is the second 'harmonic', which is an octave up from the original note. (An octave is twice the frequency of it's origin.)

(Some people call this the 1st harmonic - its the old 'which floor is the 1st floor of a building' argument. For this reason it is often preferable to use the overtone term: The first mode of vibration is generally called the fundamental, the second mode is the 1st overtone. As long as you know which mode you're referring to, you can use which you prefer. I call the 2nd mode the second harmonic, so $1=1$, $2=2$ etc OK ?)

When a string vibrates on a instrument, the sound produced is the effect of many harmonics sounding at once. Up to about 12 can be sounded, the amplitude decreasing on each successive harmonic so that there is very little vibration in the higher modes.

Different harmonics can be sounded by plucking the string in a particular place. e.g. If we pluck the string at the centre, the ODD harmonics will be sounded, but not the even ones (except the 1st) because of the positions of the nodes. Players of stringed instruments can therefore produce different sounds purely by plucking/bowing the string at different points along it's length.

Different musical instruments will produce a different array of harmonics, some being louder in the middle frequencies, some louder in the lower ones, and this is one of the reasons why different instruments sound different. When trying to simulate musical instruments on computers or synthesisers this needs to be taken in to account. It is very difficult to obtain good results if you have no control over what harmonics are sounding.

Some favourable results MAY be achieved on th ORIC by making the first sound channel the first mode and the other two other modes depending on what instrument you wish to emulate.

The Story so far

----- We have looked at the basic requirements for machine code programming. A small selection of useful 6502 Instructions appeared in Part 22 of the series. A few programming techniques, have also been covered. The last couple of issues have concentrated on the subject of binary code, specifically, how and why it is used, in the hope of making it a bit easier to understand.

Bits and Pieces

----- Up to now, we have usually operated on data in eight bit lumps, that are normally referred to as data bytes. However, as I have pointed out, there are occasions when it is necessary to deal with individual bits in a data byte. We might, for example, want to use a sprite from another computer system. If you look at the Oric HIRES display, you will find that it takes eight bits to control six pixels. That is six bits for the pixels and two for other facets of the display, such as the colour control. So if you want to copy a graphic item from another system, you would have to pick out the actual pixel bits and then copy them into the Oric's six bit format, without disturbing Oric's two display control bits.

Of course, the above is just an example, but it does raise the question, how do you pick out individual bits in a data byte and copy them into another data byte, without altering anything else? The answer lies in "masking".

Masking

----- If you are involved in photography, you will be familiar with masking. Likewise, if you have done any painting or decorating, you will also have used masking techniques to make a neat job and place the wet paint precisely where it is needed and nowhere else. The masks for photography and painting etc are usually made up with sticky tape and pieces of card or similiar materials and are cut to shape in order to shield protected areas.

A similar masking effect can be produced in a computer too. In this case it is much easier, because as we are operating with data bytes. This means that any masking operation only needs to deal with eight bits at a time. The instructions that produce the masking effect are Logical instructions AND, OR and XOR. We looked at these briefly last time and you may recall that they could be used to set any bit in a data byte to either "1" or "0" or just change it from one state to the other. We will come back to that in a moment, after we have looked at the masking side of the operation.

All three instructions have an Immediate version, which is an instruction consisting of just two bytes and it is probably easiest to use this type of instruction to illustrate the masking operation. The first byte in an Immediate instruction is always the opcode, the second is the operand, which in the case of the three Logical instructions, is used as the mask. All three of the Logical instructions operate on data held in the Accumulator.

The instruction operand, which strictly speaking is really another data byte, is used as a mask, to mask out any bits that we do not want affected by the instruction. The actual data byte to be operated on, is held in the Accumulator and the instruction puts the result of the masking operation, back into the Accumulator, overwriting the original data byte in the process. We need to look at the data byte in the Accumulator and the mask byte in the operand in terms of eight binary bits, in the first place. We covered the subject of converting between hex and binary, in the previous issue.

Hex/binary conversion is quite easy, using the small table, shown last time. Next time, I hope that we can see it again for real, in a practical example.

The (operand) mask is made up of individual bits set to "0", each of which block the effect of the instruction, to that same bit in the Accumulator. On the other hand, bits set to "1" in the mask, will be transparent and allow the instruction to operate on that particular bit in the Accumulator.

This means that if you set the operand byte so that all eight bits are set to "0", you will have masked off all of the data item in the Accumulator and the instruction will have no effect at all. If on the other hand, the mask is set so that all eight bits are at "1", instruction will affect all eight bits of the data item in the Accumulator.

So, if we want to limit the effect of the instruction to a few bits only, we need to set the mask so that it has a "1" in the bit positions that we want the instruction to affect and an "0" in the bit positions that we want to protect from the instruction effects.

A Load of Boolean !

----- Let's look at the Logical instructions. Now, a logical instruction takes each bit from the mask and compares it with the same bit in the Accumulator. It then replaces that bit in the Accumulator, with a bit which is the result of that comparison. So bit 0 of the mask is compared with bit 0 of the Accumulator and then bit 1 with bit 1 and so on up to and including bit 7. Each bit in the Accumulator is replaced by the result of the comparison. All three Logical instructions AND, ORA and EOR, work in the same way in this respect. The difference between them lies in the actual result of that comparison.

The "AND" instruction requires the two bits compared in the mask and the Accumulator to be both at "1" and it will then set the result in the same bit of the Accumulator to "1". If either one or both bits are at "0", that Accumulator bit will be cleared to "0" as a result. In effect, a mask bit at "0" will have a blocking effect on the instruction operation.

The "ORA" instruction is the other way around. It requires the two bits compared in the mask and the Accumulator to be both at "0" and it will then result in the same bit of the Accumulator being cleared to "0". If either one or both bits are at "1", that Accumulator bit will be set to "1" as a result. In effect, this instruction reverses the mask, so that a mask bit that is set to "1" will have a blocking effect on the instruction operation.

The "EOR" instruction has a different effect. It compares the mask bit and the Accumulator bit as before. If the mask bit is "0", the Accumulator bit is left unchanged. However if the mask bit is at "1" the same Accumulator bit is inverted. That means that it will be set to "1" if it was "0" or alternatively, it will be cleared to "0" if it was "1".

	Binary	Hex
Data	1010 0101	= A5 in Accu before.
	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	
Mask	0011 1100	= 3C in Operand.
	↓ ↓ ↓ ↓	
Result	0010 0100	= 24 in Accu after.

The example shown left, shows the result of using "AND". If "ORA" is used instead the result puts BD in the Accu. "EOR" would put 99 in the Accu, for the same mask and data. So why is that, I wonder ??

In the meantime, I have been "excused boots" over Christmas, so I will leave you with best wishes for the festive season and a very Happy New Year.....

OBITUARY

IT IS WITH REGRET THAT WE LEARN OF THE DEATH OF RON CROFT. ALTHOUGH NOT ACTIVE IN COMPUTING RECENTLY, THERE ARE BOUND TO BE READERS WHO REMEMBER RON.

ERIC THE ORIC!

After a move to a new house, ERIC the ORIC is installed in what Matthew Coates and wife Liz euphemistically call his study. It is in fact the cupboard under the stairs. (Matthew promises a photo). Apparently Liz is hooked on COLUMNS. I often have the same problem as Matthew with getting onto my ORIC with Ann and Louise at times. COLUMNS can certainly be addictive.

SEASONS GREETINGS

Ian Bradburn wishes all O.U.M readers a Merry Xmas and a Happy New Year.

ORICALL - IS IT THE END?

Unless subscribers to the Bulletin Board start using it before the end of December, then the plug will be pulled on it. It is as simple as that.

Response to it since the Summer has been minimal or in fact PATHETIC. Three have logged on in the last 5 months - myself, Colin Cook and Trevor Shaw.

Nick Haworth put a lot of effort into setting it up. Jon and myself spent many hours testing it. It was what YOU wanted. There are even 2 subscribers who haven't even logged on once yet.

Come on - now the dark evenings are here. Let's get involved. If all subscribers logged on just once a fortnight, then there would be 2 calls on each of the 3 nights a week, and it would therefore be worthwhile.

GET DIALING and let's save the board. There are plenty of user groups who would be jealous of what there is on offer for the ORIC.

MIND MADNEZ

Arnt Erik Isaksen is very pleased to see that his MIND MADNEZ is selling and he says that it seems that he will become rich and famous because of it. He is looking forward to the time when his royalties will allow him to buy a great villa and a Rolls Royce.

DREAM ON ARNT! The nearest that you'll get to a villa is a ticket to watch Aston Villa. Rolls Royce? - is there a Dinky Toy version!

FAREWELL FROM NIGEL

The following letter was recently recieved from Nigel Alefounder -

" I'm sorry to tell you that I'll not be continuing my subscription to O.U.M, as I've made the bold step on calling it a day with the ORIC.

To this end I'd like to donate my ATMOS and software + books for the price of the postage. Maybe you would like them to help boost club funds?

I'm keeping my oldest Atmos + Author to use as a letter writer in case my PC conks out! The Atmos I am offering is the brand new one I bought as a spare.

I've very much enjoyed your magazine, with it's humour, helpful articles and technical 'man friday' attitude. The Oriccommunity was lucky to have found such an enthusiast in yourself.

With very best wishes for the future, "

- Nigel Alefounder

Well I was a bit embarrassed about printing some of that. As you know, me, Smashie, and Nicie also do a lot of work for charity. But we don't like to talk about that! (If you don't know who Smashie and Nicie are, then get hip man!).

I now have Nigel's collection and will come up with a way of passing items on to those of you who perhaps can't afford a lot e.g. Senior Citizens, Students, Unemployed etc.

All I am looking for is enough to cover my outlay to Nigel plus a little to the OUM funds.

All begging letters gratefully recieved!

MESSAGE TO DR.RAY

It's a long time since I used EASYTEXT. Two issues in a row now that I've used WORDR-SPEED. When do I get the cheque? - Dave

Christmas is a-coming...

Let me start by wishing you all a very Merry Christmas and an enjoyable rest over the holiday.

To join in the festive spirit, Club Europe Oric is offering special Christmas discounts to all on Club software - no less than 20% off the usual prices. So you can buy:

WILLY on disc for £4.75
MLUCH/ZOLTEC/YAHTZEE/RISIKO for £7.99
TETRIS/MIZAR/OTHELLO for £6.99
FLIGHT SIM./MR. PRESIDENT/ROBINSON
CRUSOE for £6.99
MAH-JONG/ORIC SWAP for £3.99

And on 3½" disc it's £1 cheaper still!
And don't forget that all prices include post and packing.

For those renewing or taking out a subscription for 1994 there will be some very special offers on hardware - including the Telestrat for £130.00! Current members will receive full details with the December mag; if you are interested in joining the Club (11 mags a year plus 4 discs of top-class French software, often translated into English) just drop me a line at:

3 Madingley Road
Cambridge
CB3 0EE

The Club Clip Art discs are selling well - don't forget they are Public Domain, so you can use the pictures freely in your own programs, and pass them on at will. Currently available (on disc only) are:

40 Animals - Bear to Zebra
Clip Art disc 1 - Objects, symbols, icons and things
The Naked Oric (adults only)

Each is £3.00 on 3" disc, £2.00 on 3½".

And finally, Nick wouldn't forgive me if I didn't plug 'Columns' - the first Oric game to lead to fisticuffs in happily married families! Try it and see...

And at last to business:

MICROWAVES

Oric comes to a stop

When programming in HIRES mode on the Oric it is impossible to see the values of variables or sums because if you type PRINT X - where X is the variable or sum - the Oric just prints the result and automatically scrolls upwards as a result of printing its Ready message. However, if you enter PRINT X: WAIT 100 then you are given a chance to read the answer.

*S.N.Purvis,
Malmesbury, Wiltshire*

Try PRINT X:....Ed

Rambling on...

Search for a variable

D158 LDA #00	D1E8 LDA #00	Reinitialise the authorisation flag
D15A STA 2B	D1EA STA 2B	
D15C LDA 9C	D1EC LDA 9C	
D15E LDX 9D	D1EE LDX 9D	AX = start of variables
D160 LDY #00	D1F0 LDY #00	and prepare the index
D162 STX CF	D1F2 STX CF	save the address in work pointer
D164 STA CE	D1F4 STA CE	
D166 CPX 9F	D1F6 CPX 9F	end of the variables zone reached?
D168 BNE D16E	D1F8 BNE D1FE	no, continue
D16A CMP 9E	D1FA CMP 9E	compare the low byte as well
D16C BEQ D190	D1FC BEQ D222	go and deal with no variable found
D16E LDA B4	D1FE LDA B4	take the first character of the variable
D170 CMP (CE), Y	D200 CMP (CE), Y	and compare
D172 BNE D17C	D202 BNE D20C	no match, pass to the next
D174 LDA B5	D204 LDA B5	take the second
D176 INY	D206 INY	adjust the index
D177 CMP (CE), Y	D207 CMP (CE), Y	and compare
D179 BEQ D1E5	D209 BEQ D277	exit with variable found
D17B DEY	D20B DEY	Y = 0
D17C CLC	D20C CLC	and pass to the next variable
D17D LDA CE	D20D LDA CE	i.e. add 7 to
D17F ADC #07	D20F ADC #07	the current pointer
D181 BCC D164	D211 BCC D1F4	without forgetting the high byte
D183 INX	D213 INX	which is always in X
D184 BNE D162	D214 BNE D1F2	and start again

TEST IF A IS ALPHABETIC

Entry: A contains the code value of the character to test

Exit: C=0 if not alphabetic, C=1 otherwise. Lower case letters are not alphabetic.
A, X and Y are unchanged. (C is the Carry flag)

Principle: A neat piece of code is used to set C correctly: by inverting its sign one must get C=1 for a code less than '[', while a normal comparison would give the opposite.

The first subtraction will give a number greater than #A5 (between #E6 and #FF) if the character is alphabetic, so that subtracting #A5 enables you to exit with C=1.

If the character is not alphabetic, the first subtraction gives a result less than #A5, so that the second subtraction gives C=0.

Note that #A5+#5B=#100, here in fact 0, which enables A to be recovered by adding #A5.

D186 CMP #'A'	D216 CMP #'A'	Compare to first letter of alphabet
D188 BCC D18F	D218 BCC D221	below, exit, c=0
D18A SBC #' '	D21A SBC #' '	C=1, set code of first after Z
D18C SEC	D21C SEC	
D18D SBC #A5	D21D SBC #A5	and readjust A, setting C
.....	D21F BCS D221	meaningless!
D18F RTS	D221 RTS	

Treat a variable not found

Principle: when the routine is called only for a check, there is no point in creating the variable; rather you simply return an address corresponding to a value of 0 (exponent nul) or to an empty string (length nul).

The call (or return...) address is on the stack, so it suffices to test it.

D190	PLA	D222	PLA	Recover call address, low byte
D191	PHA	D223	PHA	and adjust the stack
D192	CMP #F2	D224	CMP #7E	and test for #CFF2/#D07E
D194	BNE D1A3	D226	BNE D235	do the JSR placed in #CFF0/#D07C
D196	TSX	D228	TSX	if low byte OK,
D197	LDA 0102, X	D229	LDA 0102, X	test high byte as well
D19A	CMP #CF	D22C	CMP #D0	
D19C	BNE D1A3	D22E	BNE D235	not OK, go and create the variable
D19E	LDA #03	D230	LDA #07	call for check, AY pointer
D1A0	LDY #E2	D232	LDY #E2	to a dummy value (#00 #00 #00, nul
D1A2	RTS	D234	RTS	if numeric or empty string)

Create a variable

Principle: Simple enough, the tables are moved higher by the length of a variable and the variable (7 bytes) is inserted.

N.B. #A0-#A1 is automatically set by #C3F8/#C3F4. The routine finishes as if the variable had been found, since that is in fact where it is after creating it.

D1A3	LDA 9E	D235	LDA 9E	
D1A5	LDY 9F	D237	LDY 9F	Take end of variables
D1A7	STA CE	D239	STA CE	
D1A9	STY CF	D23B	STY CF	as start of zone to move
D1AB	LDA AB	D23D	LDA A0	
D1AD	LDY A1	D23F	LDY A1	take top of tables
D1AF	STA C9	D241	STA C9	
D1B1	STY CA	D243	STY CA	as end of zone to move
D1B3	CLC	D245	CLC	
D1B4	ADC #07	D246	ADC #07	a variable needs 7 bytes
D1B6	BCC D1B9	D248	BCC D24B	calculate the target address
D1B8	INY	D24A	INY	not forgetting the high byte...
D1B9	STA C7	D24B	STA C7	
D1BB	STY C8	D24D	STY C8	in AY as well...
D1BD	JSR \$C3F8	D24F	JSR \$C3F4	do the move
D1C0	LDA C7	D252	LDA C7	
D1C2	LDY C8	D254	LDY C8	recover the new start of tables
D1C4	INY	D256	INY	adjusting the high byte
D1C5	STA 9E	D257	STA 9E	(much shorter than adding 7)
D1C7	STY 9F	D259	STY 9F	and initialise it.
D1C9	LDY #00	D25B	LDY #00	prepare the index
D1CB	LDA B4	D25D	LDA B4	take first character of name
D1CD	STA (CE), Y	D25F	STA (CE), Y	and place in the variable
D1CF	INY	D261	INY	
D1D0	LDA B5	D262	LDA B5	repeat for second character of name
D1D2	STA (CE), Y	D264	STA (CE), Y	and place in the variable
D1D4	LDA #00	D266	LDA #00	and zero the result zone
D1D6	INY	D268	INY	
D1D7	STA (CE), Y	D269	STA (CE), Y	a loop would have been shorter
D1D9	INY	D26B	INY	
D1DA	STA (CE), Y	D26C	STA (CE), Y	although speed is not
D1DC	INY	D26E	INY	
D1DD	STA (CE), Y	D26F	STA (CE), Y	critical here
D1DF	INY	D271	INY	

D1E0	STA (CE), Y	D272	STA (CE), Y
D1E2	INY	D274	INY
D1E3	STA (CE),Y	D275	STA (CE), Y

Variable found

D1E5	LDA CE	D277	LDA CE	take variable address
D1E7	CLC	D279	CLC	(pointing to its name)
D1E8	ADC #02	D27A	ADC #02	and adjust it on the first
D1EA	LDY CF	D27C	LDY CF	byte of its value
D1EC	BCC D1EF	D27E	BCC D281	
D1EE	INY	D280	INY	not forgetting the high byte.
D1EF	STA B6	D281	STA B6	save it in #B6-#B7
D1F1	STY B7	D283	STY B7	
D1F3	RTS	D285	RTS	

Calculate the effective starting address of an array

D1F4	LDA 26	D286	LDA 26	take number of dimensions
D1F6	ASL A	D288	ASL A	x 2
D1F7	ADC #05	D289	ADC #05	+ 5 (2: name, 2: length, 1: no. of dimension)
D1F9	ADC CE	D28B	ADC CE	and adjust to the start
D1FB	LDY CF	D28D	LDY CF	of the table
D1FD	BCC D200	D28F	BCC D292	
D1FF	INY	D291	INY	not forgetting the high byte
D200	STA C7	D292	STA C7	the address is now in AY
D202	STY C8	D294	STY C8	and in #C7-#C8
D204	RTS	D296	RTS	
D205	D297	BYT #90, #80, #00, #00, #00 i.e. -32768 or -#8000		

TAKE AN UNSIGNED INTEGER VARIABLE

Entry: TXTPTR-1 correctly set
Exit: a non-signed integer in #33-#34, #D4-#D3, AY

D20A	JSR \$00E2	D29C	JSR \$00E2	jump a character
D20D	JSR \$CE8B	D29F	JSR \$CF17	evaluate the expression
D210	JSR \$CE7A	D2A2	JSR \$ CF06	verify numeric (and #CE77/#CF03 ?)
D213	LDA D5	D2A5	LDA D5	take sign
D215	BMI D224	D2A7	BMI D2B6	if negative, error

ACC1 --> #D4-#D3 (not signed)

Entry: a number in ACC1
Exit: see above

D217	LDA D0	D2A9	LDA D0	take exponent
D219	CMP #90	D2AB	CMP #90	compare for #8000
D21B	BCC D226	D2AD	BCC D2B8	below, it's OK
D21D	LDA #05	D2AF	LDA #97	
D21F	LDY #D2	D2B1	LDY #D2	AY points to -#8000
D221	JSR \$DF34	D2B3	JSR \$DF4C	compare (AY) and ACC1
D224	BNE D2A0	D2B6	BNE D336	'ILLEGAL QUANTITY ERROR' if < or =
D226	JMP \$DF74	D2B8	JMP \$DFBC	ACC1 --> integer (#D4-#D3-#D2-#D1)

Execution... is questionable

Nothing is simpler than to play the sequence of notes of 'Frère Jacques' on the computer, taking them from a list of DATA where each note is in turn given its two numbers: octave, note. For reasons that will become apparent, two array variables are initialised: for the nth note, O(n) is the octave and S(n) the note in that octave.

Playing the piece is really pretty awful with this program as it stands. The notes are correct, but the rhythm is uniform (WAIT 30 for each note). So now we introduce a new notion for each note: its **duration**.

We know for a fact that the attraction of 'Frère Jacques' is its changes of rhythm. The 'Sonnez les matines' is nimble, the 'Frère Jacques dormez-vous' slower, and the 'Ding-dong-dong' solemn.

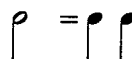
The composer has achieved this by using notes of differing duration and a method of notation which differentiates by the 'colour' of the note (white or black), and by the 'barbs' on the tail of the note.

By convention the 'single' note is written with a black body and a simple tail. The habit is to put the tail to the right when it rises above the note, and to the left when it drops below it. To cover the point completely, the tail rises or drops for 'aesthetic' reasons: the tail must preferably stay within the stave.

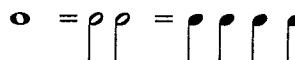
This single note is **the crotchet** of the musician:

**Two by two**

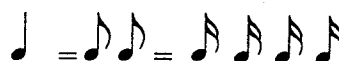
Nearly all other notes are obtained by one or more doublings or halvings of the crotchet. The note with a value of twice a crotchet is the **minim** (written without filling in the body of the note):



The semibreve is twice the value of the minim, and so equal to four crotchets (and has no tail):



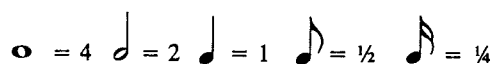
The shorter notes are the **quaver** ($\frac{1}{2}$ crotchet), **semiquaver** ($\frac{1}{2}$ quaver and so $\frac{1}{4}$ crotchet), etc. The 'quaver' is the little hook with which their tails are marked:



It remains to explain the mysterious $\frac{2}{4}$ fraction which follows the G clef on our stave. It is the primary indication of the kind of rhythm to be played, the beat, or tempo. The 4 indicates that the unit of beat is the crotchet, and the 2 that each **bar** (piece of music between two vertical lines) lasts for the beat of two crotchets.

If we take a waltz with 3 beats, we get $\frac{3}{4}$ time for the well known rhythm 'Tic-tic-toc, tic-tic-toc...'.
Tic-tic-toc...'

What could be simpler than to number the duration of the notes for the computer? So, taking as a convention:



we can adjust our earlier program by adding an array D giving the duration of each note.

With duration

If, armed with this rule, we reread the score, there are only two difficulties:

- with certain notes followed by a **dot**
- with the final incomplete bar.

When a note is dotted by the musician, it gives the note a duration $1\frac{1}{2}$ times its normal length. So the dotted quaver of 'Sonnez...' becomes $\frac{3}{4}$ of a crotchet; this, together with the next semi-quaver and the two final quavers of the bar gives us the required total:

$$\begin{array}{ccccccc} \text{♩} & + & \text{♩} & + & \text{♩} & + & \text{♩} & = & 2 \text{ beats} \\ \frac{3}{4} & & \frac{1}{4} & & \frac{1}{2} & & \frac{1}{2} & & \end{array}$$

For the computer, $\frac{1}{2}$ is written as 0.5, $\frac{3}{4}$ as 0.75, etc.

It only remains to take account of the length of a note when we run the program. We do this by multiplying the length of the crotchet (here 40/100ths of a second) by the relative length D(n) in the WAIT instruction.

Playing the piece is now much more acceptable, but not yet perfect. Just a detail: the last bar doesn't 'add up' correctly. With a crotchet and a quaver, we only have one and a half beats instead of the two required.

```

10 REM Frere Jacques with rhythm
20 DIM O(100): DIM S(100): DIM D(100)
30 K=0
40 REPEAT
50 K=K+1: READ O(K)
60 UNTIL O(K)=0
65 K=K-1
70 FOR I=1 TO K
80 READ S(I)
90 NEXT
92 FOR I=1 TO K
94 READ D(I)
96 NEXT
100 GOSUB 500
110 GOTO 100
500 REM Execution
510 FOR I=1 TO K
515 PLAY O,0,0,0
520 IF S(I) < 0 THEN GOTO 530
522 MUSIC 1, O(I), S(I), 8
524 PLAY 1,0,0,0
530 WAIT 40*D(I)
540 NEXT
550 RETURN
1000 DATA 3,3,3,3,3,3,3,3,3,4,4,3,4,4,
4,4,4,4,3,3,4,4,4,4,3,3,3,3,3,3,
3,3,3,0
1010 DATA 8,10,12,8,8,10,12,8,12,1,3,
12,1,3,3,5,3,1,12,8,3,5,3,1,12,8
1020 DATA 8,3,8,8,-1
1030 DATA 1,1,1,1,1,1,1,1,1,1,2,1,1,2,
.75,.25,.5,.5,1,1,.75,.25,.5,.5,
1,1
1040 DATA 1,1,2,1,1,1.5,.5

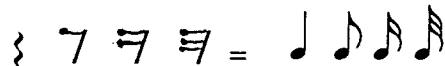
```

Time for a rest...

'Frère Jacques' is a simple piece. It's not the

same for pieces where the rhythm is very important, if not the most important feature (as with jazz). Here the run of music is discontinued, and 'dead time' is introduced: for the musician, rests.

A rest is defined as a pure delay, without sound. The musician calls a rest that lasts for the length of a crotchet a crotchet rest (unsurprisingly!). Other rests which correspond to the quaver, semiquaver, demi-semiquaver, etc. are the quaver rest and so forth. Here is their usual shape:



Long rests are called more prosaically pauses (the length of a semibreve) and the minim rest (the length of a minim!). They are represented by a thick line above or below the middle line of the staff.



So now we can introduce a new note -1: you 'activate' the synthesiser for each positive note, and 'extinguish' it on each negative note, and so we get the silence we seek. This effect is obtained using the PLAY instruction of the Atmos.

PLAY 0,0,0,0 stops the synthesiser
PLAY 1,0,0,0 sets channel 1 in motion

This 'channel 1' is the only channel we are using at present. In the three lists of DATA (1000, 1010 and 1020, 1030 and 1040), we add an artificial octave, the famous note -1 and its length of 0.5. So at line 500off, we introduce a stop on channel 1 before testing whether to jump to the WAIT command (for a rest) or to re-enable channel 1 to play the note as usual. You can readily hear the 'attack' of each note as the channel is enabled, and this corresponds better with our expectation of a kind of 'instrument'.

This time, the program plays the piece relatively correctly. Relatively?
Ah well, see you next time!

THE GAMESTER

COBRA

Rene Marke has gotten absolutely hooked of late on 'COBRA', a French 'snakey' game.

Her latest high score is an incredible 2,699,993.

One little bug she has found is with regard to the hi-score table. Though the game registers the correct score at it's end, it does not allow her to enter 7 digits in the hi-score table, and thus her millions are not recorded.

You shouldn't tell a ladies age, but Rene will be the first to admit that she won't see 70 again! Come on you youngsters - the 'Little Old Lady from Pasadena' is putting you to shame!

=====

COLUMNS

Incredible, Fantastic, Great and Really Addictive are just some of the adjectives that you readers have used to describe 'COLUMNS' from the pen of Nick Haworth.

The Dick family hi-score stands at an excellent 134,000 plus from Louise, and seemingly destined for the All-time hi-score table. Seemingly until the postman arrived today, that is.

Steve Marshall has beaten it with 154,386, and he says it took him almost as many minutes to do.

'COLUMNS' is available now on Disc and cassette from O.U.M

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AN OLD FRIEND

Many subscribers from way back will remember Matthew Shakeshaft from Preston. Though no longer subscribing, Matthew passes on his seasonal regards to everyone. He has now found himself a job as an Assistant Accountant with a large Insurance Company and works with PC's. He says he still hasn't seen the old favs' for the Oric on PC yet, namely: XENON, ZOROGON and DPTLQ.

Talking of PC's; I recently had a letter from an old Oric user in Bournemouth. He asks if 'THE HOBBIT' is available on the PC. Does anyone have the answer?

MOVING ON

Not a reader of O.U.M, but an avid game player; Glen Poulton has decided it's time to part with his Oric and would like to know if anyone is interested in buying his collection. Glen has an ORIC-1, 44 original cassettes, and 4 books. Cassettes include all the favourites, plus a few hard to get titles like WORLD GEOGRAPHY from Superior Software and WORDSEARCH from CDS.

If you want a complete list of the software and books then please send me an S.A.E. If you wish to make an offer for his collection then please write to Glen at : 32 Wickett Hern Rd, Armthorpe, Doncaster, S.Yorks. DN3 3SP. Telephone number is: 0302 835334

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THE QUILL

Many OUM readers have asked if 'THE QUILL' adventure writing utility has been fully converted to disc. If you have done it then please let us know. Richard Farrell from Darlington is just one of those asking, as he would like to write a disc based adventure for the Atmos. Richard prefers text only adventures and cites 'LEATHER GODDESSES of PHOBOS' from Infocom as his favourite.

Perhaps David Goodrum of 'ENCHANTED' fame, could pass on some tips on writing adventures using Sedoric!

FLYING HIGH

Congratulations to Kieron Smith, who you remember used his Oric and MCP 40 for his Final Year project at University. Kieron has graduated with a 2.1 Honours degree in Aeronautics and Astronautics. Unfortunately there are not many openings for Astronauts in the West country, and after a three month spell as a labourer on a building site, he has joined the ranks of the unemployed.

IT'S A BOY

Congratulations to John Hughes on the birth of a son. I believe his wife also got involved somewhere! I must admit that I've forgotten what the boy is named, though Edward seems to stick in my mind. Perhaps John could let us know if I'm right?

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DIGITISER

Readers may remember mention of DIGITISER pages in a recent issue of O.U.M from Simon Ulyatt. Try Teletext pages on Channel 4, pages 470 to 476 and the Letters page on page 474.

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JAMES BOND ON THE ORIC

Steve Marshall has sent me a couple of tunes a la SONIX. They are the theme to 'LIVE AND LET DIE' and for hardened rockers there is the Black Sabbath favourite entitled 'SMOKE ON THE WATER'.

Steve tells me that the Bond theme should speed up in the middle, which can't yet be done on SONIX.

Talking of SONIX - reaction has been very favourable, though a few have suggested that perhaps a teach-in on it's use could be started. I think that Steve also felt this to be advisable and I believe he also volunteered to write it.

WATCH THIS SPACE.....

=====

ON THE MOVE

David Goodrum has recently moved to another part of Bristol, and from Jan. 1st will be moving again. He will then be at: 92 Leighton Avenue, Leigh-On-Sea, Essex. SS9 1QA

I think David must have shares in Pickfords!

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ORIC QUESTIONS ANSWERED

After my recent comments regarding the somewhat lazy nature of some readers who sent in the same old bloody questions, without first checking back-issues; HELP IS AT HAND for you mere mortals.

David Wilkin has got the bit between his false teeth and started on 'ORIC QUESTIONS ANSWERED'. I am supplying him with the oft repeated questions like: "What's a computer", "How do you drive a disc and do you need a license to do so?" and "Can I use a cassette player with my ORIC?"

There will be more details on this serious tome, when it is finished. As yet a French version is not planned.

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THE BACK PAGE

WELL, WE HAVE REACHED THE BACK PAGE FOR ANOTHER YEAR. A YEAR OF PLENTY. BUT WHAT DOES 1994 HOLD FOR US ORICIANS. LET'S TAKE A TONGUE IN CHEEK LOOK AT WHAT TO EXPECT IN THE FUTURE.

JANUARY - Jonathan Bristow releases a Spell Checker, It's release is with held due to the fact that he spells the manual heading as " Spell Chequer"!

FEBRUARY - Sedoric 3.008 is released. Mr.Blobby comes out on Atmos as the new hit from Nick Haworth. Nick's dad sues for pinching his likeness!

MARCH - Allan Whitaker writes an article for OUM. OUMDISC 4 is still almost ready.

APRIL - Sedoric 3.007 is released - Dr.Ray can't count above 8 and so updates are now the lowest number.

MAY - Arnt Erik Isaksen finds a bug on the 114th level of MIND MADNEZ. All copies are withdrawn from sale - I get both copies sold back!

JUNE - Jon Haworth wins 3 Telestrats at the Paris Meet - one of them works!

JULY - The Aylesbury Meet is another success - Peter Thornburn is legless by 11.00 a.m, David Wilkin is asleep by 12 noon and Jonathan Bristow demonstrates the old Traffic song, 'Hole in my Shoe' on his new musical editor,entitled "MARIO".

AUGUST -The first CEO disc of the year appears - 2 of those listed on the menu are actually on the disc.

SEPTEMBER - OUM is sued by the CEO - Jon Haworth acts as Barrister for both sides. The case is settled out of court and Jon buys another couple of Telestrats with his fee.

OCTOBER - Brian Kidd has his op reversed - with only 7 kids he thinks the family isn't really big enough!

NOVEMBER - John Hughes buys another 14 Disc Interfaces from Steve Hopps - just what is John doing with them.

DECEMBER - John Hughes is sued by the Australians for 'Dumping'. David Wilkin wakes up, Jonathan Bristow writes a game with no bugs in it.

Well, I envisage all of that for 1994. No - I tell a lie - the last item would never happen.

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THE INDEX

P1 - the cover from JON, P2 - Headitorial, P3 - nEWS, P4&5 - a selection from the postbag, P six - AlterNATive Micros, p sept - marSHalls MusiC, P8/9 - MERCHEAN Code (Bristow and his spell chequer again!), p 10 - Bobs and bitS, Pages 11,12,13,14 - ROMRAM, P 15/16 - Software Sounds, P17 - GAMeSTER, P18 - More bitS, P19 - Thsi si ti.

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WORDSPPEED

I am now using the updated version of WORD-SPEED.

The first thing I noticed on boot-up was the boot sequence,which states: SEDORIC V2.0 . The new menu states: SEDORIC V1.008. What is actually written on the disc? You guessed it - SEDORIC V2.01. Well,you did guess it,didn't you!

The menu is slightly different, RESET has been replaced by BASIC (does the same thing!). File saving and loading is speeded up.

All 3 SEDORIC versions now available from Allan,or wait for the SEDORIC V2.1 version.