

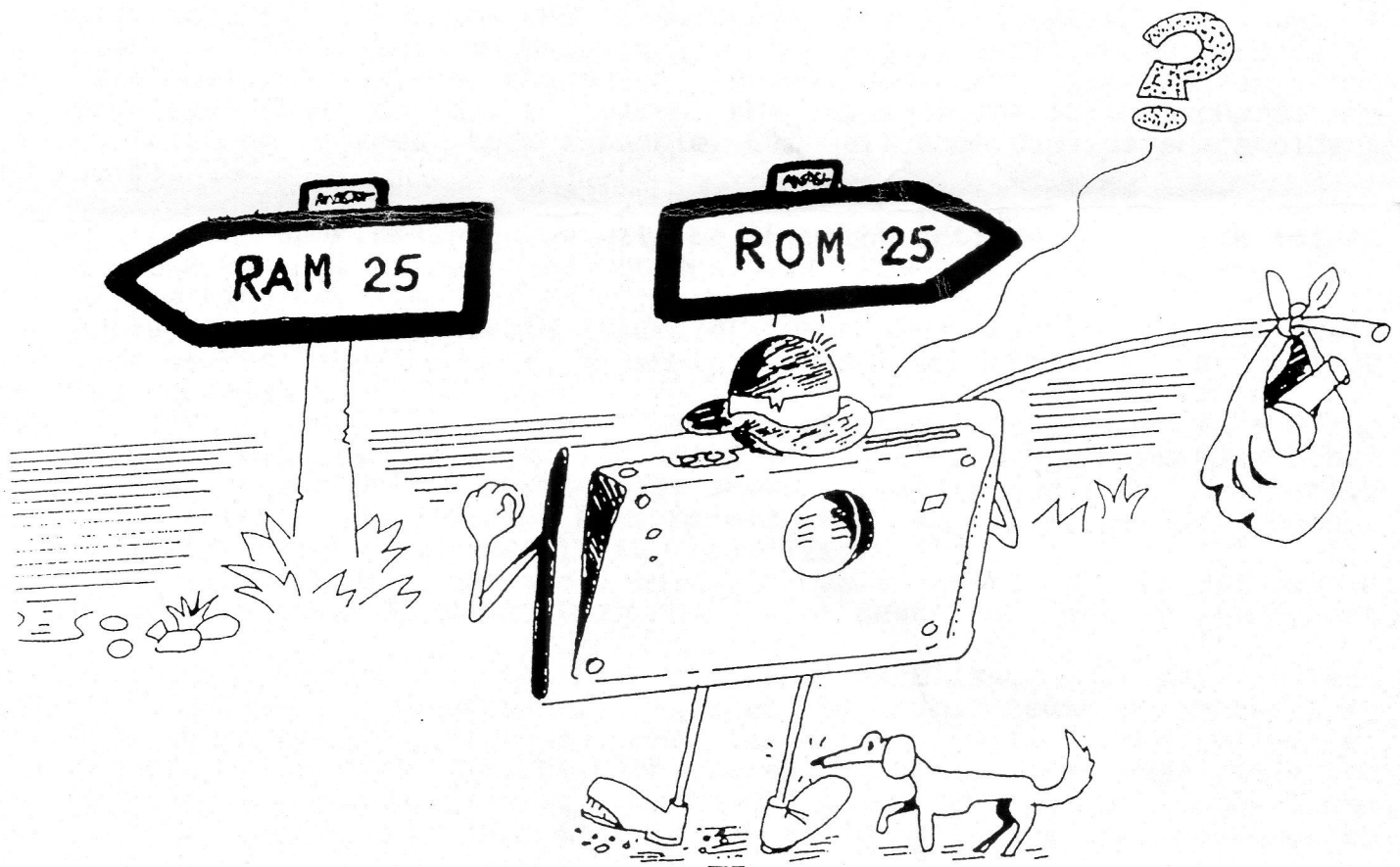
ORIC

**USER
MONTHLY**

with Oric Enthusiasts

*Europe's longest running
Oric magazine*

**Number 45
May 1991**



Edited and Distributed by Dave Dick, 65 Barnard Crescent, Aylesbury, Bucks HP21 9PW

THE EDITORIAL

HELLO AGAIN,

and welcome to the May extravaganza.

I will start off with a moan to get it out of the way and then get back to my usual Pleasant self.

Often to expedite (for the uneducated, it means to speed up) orders for software etc., I accept Phone and written orders which start with the Phrase "If you have got it or can get it, just pop it in the Post and I'll send a cheque by return. I don't expect it by return as you must test it first. I do however expect Payment within 14 days. It is costly and time consuming to chase people up and costs money to send the BOYS round. 99% of the orders that I receive are cash with order or Payment is received promptly. However that other minority stood at well over 100 Pound last week. I am not a rich man and have to pay my creditors. Please be Prompt and do not spoil it for others who are marvellous to deal with. Those who have been Prompt to date will be given credit in the future; those who have not will be at the back of the queue.

Now an apology. If you are still awaiting completion of an order, I do apologise. Of late, everyone seems to be ordering that which is out of stock or that which won't load - yes I DO load test everything prior to despatch.

NOW let's get onto a more apt intro from yours truly.

Get well soon to Judy Simms who is suffering from Laryngitis (that doesn't look right - it's that Guinness; it always makes me spell wrong - sorry to Frank and welcome back to the group). Anyway Judy can't talk Proper - not that Brummies ever could. I leaked the news to the stock exchange and British Telecom shares took a tumble. Get well soon Judy, as shareholders need you!!!

In response to your requests we will be printing articles from back issues of old computer magazines and others will be offered for the cost of photocopying plus postage.

I recently purchased some old issues of "ORIC OWNER" mags - can't recall which issues, but if you are interested then drop me a line - Price 1.20 each plus postage.

Also to hand I have the 32nd edition of the 'Tangerine Users Group Newsletter'. This as well as including a letter from Rob Kimberley (then aged 12 - yes there were computer mags around 50 years ago), has a renumber program, an article on speech peripherals and a whole host of goodies. I will see what can be included in the next issue.

This issue is 18 pages long and I think it has the best mix yet. Ta muchly to our contributors. We have again run out of space for certain items that were promised.

Cost will not permit us to have 18 pages each issue - unless. Unless what. Let us have a sweepstake. If you all send in 1 Pound or instruct me to reduce your subscription by one issue, then I will do the following: A) the next 2 issues will be bumper ones, B) 50% of the funds collected will be used to fund this action and C) the other 50% will go to the lucky winner of a Prize draw. For this to happen, I MUST have your response by MAY 18th.

THIS ISSUE

Page 1 - The Front cover - ta Jon and I hope you get lost on the M25 someday too!!!

Page 2 - The Editorial.....P 3 - NEWS NEWS NEWS

Page 4 - More Results.....Page 5 - Listings etc.

Page 6/7/8 - RAMROM - it's time to get your bingo cards out folks!

Page 9/10 - Oric Enthusiasts - Go on write to Allan.

Page 11 - Contact Page 12/13 - Letters and Mail order update

Page 14/15/16 - Peter Bragg's teach-in ... Page 17/18 - Gamester

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ORIC - THE STORY SO FAR a marvellous booklet from Jon Haworth..... only 2 Pound.....direct from Jon.....

>>>NEWS.....NEWS.....NEWS.....NEWS.....NEWS.....NEWS.....>>>>

MONITORS

PHILIPS 9" R.G.B COLOUR MONITORS - ONLY 79.95 + V.A.T + 10.00 Post.
 ORIC 5 Pin din to scart leads supplied at extra cost of 7.50 + V.A.T
 Only 200 left out of a batch of 600. Jon Haworth has Purchased one and says
 that it is excellent. He also told me that the company were very helpful.
 The vendors are - THE ONE STOP ELECTRONIC SHOP, 106 TRINITY ST.
 GAINSBOROUGH, Lincs. The telephone no. is 0427 61499.

Don't forget to mention that you have an ORIC as the lead that they have
 made up is special to our machine.

THE THIRD ORIC MEET

The venue in Aylesbury for the next ORIC meet is as Previous. The meet
 takes Place on Sat. July 13th and tickets are 2 Pound each and must be
 bought Prior to the event.

As we are now Printing a names/address file, why not contact someone in
 your locality and come together. Share the Petrol money, share the driving
 and share each others company.

Please let me know what you wish to demo or indeed what you wish to see at
 the event.

Already Planned are the unveiling of MUSED 91 - a utility for composing
 music using all 3 channels with their individual note, octave, volume and
 rest set by the user. On it's own it can record up to 2000 notes Per channel

Jonathan Britow is the author. I have been Playing around with the
 Program over the Past few days and was impressed by the quality of the
 DEMO music. The Program is menu driven and for once in my life, no sorry
 twice (the other time was when using LORIGRAPH); was wanting a MOUSE, which
 leads me nicely into the next item.

Peter Bra99 from Sutton has dropped me a line, and I quote: " By the way, I
 have the BBC mouse operating with the expansion board, but apart from using
 it as a substitute cursor key set, it has not been used for anything really
 interesting as yet. The 4 movement directions and 3 buttons can each be set
 to output any code. I will bring the software etc, to the meeting in JULY.

Peter also informs me that he is at Present investigating an ARCHIMEDES
 "sprite" file on the ORIC.

SEND FOR THOSE TICKETS --- 2 POUND EACH ----SEND FOR THOSE TICKETS...2 quid

*****8

NEWS FROM FRANCE

Coming soon from the CEO is a FLIGHT SIMULATOR, which is supposedly of
 excellent quality i.e better than ORICFLIGHT.

I believe it was culled from the IBM version. I know we have many users
 who like this type of game and therefore hope it is released soon.
 Also finally due for release is ROBINSON CRUSOE - I think it must be all
 of 9 months since I reviewed it.

The CEDMAG is now arriving regularly, thanks to Alain Weber's efforts.

QBED and CHARED

the object and character editors from Jonathan Bristow are Planned for
 release on 'MIRAGE' for JUNE 1st.

LOOK OUT FOR A SUPER "FOOTBALL POOLS" PROGRAM from John Hurley very soon

THE LATEST JED from the CEO is now out and includes TRIATHLON (a super
 sports game) and SURVIVOR (Pity multiple key Presses weren't out in '84 !!)

QUESTIONNAIRE RESULTS - PART 2

IN THIS ISSUE ,WE LOOK AT SOME MORE OF YOUR RESPONSES TO OUR RECENT QUESTIONNAIRE. IN CASES WHERE YOU HAVE NOT REPLIED AND I HAVE KNOWN YOUR SYSTEM, THEN I HAVE INCLUDED IT. ALSO INCLUDED ARE CEO BRITISH MEMBERS WHO DO NOT SUBSCRIBE TO "O.U.M" AND NEW "O.U.M" MEMBERS. NOT ALL REPLIED, BUT STILL I HAVE MANAGED TO BASE THE RESULTS OF QUESTION 1 FROM 82 USERS.

Q.1. - WHAT DOES YOUR SYSTEM COMPRISE OF?

ORIC 1 - 8.5%
 ATMOS - 52.5%
 ORIC1/ATMOS - 39%

THOSE WITH BOTH, INCLUDES THE POPULAR SWITCHABLE ROM VERSION.

42% WERE CASSETTE BASED, WHILST 58% WERE ON DISC.
 OF THOSE ON DISC, THE BREAKDOWN WAS AS FOLLOWS:

3" - 62%
 3"/5.25" - 17%
 5.25" - 9%
 3.5" - 6%
 3"/3.5/5.25 - 6%

ON THE PRINTER SIDE, THE MOST COMMON WAS OF COURSE THE MCP 40. IN REAL PRINTERS, THE MOST OWNED WAS SHARED BY THE 'PANASONIC -KXP1081' AND THE 'STAR LC 10'.

NEXT CAME THE 'BROTHER HR 5' WITH 3 OWNED AND THE 'CITIZEN 1200'. 'PANASONIC' WAS THE MOST POPULAR PRINTER AS OWNERS ALSO HAD THEIR: KXP 1124, 1080 & 1180 MODELS. ALSO OWNED WERE: SHINWA CP80, MICROLINE 80, OKI 82A, TANDY CGP/MP 165, HEWLETT HP 82986A, OLIVETTI DM100S, TOSHIBA MTZ0024C, MANNESMAN 81, SEIKOSHA GP 100A11, ESPRIT AND A SEIKOSHA GP 500A. THE LAST MENTIONED IS MINE AND THOUGH NOT POPULAR (OR PERHAPS OUTDATED); IT DID WARRANT AN EXTREMELY GOOD ARTICLE IN THE CURRENT "CEO MAG".

OTHER ITEMS OF YOUR SYSTEMS WILL BE LOOKED AT NEXT ISSUE.

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Q.4

--- - WHAT DO YOU MAINLY USE YOUR ORIC FOR?

ALL ASPECTS - 30% GAMES - 24% WORD PROCESSING - 12%
 COMMS. - 8% TYPING IN PROGRAMS - 5%
 OTHER USES WERE: LEISURE, SPREADSHEETS, C.A.D, ACCOUNTS, PLAYING PATIENCE, STRATEGY, TRYING TO COMPLETE SILLY GAMES, BBC TO ORIC TRANSFER, COMMODORE TO ORIC TRANSFER, DATABASE, DABBING WITH I/O PORTS AND LAST BUT NOT LEAST WAS PLAYING 'DON'T PRESS THE LETTER Q'.
 WHAT A VERSATILE GROUP WE ARE!!

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Q.5

--- - WHAT TYPE OF SOFTWARE WOULD YOU LIKE TO SEE?

UTILITIES - 20% ARCADE GAMES - 18% RADIO COMMS - 11%
 GRAPHICS - 7% STRATEGY GAMES - 7% MUSIC - 7%
 THE OTHER 40% WAS SPLIT BETWEEN: ADVENTURES, GAMES DESIGNER, FOOTBALL GAME, EDUCATIONAL, GRAPH AND CHART PLOTTER FOR THE MCP40, SOFTWARE THAT I CAN COMPETE AT AND WIN, ASSEMBLER, 'ELITE' (AS RELEASED FOR THE BEEB AND ATARI), DESKTOP PUBLISHING PACKAGE, COBOL, & A CONSTRUCTION KIT.

SURELY WE HAVE SOME OF THESE PROGRAMS TO HAND!!! - DAVE DICK

THE LISTINGS PAGE

ANOTHER 2 PROGRAMS FROM RON EVANS. THE FIRST TURNS DECIMALS TO FRACTIONS AND THE SECOND, FRACTIONS TO DECIMALS.

DO NOT USE TOO HIGH A DECIMAL, OTHERWISE THE PROGRAM RUNS FOR HOURS.

```

5 CLS
10 ?:" This Program turns decimals into"
20 ?"      fractions"
25 INPUT"      Give me a decimal":A
30 N=1:D=1
40 ?:"      PROGRAM RUNNING"
50 REPEAT
60 F=(N/D)
70 IFF>ATHEND=D+1
80 IFF<ATHENN=N+1
90 UNTILF=A
100 ?:"      (A) IS EQUAL TO (N/D)"/D
110 ?:"      PROGRAM FINISHED"
120 ?:"      TO RUN AGAIN PRESS 'Y'"
130 GETA$:IFA$="Y"THENRUN

```

NOTE FROM THE EDITOR: I HAVE USED "?" FOR THE TERM "PRINT" TO SAVE MYSELF TIME IN TYPING THIS IN:THOUGH BY EXPLAINING THE FACT,I HAVE PROBABLY LOST THE TIME THAT I WOULD OF SAVED.

```

5 CLS:?:?
10 ?:"To convert fractions to decimal,enter      the fraction as two
    numbers")
20 ? " the      numerator and the denominator"
25 PRINT & 15,6;"ie N/D"
30 INPUT " NUMERATOR & DENOMINATOR":N,D
40 DEC=N/D
50 ?:" FRACTION":N;"/";D;"=";DEC
60 ?:"      TO RUN AGAIN PRESS 'Y'"
70 GETA$:IFA$="Y"THENRUN

```

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ASTRONOMY

THOSE INTERESTED IN ASTRONOMY WHO MAY HAVE ROB KIMBERLEY'S PROGRAM NOW OUT ON PUBLIC DOMAIN;AND AS AN AFTERTHOUGHT ROB HAS SENT IN THIS LITTLE ARTICLE.

- PETER DUFFETT-SMITH who wrote the articles in "Popular Astronomy" and the Programs which I typed up for the ORIC has also written a book called "Astronomy With Your Personal Computer". It is Published by Cambridge University Press at about 15 Pound inc. Postage and it's ref. is ISBN 0-521-38995-X. This book has all the routines so far Presented to the PD library Plus a lot more (which I will add at a later date time Permitting!). It has a description of the Mathematics and Formulae used in all the calculations and at 258 Pages is a real Gem. An added bonus is that Peter Duffett-Smith offers all the Programs in the book on disc for the following machines:-

```

IBM PC (and compatibles)
IBM 3740
APPLE II
APPLE MACINTOSH
BBC
CP/M machines

```

Unfortunately Mr. Duffett hyphenated Smith has not heard of the ORIC, but was impressed by my enthusiasm to slog the Print outs!! (very generous)

NOTE FROM THE EDITOR - we were all impressed KIMBO

RAMBLING IN THE ROM - 26P.D. Library

I'm going to have to change the title of this page - no less than eleven new programs are available this month! Sorry about the lack of prices last month, they are:

CPD-52 OMNICAL	- 2k - 10p	CPD-53 SPENDS	- 7k - 35p
CPD-54 MAXIT	- 5k - 25p	CPD-55 NET80	- 10k - 50p
CPD-56 MASTERMIND	- 5k - 25p	And the new ones are....	

CPD-57 RESISTOR - 4k - 20p

A neat little program that gives you a resistor's value from its colour bands, or its colours from a known value.

CPD-58 EVE - 6k - 30p

A super disassembler, specially written for the library by Robert Crisp. Full 6502 mnemonic disassembly, with printer option. Also a full hex/Ascii dump to screen or printer.

CPD-59 DATAMAKER - 2k - 10p

A stunning little program. Written in machine code, it will produce from any section of machine code in memory a full Basic loader program with the code in DATA statements. A must to turn your m/c routines into a suitable format for Dave to publish!

CPD-60 BOMBER QUIZ - 21k - 50p

Test your knowledge of Bomber Command during World War II

CPD-61 MORSE TUTOR - 9k - 45p

As the title says, teach yourself morse code, with lots of exercises at different levels of ability. From Judy Simms, as is:

CPD-62 THREE TOWERS - 2k - 10p

An infuriating puzzle game, move all the rings from one end to the other - but you can't place a larger ring on a smaller one.

CPD-63 HANGMAN - 17k - 50p

This and the next three are from the pen of Brian Kidd. A nicely implemented version of Hangman, with the facility to create your own word files, disc or cassette. Send in your own word files to the library!

CPD-64 C.A.D. - 15k - 50p

As demonstrated at the February meeting, an excellent HIRES drawing programme with a multitude of commands available. The result of many hours work by .

CPD-65 BARGRAPH - 8k - 40p

Produces bar graphs on screen to your own requirements, but no printer routine (as yet, who'll be first?.....)

CPD-66 H.S.C. - 5k - 25p

A 'snake' type game, but different from the rest. It's fast-moving and gets very hard in the later screens.

CPD-67 DISK SPY - 6k - 30p

From Andre Widhani in Hamburg, a superb disc sector editor for Sedoric. Read/write, alter etc., all the commands you would expect.

You should still have your order form from last month!

Enough. If you made it through last month's intro to the interpreter part of the ROM, we can now set about the code itself, byte by byte...on with the Saga.....

Jon Haworth

C3CA	TSX	C3C6	TSX	Take the stack pointer
C3CB	INX	C3C7	INX	
C3CC	INX	C3C8	INX	jump over return address
C3CD	INX	C3C9	INX	
C3CE	INX	C3CA	INX	+ interpreter rtn address
C3CF	LDA 0101,X	C3CB	LDA 0101,X	Take first byte of block
C3D2	CMP #8D	C3CE	CMP #8D	is it FOR?
C3D4	BNE C3F7	C3D0	BNE C3F3	no, exit with Z=0
C3D6	LDA B9	C3D2	LDA B9	Take hi byte of var. addr.
C3D8	BNE C3E4	C3D4	BNE C3E0	if not 0, compare
C3DA	LDA 0102,X	C3D6	LDA 0102,X	otherwise take this block
C3DD	STA B8	C3D9	STA B8	and the address of the
C3DF	LDA 0103,X	C3DB	LDA 0103,X	loop variable
C3E2	STA B9	C3DE	STA B9	then do a comparison
C3E4	CMP 0103,X	C3E0	CMP 0103,X	cf. high byte to stack
C3E7	BNE C3F0	C3E3	BNE C3EC	+ seek ano. block if wrong
C3E9	LDA B8	C3E5	LDA B8	Repeat for low byte
C3EB	CMP 0102,X	C3E7	CMP 0102,X	
C3EE	BEQ C3F7	C3EA	BEQ C3F3	if OK, exit Z=1
C3F0	TXA	C3EC	TXA	Pass to next block:
C3F1	CLC	C3ED	CLC	add the length of a block
C3F2	ADC #12	C3EE	ADC #12	to the stack pointer
C3F4	TAX	C3F0	TAX	
C3F5	BNE C3CF	C3F1	BNE C3CB	and start again...
C3F7	RTS	C3F3	RTS	

MOVE A BLOCK OF MEMORY HIGHER

Entry: #CE-#CF = first byte of block to move
 #C9-#CA = last byte of block
 #C7-#C8 and AY : target address of block (top address)

Exit OUT OF MEMORY if the target address is higher than the string storage (#A2). If not, #C7-#C8 points to the new start of block address-#100.
 The top of tables address (#A0) is placed at the new end of block address.

Principal: When moving a block upwards, it is important to start at the top of the block to avoid overwriting part of the block in the process. The pointers are adjusted by firstly transferring any part-page, then the remaining full pages of the block.

Use: if you wish to use this routine for any block move of memory, it is preferable to enter it at #C3FF/#C3FB, to avoid the OUT OF MEMORY and the adjustment of the table pointer code.

C3F8	JSR \$C448	C3F4	JSR \$C444	Verify available space
C3FB	STA A0	C3F7	STA A0	and save new top
C3FD	STY A1	C3F9	STY A1	of tables
C3FF	SEC	C3FB	SEC	Calculate the part-page
C400	LDA C9	C3FC	LDA C9	to move
C402	SBC CE	C3FE	SBC CE	

C404	STA 91	C400	STA 91	Store low byte of length
C406	TAY	C402	TAY	in #91 and Y
C407	LDA CA	C403	LDA CA	
C409	SBC CF	C405	SBC CF	high byte of length in X
C40B	TAX	C407	TAX	YX holds part-page
C40C	INX	C408	INX	Adjust total no. of pages
C40D	TYA	C409	TYA	If need to move whole no.
C40E	BEQ C433	C40A	BEQ C42F	of pages only, jump
C410	LDA C9	C40C	LDA C9	
C412	SEC	C40E	SEC	Adjust #C9-#CA to obtain
C413	SBC 91	C40F	SBC 91	a whole no. of pages
C415	STA C9	C411	STA C9	
C417	BCS C41C	C413	BCS C418	
C419	DEC CA	C415	DEC CA	
C41B	SEC	C417	SEC	and do the same for the
C41C	LDA C7	C418	LDA C7	target pointer
C41E	SBC 91	C41A	SBC 91	
C420	STA C7	C41C	STA C7	
C422	BCS C42C	C41E	BCS C428	
C424	DEC C8	C420	DEC C8	
C426	BCC C42C	C422	BCC C428	unconditional
C428	LDA (C9),Y	C424	LDA (C9),Y	Move Y bytes
C42A	STA (C7),Y	C426	STA (C7),Y	to the target block
C42C	DEY	C428	DEC Y	
C42D	BNE C428	C429	BNE C424	
C42F	LDA (C9),Y	C42B	LDA (C9),Y	
C431	STA (C7),Y	C42D	STA (C7),Y	Move last byte (when Y=0)
C433	DEC CA	C42F	DEC CA	Next page of source block
C435	DEC CB	C431	DEC CB	and target block
C437	DEX	C433	DEX	and reduce no. of pages
C438	BNE C42C	C434	BNE C428	then start next page if
C43A	RTS	C436	RTS	not finished

VERIFY SPACE ON STACK

C43B	ASL A	C437	ASL A	2*A bytes free are needed
C43C	ADC #3E	C438	ADC #3E	with space for IRQs
C43E	BCS C483	C43A	BCS C47C	OUT OF MEMORY if no space
C440	STA 91	C43C	STA 91	Save lowest value of S
C442	TSX	C43E	TSX	Take the stack pointer
C443	CPX 91	C43F	CPX 91	and verify higher
C445	BCC C483	C441	BCC C483	or OUT OF MEMORY if lower
C447	RTS	C443	RTS	

VERIFY AY IS BELOW STRINGS

Entry: AY contains the desired value

Exit: OUT OF MEMORY if after checking and reorganising memory AY is too high.
The zone #C7-CF is not affected.
AY is preserved.

ORIC ENTHUSIASTS

(OUM Issue 45)

INTRODUCTION

Another public holiday has been and gone. Is time passing quicker or are the days officially shorter? At least I have managed to complete my 10 page price list which was included with issue 44. I have started to distribute this outside the OUM subscription and already new members are being recruited. So I hope that our group grows stronger still.

DISC ACCESS

In issue 42, in my section on ORIC Data Transfer/Linking I wondered if it would be possible to read PC formatted discs using a RANDOS based disc sector editor. I can confirm that it is possible.

I proved this by formatting a 3.5" disc on the PC at work, making sure that it was 80 tracks with 9 sectors per track, and then saving a simple text file onto it that I created. At first I could not find the file, using the RANDOS Debug program, even though I could see the directory reference, so I did some investigation of the PC disc, at work, using a disc utility program which mapped out the data area of a PC disc into clusters (a cluster comprising 2 sectors) and showed that the file was located in sector 14. The utility showed the disc to comprise of 'n' sectors numbered from 0 to 'n-1' making no reference to track numbers. I discovered how to translate this into a track and sector number so that I could use the RANDOS Debug utility. The sector usage of the PC disc is as follows :-

Sector	Usage
0	Boot area.
1 to 6	FAT area.
7 to 13	Root directory.
14 to 1439	Data area (for files, programs, etc.)

Now, sector 0 equates to side 0 track 0 sector 1 in absolute terms and I found that sector 1 which is paired with sector 0 to form the first cluster is not side 0 track 0 sector 2 but is, in fact, side 1 track 0 sector 1. So clusters are formed across upper and lower surface boundaries on a double sided disc. Therefore, sector 14 equates to side 1 track 0 sector 6 and since I didn't know how to access the second side of a double sided disc using Debug, I copied sector 14 across to side 0 track 0 sector 6. Now knowing where to direct Debug I found that it could read the sector perfectly. This means that with the development of suitable software the ATMOS could be used to read PC data files, when in ASCII format which could prove to be useful to some owners.

PERIPHERALS

PRINTERS

Unfortunately, due to time constraints, I haven't been able to make any progress with Sharp printer/plotter.

PRICE LIST UPDATE

There are only 6 ORIC Modems left in stock so be quick if you wish to

purchase one.

I have sold out of the following :-

HARDWARE Power Reset Box.
BOOKS Programming With Graphics by Garry Marshall.

I can now add the following items :-

HARDWARE 5.25" blank discs @ £0.80 each.
BOOKS 6502 Machine Code for Beginners by A P Stephenson - Newnes
Microcomputer Books £3.00 (only 1 in stock).
 6502 Reference Guide by Alan Tully - Melbourne House £3.00
(only 1 in stock).

PROJECTS

So far I haven't received any correspondence on projects that I listed in issue 42. If you interested in other projects for your ORIC then write to me about it.

REFLECTIONS

Having received a couple of enquiries recently about the possibility of providing disc software on the 5.25" format I decided that it was time to purchase my own 5.25" drive. Up until now I had borrowed one from work. After reading the section in issue 42 about the 5.25" disc drives from Tekdata I decided to ring them up. I spoke to a very helpful Bob Leese who informed me that they had 7 re-conditioned 5.25" drives (40/80 track switchable) with the reference number FD-55FR-510R in stock. He also confirmed that the nett cost was £25.00 but I found that after the cost of delivery (7.50 for next day delivery - apparently there is no choice on this) and VAT (17.25%) was taken into account the total cost rose to £38.19. Still, having received the drive I am happy with the purchase and since I received it within 18 hours from ordering it I am impressed with Tekdata's efficiency (if only mine was as good). So if you fancy such a drive, order one from Tekdata before their stocks run out and the price creeps up some more. Their telephone number is 0782-577677 and they accept credit card orders.

SHAREWARE

SEDORIC DOS

Currently there are 17 registered users of version V1.007.

WHERE TO NEXT?

Again, I haven't received any correspondence in response to my article in issue 42. If you have any thoughts then please write to me about it.

Well, that's all for this month but I will look at some other features in time for issue 46.

Written by : Allan Whitaker

LET'S MAKE CONTACT

SOME OF OUR READERS HAVE THE 'BYTE DRIVE 500' DISC SYSTEM AND I HAVE HAD REQUESTS FOR MORE ON THE 'BEAST'. IF YOU SUPPLY SOME INFO, THEN I WILL PRINT IT. ALTERNATELY YOU CAN GET TOGETHER AND BECOME AN ACTIVE CELL WITHIN THE ORIC FRATERNITY. ACCORDING TO OUR RECORDS, THE FOLLOWING ARE 'BYTE DRIVE' USERS. SO GET TOGETHER - MAKE CONTACT.

JON HAWORTH - 3 MADINGLEY RD, CAMBRIDGE CB3 0EE
 ROB KIMBERLEY - 12 MANSIONS CLOSE, BISHOP'S ITCHINGTON, LEAMINGTON
 SPA, WARKS. CV33 0RF - TEL: 0926 613162
 D. MALCOLM-BROWN - 11 CHILTERN COURT, HARPENDEN, HERTS. AL5 5LY
 RAY McLOUGHLIN (THE 'GODFATHER' OF THE 'BD') - 28 FARMFIELDS CLOSE,
 WATERTHORPE, SHEFFIELD, S. YORKS. S19 6LR
 EDDIE WISNIENSKI - 6 STUTELY GROVE, BRADLEY, HUDDERSFIELD, W. YORKS
 STUART WRIGHT - 65 CHELMSFORD RD, CLACTON, ESSEX. CO15 5DJ - TEL 0255
 812057

IS THERE ANYONE ELSE - IF YOU ALL FILLED IN YOUR QUESTIONNAIRES, THEN PERHAPS WE WOULD KNOW.

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LOCAL GROUPS

Some of you expressed an interest in getting together locally with other ORIC users and therefore in this issue we start a break-down by area, with particular interests where known. Some local areas may overlap and I leave it to you to sort yourselves out. Even though an area may not be local to you, it may be worth taking a look as someone's interests may be akin to yours. Please keep sending us updates on your system/interests so that the database may be kept up to date.

We have other names in all areas who were ORIC users - send an S.A.E for that information.

Judy Simms has already said that she would be willing to form a group in the Birmingham area, so give her a call or drop her a line.

AREA 1

 Mr. D. Brown, 2 Glentworth Ave, Whitmore Park, Coventry, W. Midlands
 CV6 2HW (Oric1/Atmos, Twin 5.25" Cumana drive, MCP40 & HP 82906A Printers,
 writes software, tests hardware)

Richard Clifford, 15 Wordsworth Drive, Kenilworth, Warwickshire,
 CV8 2TB (Atmos and 3" drive)

Dennis Hudson, 13 Epsom Rd, Rugby, Warks. CV22 7PF - Tel: 0788
 815182 (Oric1/Atmos, MCP 40, 3" Opelco drive)

Rob Kimberley, 12 Mansions Close, Bishop's Itchington, Leamington
 Spa, Warks. CV33 0RF - Tel: 0926 613162 (Oric 1/Atmos, Cumana 3"/5.25" drives,
 Byte Drive, OKI 182 & Epson FX80 Printers)

AREA 2

 Robert Cook, 10 Thomson Ave, King's Norton, W. Mids. B38 8YD
 TEL: 021 451 1371 (Atmos/Cass, Adventures, Music and founder of 'O.U.M')

James Groom, 129 Narrow Lane, Halesowen, W. Mids. B62 9NX - also at
 Worcester College during term time. (Atmos/Cass, Panasonic Printer, adventures)

Mr. W. Dakes, 9 Kenneth Grove, Erdington, B'HAM, W. Mids. B23 7TT
 (Oric1/Atmos, Cass., Type-ins and Games)

Judy Simms, Flat 1, 20 Holy rd, Edgbaston, B'HAM, W. Mids. B16 9NH
 TEL: 021 454 0326 (Atmos, 3" drive, MCP 40, Games/Programming)

Peter Thorburn, Flat 2, 173 Pershore Rd, Edgbaston, B'HAM, W. Mids.
 B5 7PF - TEL: 021 446 4049 (Oric1/Atmos, Cass, Adventures, Arcades, Music)

AREA 3

 Derek Smith, 26 Lake Ave, Walsall, W. Mids. WS5 3PA, TEL: 0922 34833
 (Atmos, Cass, MCP 40) Andrew Thomas, 1 Welbeck Drive, Rushall, Walsall,
 W. Mids. WS4 1RS - TEL: 0922 724005 (Atmos, Cas) Fitzroy Davies, 12

Alderford Cl, Dovecotes, Pendeford, Wolverhampton, Tel 0902 743237 (Atmos, cass)

DEAR DAVE,

I have a Problem which I was hoping that either yourself or a fellow reader could help me with. I have an ORIC MICRODISC which appears to have an endurance Problem. After first switching on, it works perfectly for about 5 minutes, then after that refuses to do anything. It will not load, save, or even reboot. As you can imagine this is very infuriating and I would be extremely grateful for any suggestions as to the cause of the Problem.

Adrian Matthews, 8 Rushcombe Way, Corfe Mullen, Wimborne, Dorset. BH21 3QS

DEAR ADRIAN,

I myself had Problems when I had the ORIC MICRODISC. Overheating caused many Problems. Initially I changed the cased condenser which is situated at the back on the outside of the unit. After a while the Problems returned and was finally resolved when I bought a heat dissipation box from David Wilkin. It could be that your unit needs a general overhaul.

I would suggest that you contact David at 22 Saxonbury Ave, Sunbury - On - Thames, Middx. TW16 5HD (tel: 0932 782448) or Rob Kimberley (see Page 11 for address) or indeed Steve Hopps who offers a repair service on ORICS and DRIVES.

I know 'KIMBO' gets around a bit, and 'WILKY' has been around a bit, so they may be in your locality at some time.

Of course if there are any other suggestions then would you please write to Adrian - you all know what it is like to be without your system - Dave D

DEAR DAVE,

with regards to Page 13 of issue 44, I thought I'd put the record straight. There are 8 DRAMS fitted, each is 64K X 1 BIT. Therefore 1 DRAM is used for each of the 8 bits.

It is quite likely that DRAMS of different manufacturers when mixed would give a Power up character, however it is more likely to be caused by different access times. This is stated on each chip and the standards range from 100 ns (nano seconds) to 250 ns.

P.S. - I thought Aylesbury was famous for its 'DUCKS' and not its 'DICKS'. - DAVID WILKIN

DEAR DAVID,

ta for putting the record straight. Also a big thanks for:
a) sitting in a lay-by for an hour waiting for me whilst I did a tour of the M25 (I bet the front cover was your idea)

b) setting up my 5.25" - discretion !!

c) casing my PSU or rather Matthew's PSU

d) your hospitality on my return with the rest of the Dick's, especially considering young Matthew insisted on doing his 'BART SIMPSON'.

DEAR SIR,

I recently wrote to OPELCO regarding obtaining a circuit diagram for my ORIC 1. It has given up on me regards tape loading and saving and I don't have a pin-out for the 6522.....

OPELCO gave me your address and also mentioned an ORIC users mag. Would you tell me about the mag please?

ET - Liverpool (March 4th 1991)

Dear ET,

I enclose the OUM Pack (Pages of back issues, Price list, PO form, subscription form and general letter). Also enclosed are 2 circuit diagrams. The first being my original from the ORIC OWNER mag and the latter being

CONTINUED ON PAGE 13

- Dave Dick (March 12th 1991)

- Dave Dick (22nd APRil 1991)

----- ET should Phone home (my home that is) before I get nasty.
It is the odd one who makes it bad for others. If I do not recieve a
repy by the next issue , I will Print his name address and Perhaps you
would all like to write to him or send the boys round. After all the 17
Pence stamp came out of your subscriptions.

MAY MADNESS - offers open to QUM readers until MAY 31st.

ORISCOPE ~ now only 1.50.....ALTAI Joystick interfaces ~ 3.50

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 104

Will separate if required - Brian Kidd, 7 Hawthorn Fosse, Newport, GWENT
NP9 9AB

The Story so far

----- Part 1 looked briefly at machine code, the Oric and its Operating System. Part 2 featured a very short Basic "Hexloader" program to provide easy read and write access for machine code on the Oric.

Rather than embark on a long theoretical description of the 6502 microprocessor, I intend to keep it simple, starting with a few short practical demonstration routines, with which I hope to illustrate the 6502 operation. After all, there is little point in duplicating much of what can already be found in books on the 6502. Once again, if you are new to this, a book on the subject will help. However some basic information, must be at least briefly mentioned in order that newcomers are not left totally in the dark and so we will start with a brief look at how the Instructions and Registers are used.

Instructions

----- A computer program, whatever the language used, is simply a list of instructions, plus any data (information) that may be needed for the operation. In Basic for example, the instruction GOTO would be useless without its data (a line number). Machine code works in a similar fashion. Every 6502 instruction starts with a single byte called the OPCODE, which tells the 6502 chip two things. First, what the instruction has to do. Second, whether or not there will be any data bytes, to be included with the instruction. Any data bytes included in an instruction always follow the opcode and are known as the OPERAND. Depending on the specific instruction, the operand may be one byte or two bytes in length, or there may be no data at all and therefore no operand. So complete instructions will be one byte long when no operand is required and two bytes or three bytes long with an operand, all of which depends on the instruction opcode used.

Register here

----- It is also necessary to mention the small storage units built into the 6502 microprocessor. These are called REGISTERS and there are six of them. The 6502 uses them to store and process data, as it works through your program. Not quite the same as a Basic variable, but near enough for jazz !! Initially, we will look at just two of these Registers, the PROGRAM COUNTER and the ACCUMULATOR.

The Program Counter

----- The microprocessor needs some way of controlling it's progress through the computer memory. You will want the microprocessor to read and process your program instructions, in the correct order, not go leaping around the memory like a demented kangaroo ! The Program Counter (PC for short) provides the microprocessor with that control. It holds a two byte number which is the address of the next instruction to be fetched, and it is updated automatically each time a new instruction is fetched for processing. However, there are instructions available (ie. JSR for Jump to SubRoutine) that change the Program Counter address. These are used to access routines in the same way as you would in Basic (ie. using GOSUB).

The Program Counter is the only two byte Register in the 6502. It needs two bytes, to access 64K of memory, one byte would only access 256 addresses.

The Accumulator

----- This is the place where most of your data gets modified or bashed into shape, one byte at a time, by the various instructions at your disposal.

Data can be added, subtracted, copied or tested etc, it all happens in the Accumulator. The name is often abbreviated to "A Reg." or "Accu", normally I use the latter. Although it can only hold one byte, there are simple ways of dealing with much larger values. Note, by the way, that for the 6502 microprocessor, a byte is always an eight bit value (ie. 00 to FF in hex or 255 in decimal) and this applies to all machines that use the 6502 microprocessor.

Double Crossing the Oric

----- Now we will use a very short and simple routine to illustrate the above information. The routine just puts a couple of crosses in the centre of the display.

.....start.....

Addr	Code	Assembly	Description
101A	A9 2B	LDA# "+"	Load Accu with ASCII code for "+"
101C	8D EC BD	STA BDEC	Copy Accu contents into Address BDEC,
101F	8D ED BD	STA BDED	also copy Accu contents into Address BDED.
1022	60	RTS	Fetch Return address and return from this subroutine, to Basic.

.....finish.....

You will notice that the program listing is divided into four vertical columns. This is a fairly standard arrangement. Starting from the far left, we have the address column, which gives the location of each instruction. Some people use an additional column and number the instructions in decimal order as well. I don't bother, but you may find it useful. The second column from the left lists the hex code instructions that the computer uses. The third column is for the Assembly Language which provides the hex code instructions in the second column. Finally, the fourth and most important column on the far right. This is used to describe what is being done and how. Programming is actually done in the two right hand columns. Assembly Language instructions are chosen and a description of what you are intending to do is written in first. After that the code and addresses can be put in. More on this subject later.

To use this routine, just set your HexLoader to the address 101A and type in - A9 2B 8D EC BD 8D ED BD 60 as per the listing. Use the start address to run it by CALL#101A. Your first machine code program and it didn't hurt a bit !

Whats it all about, then ?

----- If you look at the routine, you will find that it consists of just four instructions and includes one of each of the three types described above. The first instruction is an opcode with a single data byte operand. The second instruction has two and the last instruction does not need an operand at all.

The program simply puts the ASCII code for "+" into the Accumulator and uses it to put a copy of that code into two addresses in display RAM.

The first instruction is LDA, an abbreviation for Load Accumulator, the hash sign "#" means IMMEDIATE value which indicates that the value immediately following the opcode is to be put into the Accumulator. The hash (#) sign is always used for this purpose in the 6502 Instruction Set.

At this point there could have been a slight problem. The Oric also uses the same hash (#) sign to label hex values. I could use "\$" or "&" to identify hex values as on other machines. However, as I normally use hex values throughout, unless otherwise stated in my program listings, it isn't necessary to mark each and every hex code as such. This avoids any clash of meaning and makes the listings that much simpler and quicker to produce.

Because the first instruction required two locations (101A and 101B), the next instruction starts at address 101C. This instruction is STA, an abbreviation for Store copy of Accumulator contents. The two byte Operand is used as an "Absolute" value to locate the address where the Accumulator contents are to be put. The address in this case is in the screen display RAM and notice that the address is put in reverse order, low value, then high value number.

Where the instruction includes a two byte operand, the opcode is always followed first by the lowest value byte, then by the highest value byte. In this instruction for example the address required is BDEC so the opcode BD is followed by the low part of the value which is EC and then by the high part of the value, which is BD (really BD00h) in the third byte.

All "three byte" instructions are written this way and if it seems strange, it could be helpful if you remember the old nursery rhyme "Four and twenty blackbirds baked in a pie" (I say, does the RSPCA know about that ?) and put the least significant (lowest) data byte first after the opcode and then the most significant (highest) data byte last. It is the one awkward thing I found in machine code. However, I soon got used to it. Hex code is simply entered as shown, but if decimal values are used, the address has to be split as shown and the two values calculated separately. Another good reason for using hex code, not decimal.

The third instruction at 101F was simply put in to illustrate that the contents of the Accumulator were not transferred, only copied. The Accumulator still holds the original value after the instruction has been executed and can be used to make as many copies of its contents as you wish.

The fourth and final instruction in the "program" is an example of a single opcode type which does not require any data. The instruction name is RTS which is an abbreviation for ReTurn from Subroutine. This simple, but essential instruction is used to terminate machine code routines CALLED from Basic.

The RTS instruction works in a similar fashion to RETURN in Basic and is more often used in machine code programs, together with another instruction called JSR (Jump to SubRoutine) to produce the machine code equivalent of the Basic GOSUB operation. In our example here the program is CALLED from Basic and a return address is stashed away, to be preserved until the end of the program is reached. At that point, the last instruction retrieves the return address and the microprocessor uses it to return the Oric to Basic operation.

Note that the program addresses are in hex as well, it is an easy way to get a grip on the numbering system. These are the numbers that go into the Program Counter. We will be adding to this "program" later.

I have tried to keep this explanation brief and simple. Some items can be looked at in more detail later, others, the ASCII code for instance are found at the back of many computer books. If you are new to all this, experiment a little using the HexLoader. If it goes wrong, there is always the RESET button !

Decisions, decisions ! Next time, how swear words like NVBDIZC give you status.

O.K. you serious gamers; let's have a couple of Pages on the fun side. As we get new Oric users; so the need for Pokes for infinite lives and of course how to use them, is requested. As we get new software; the need for more info is required.

We start with a look at GALACTOSMASH, which a few readers are having some difficulty in coping with. The instructions fall a little short on detail and therefore my info coupled with the official instructions will, I hope, make things clearer.

When you have reached the main Program screen, your display shows your craft in the centre of the Galaxy, Weapon Pods (empty at outset), shield strength, score and money available.

In the bottom right hand corner of the screen is the scanner, which shows 4 small dots and a larger dot. Your craft is the larger dot. The others from left to right are: 1) Weapon shop, 2) Engines, 3) HyperSpace and 4) Shields.

It is advisable to dock with the shield shop first. Use the cursor keys to go to shield required (I suggest 500 or 900 first) and validate with SPACE. Next go to Weapon shop and dock. Choose your weapons (3 will suffice to start with; so that you have money left in reserve). Try the 200, 650 and 750 value weapons. By cursoring to 'KEY' you will see what they do. At this stage, do not worry about a faster engine as you can't afford it. Next dock with HyperSpace and be transported to the sector screen. You will see that your shield strength has increased and your money decreased. Choose your first sector to visit - a Green one is advisable. Select your weapons. If you want to use a weapon in Pods 1 and 2, but not 3 and 4, then cursor to weapon for Pod 1 and Press SPACE, cursor to weapon for Pod 2 and SPACE, cursor to BLANK square and Press SPACE to leave Pod 3 empty and likewise to leave Pod 4 empty. NOTE: When you need to re-stock your weapons and if you put a weapon into a Pod which already has some ammunition left, then you lose the original weapon; so remember to use the BLANK square in this instance.

After a brief wait, you are ready for the dog-fight. You being the the big dot on the scanner. You die by running out of shield, so keep an eye on it. If your shield gets low are you run out of ammo, then Press ESC to get back to Grid. Cursor to HOME Position and you are sent back to the original screen. From here you can again dock with weapon and shield shops. The more sectors that you clear, the more money you can gain and thus buy better items.

I hope that has helped and of course it might of Persuaded a few of you to buy it.

=====

REVIEW REVIEW REVIEW REVIEW REVIEW REVIEW REVIEW REVIEW...

TITLE: STRIP 21 PUBLISHER: MICROPUCE MACHINE: ORIC 1/ATMOS
 AVAILABILITY: on cassette from the CEO, via Jon Haworth for 5.99 to CEO members and 7.99 to non-members.

Just added to the software available from the CEO is this ADULT fun from the Pen of J.L. ie B.B and written in 1983. The version that I have is translated to English, but I don't know if the CEO version is - Please check with Jon or alternately translate it yourself with a quick CTRL C or use BDDISK.

A nice musical!! intro and then straight into a well drawn Picture of ELSA doing her striptease routine - in fact you see the lot without having to play cards.

The next scenario has ELSA (fully clothed) inviting you to enter your name and age (use 18 to 80). PONTON is the game; the score is noted on a grid. Hand one and I lost my jacket. After losing my trousers; I was asked to take off my necklace - do it lose something in translation JON!!! - DIRTY FUN

MORE FOR THE GAMESTER

IT IS NO GOOD BEING GIVEN A LIST OF POKES/DOKEs FOR INFINITE LIVES etc, UNLESS ONE HAS A WAY OF IMPLEMENTING THEM. SET OUT BELOW IS A 3 LINER FROM ALISTAIR WAY WHICH WAS FIRST PUBLISHED IN ISSUE 37 OF D.U.M. YOU CAN OF COURSE SAVE IT TAPE SO THAT YOU DON'T HAVE TO TYPE IT IN EACH TIME. EITHER SAVE IT WITH THE "AUTO" EXTENSION OR TYPE 'RUN' WHEN IT HAS LOADED. MOST ATMS HAVE GAMES HAVE THE "X" PROGRAM BEFORE THE MAIN PROGRAM, EITHER WIND THE TAPE PAST THE "X" OR USE THE AUTO-STOP ROUTINE BEFORE AND AFTER IT. IN SOME MULTI-PART PROGRAMS, YOU MAY HAVE TO "stop" THE PROGRAM AFTER EACH FILE, WHEREAS ON OTHERS IT MAY BE REQUIRED TO WIND PAST THE PROGRAM HEADER BEFORE UTILISING THE ROUTINE.

THE AUTO-STOP LISTING

```

10 A= #400:REPEAT:READC:POKEA,C:A=A+1:UNTILC=#EE
20 DATA#48,#A9,#00,#AD,#02,#68,#4C,#22,#EE
30 DOKE581,#400

```

#80

LET US USE THE PROGRAM "RATSPLAT" FROM Tansoft AS AN EXAMPLE. Wind the tape past the 'X' Program and also past the file 'RATSPLAT B'. Load and run the 'Auto-stop' routine. Now load in the rest of RATSPLAT, whose filename is GAME C. When the file has loaded, the message 'Errors found' will be displayed. Now is the time to enter the Pokes etc. Enter: POKE11240,165:CALL#5FD and Press RETURN. You now have a version of RATSPLAT with infinite lives. The CALL is the start address of the file and where not known, you can use CALL#2A9 to call it. If required, you can ascertain the start address with a quick PRINTDEEK(#2A9) and the end address is located with PRINTDEEK(#2AB).

I have in fact found a shorter way of stopping RATSPLAT and some other titles. After winding past the file RATSPLAT B; just type in: POKE#500,1:CLOAD" and then load in GAME C. It has the same effect as the 3 liner. You will note the use of CLOAD" instead of CLOAD"" - a short cut that works. If you are not greedy and only want 9 lines, then replace the above POKE with POKE10117,9. You will see that some Pokes have used the #, whereas others haven't. Don't worry as both are widely used.

I hope all can now enjoy their games to the full, but if you are still stymied, then just drop me a line.

Now for some more POKES and DOKEs.

Where Calls are not given, you can ascertain them yourself.

FIREFLASH (No Mans Land) - for infinite lives: DOKE#48C8,#EAEA
- infinite lives

INSECT INSANITY (Mirage) - infinite lives - DOKE#4857,#EAEA:CALL#5FD

ACHERON's RAGE (Softtek) - to slow the game down - DOKE#306,#950:CALL#900

CHUCKFORD (HGC) - Cheat Mode. No need to auto-stop. Just load tape as normal and when on title screen just do the following:

Hold down 3 left hand RED keys (ESC, CTRL and SHIFT) and at the same time with your right hand, hold down DEL, RETURN, SHIFT, and F. You will then see on the top right of the title screen an invitation to start on any screens. Use 2 digits e.g. for screen 4, type in 04.

XENON I (IJK) - infinite lives. Wind tape past the 'X'. Type in: POKE#11280,1:CLOAD" and load in the game. Note the use of POKE #1280 - this can be used to stop BASIC files. When loaded, type in: POKE24617,173:RUN. The only way to die is to Press ESC.

+++++

MORE >>>> MOREMORE.....>>>>and LOTS MORE NEXT ISSUE.....!!!!