E.U.G.

ELECTRON USER GROUP

ISSUE 2

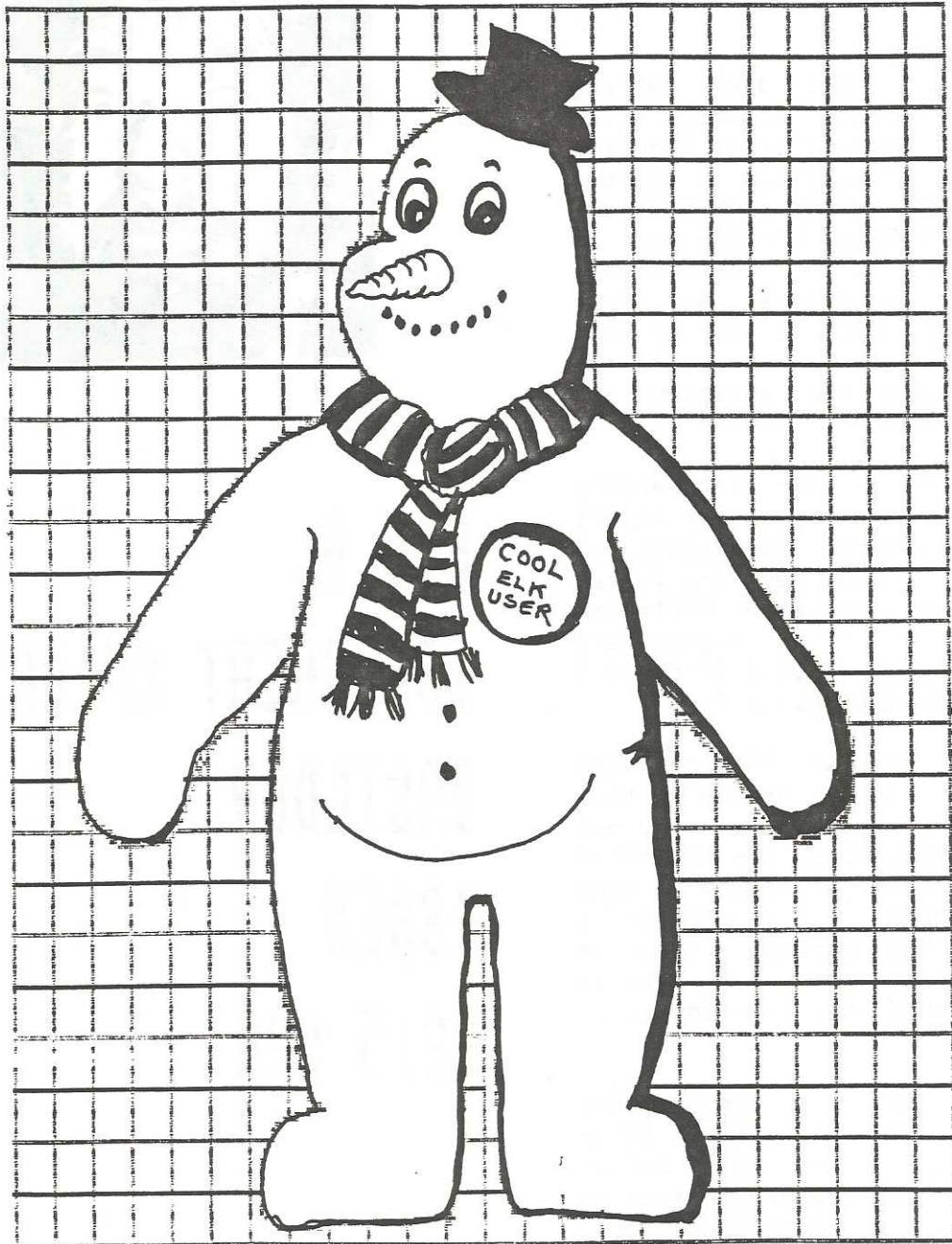COOL ELK USER

T.B.A.T.F.

Late again! Sorry everyone. The printing of our ad' in the Micro User - after a wait of almost FOUR MONTHS - has had much to do with the delay. A lot of envelope licking has been going on round here! Welcome to all you new members!

Some people have been calling E.U.G a 'monthly' magazine which is not the case. I think 'Erratic Periodical' would be a better description! At the moment we are aiming to produce the mag more or less bi-monthly, but it would be nice if, in the future, we could produce ten issues a year or even become a monthly 'publication' but let's not get too ambitious too soon!

We would like to hear from anyone with anything to say on any aspect of the Electron. Some ideas you might like to consider are listed elsewhere in this issue. While the days are cold and the nights are long why not give us a little bit of your time and join in?

I'm afraid program listings are rather thin on the ground in this issue, there is only one of my own small efforts. Over the christmas period I intend to smarten up some of the programs I have written in the past and include them in future issues (It's up to you to decide whether this is a threat or a promise!!)

In case you're wondering, the photograph is of myself taken during one of my more calmer moments during the preparation of this issue!! On no account should it be pinned to a dart board and used for target practice - as this would constitute cruelty to darts!

Will Watts NOV '91

E.U.G.

134 GREAT KNIGHTLEYS

BASILDON

ESSEX

SS15 5HQ
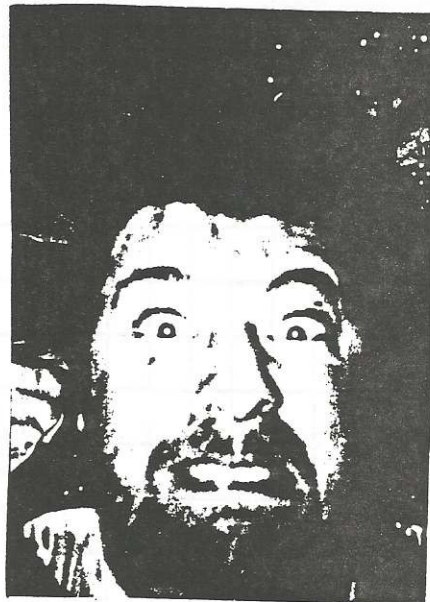
LETTERS

WHAT PRICE AN ELECTRON ??
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On the last page of issue number one of your magazine you said that you would welcome comments and opinions from Electron owners so I am sending a few of mine. First of all I would like to say that I am a big fan of the Acorn Electron even though I also own and use other machines. I think that what you are trying to do for the Electron is worthwhile and I wish you every success. Having said this, I trust that what I have to say next will not be misunderstood. The particular bee I have buzzing round my bonnet at the moment is the ridiculous prices some people seem to be asking for second hand Electron equipment. Looking through the classified advertisments that can be found in several computer magazines, it is not unusual to see disk-based Electron set-ups being offered for sale for well over £300. It makes me wonder if these people have been living on the moon for the last five or six years. Don't they know that it is now possible to purchase a very respectable 16 bit computer second hand for that kind of money? I repeat that I am a fan of the Electron, but it can not be denied that the machine is based on out of date technology. The only reason I can think of for these inflated asking prices is that the vendors are trying to recoup an unrealistic percentage of their initial investment. I feel you should warn your members against paying 'over the odds' for second hand equipment as there is another side to the coin and some advertisers are virtually giving stuff away. Your readers might be interested in a table of 'fair' prices that I have drawn up based on adverts I have seen over the past eight months. If buyers are asked to pay more for used hardware, I would suggest they look elsewhere.

Unexpanded Electron with PSU	£30
64k Electron	£65
Plus one or Slogger Rombox	£20
Plus three disk drive	£50-£70

As you can see at these prices it should be possible to buy a 64k Electron, Plus one and Plus three, all for around £150 which is half of what some misguided optomists would expect you to pay.

T. Ives, Croydon

I can see your point. Perhaps some sellers are being a bit ambitious with their pricing, so as with any purchase, it's best to shop around. Has anyone picked up a real bargain lately? **************

GIZMO AND CO. STRIKE AGAIN !!
================================

I'm sorry to report that the gremlins got at my advert in Ish Uno. Their understated but tasteful tweak utterly defeated the point of the exercise. By altering the final digit 'one bit' no one could phone to lavish their Acornsoft ISO Pascal documentation on me for a reasonable price. I even went so far as to phone the number given in EUG ready to say "If anyone phones you talking Electron languages ask them to phone me". To no avail, it was unobtainable. If this sorry tale has struck a chord of sympathy within you please phone Chris on:- 0793 488020 (Four double-eight oh two oh) and talk Pascal.

C. Chadwick, Swindon, Wilts

Whyle evry effert is maid to keap tiepin errers an spellink mistooks too a minumum, wun or too may slipp throo the knett frim time to tim. (I was going to start this reply with the words 'Good moaning', but I'm glad I didn't!) Profound and humble apologies Chris. I hope you have better luck this time!***************************

FALSE CLAIMS ?

I really enjoyed reading the first issue of E.U.G. magazine. To date I have been reading "Acorn User" and "The Micro User" both of which claim to support the 'Electron' but in reality do very little to cover it. It makes a refreshing change.

Sue Yassin, Brighton

Thank you for those encouraging words (the cheque is in the post!) It does seem that commercial magazines keep their coverage of the Elk to a bare minimum, just enough to to warrant the use of it's name on a cover, but a little support is better than none I suppose.........✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻

AN ELK WITH NINE LIVES

I thought you might like to hear about a minor miricle that occured last year. My daughter, then three years old tipped a beaker full of milkshake all over the Electron. Luckily it was not plugged in at the time! My brother-in-law surprised us all by putting the computer in the bath and turning on the shower! When he had washed off all the sticky goo he gave it a good shake until it stopped dripping. He wrapped it in a towel and told us to keep it in the airing cupboard for a week. We did this and believe it or not the computer worked fine!

Doug Norton, Newmarket

What a way to clean your keyboard✻

POET'S CORNER

The saying goes as we all know,
Great oaks from little Acorns grow
The Elk though small with limited
                                    power
Given a chance will bloom and
                                    flower
Come Elk users far and wide,
Give your support to this E.U.G.
                                    guide

Mr. A. Davies, Gtr. Manchester

What a great issue was number one
to the computer room I was gone.
Textfile savers, Public Domain,
jolly jokes (not that one again)
Letters, letters by the score
some were good, some were poor.
Showed 'Infect your Elk' to Auntie
                                    Gertie
found 'no such FN/PROC at line 30'
When I demode Music/sound she was
rapping on the ground.
Repton Ramblin's (Who is he?)
Play it again Sam number 43.
Wheelie was terwiffick from our
                                    Daren
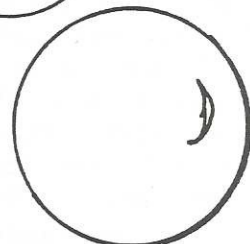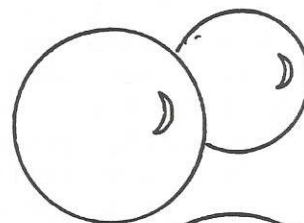My crossword squares are rather
                                    barren.
That's the lot from Repton Ray,
Don't forget where there's a Will
there's a way.

Ray Lennard, Macclesfield

Not since Cyrano de Bergerac wooed me from the bushes beneath my balcony have I been so moved, I'm quite misty eyed.................
✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻✻

USING 'VIEW' WITH TAPE

By Thomas Boustead

Being fairly new to the VIEW word processor, I recently found myself in the embarrassing situation of being unable to answer an enquiry from a rather desperate user with a very important report to complete. When in doubt consult an expert, that's what I always say, although MR. THOMAS BOUSTEAD (being a modest person) will probably disapprove of being so called!!! The advice I received came in the form of a letter which was so well written I think it deserves to be printed here. So for all those new to VIEW or those too busy (or in my case 'bone idle') to read the user manual, here is a short tutorial to get you started ......

BEFORE switching on the Electron, insert the VIEW ROM.
You should see the VIEW command mode screen:-

VIEW
Bytes Free 20734
Editing No File
Screen Mode 6

If this does not appear then type "*WORD" and press RETURN. Mode 6 will only give you 34 characters per line which is not really suitable for most work. So type MODE 3 which will change the command screen to 12542 bytes and show Mode 3. Press ESCAPE, this will clear the screen and then present the Mode 6 default ruler. We want the Mode 3 default ruler, so hold down the FUNC key and type "," (comma). You should now have the Mode 3 default ruler and below it the line of asterisks which show the width of your text on the screen. This line of asterisks moves down the screen as you complete each line of text or whenever you press RETURN. Press RETURN now and see the line move down. Before we start typing our text we should decide on the layout we require. Firstly what paper are we using? Let's use A4. Each sheet is 12 inches. We need to tell the computer so that the printer's FORM FEED will operate

correctly. We tell the computer that the FORM FEED should be after 72 lines i.e. 72 sixths of an inch which equals 12 inches. To tell the computer we hold down FUNC and press O. This will cause the cursor to move into the left margin. Now type PL and RETURN. PL should appear in the left margin as your first stored command. Now type 72 and RETURN.

Next we need to consider vertical spacing commonly called Header and Footer margins. Again we follow the same routine - hold down FUNC and press O. Type TM and RETURN and then type 3. This will set the top margin. Now repeat this routine for Header margin (HM), Footer margin (FM) and Bottom margin (BM). The numbers are a matter of taste! If you do not set these stored commands the computer will automatically set all of them to 5. For letter writing it is likely that these default values will be acceptable as achieving a balanced space between the top and bottom of your text. No action is required to enter these commands in this case but for exercise please try entering some commands to see that this procedure does in fact work!

Next we need to consider whether a margin to the right of the normal
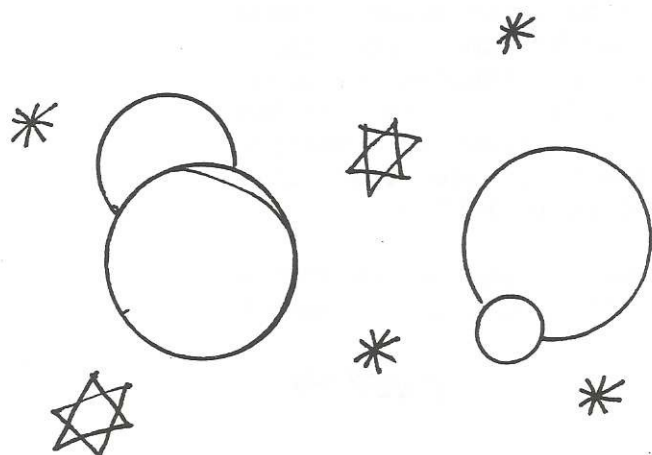
OVER →

left margin is necessary for appearance or for binding or filing. Let's assume we do. So hold down FUNC and press O. As before the cursor will move into the left margin. Now type LM and RETURN then type 5 and RETURN. The number defines how many character SPACES your printer should make the margin. (I find for normal correspondence that 5 is a suitable margin to use for the end result to be fairly balanced)

There are many other 'tricks' with VIEW which can be programmed into the margin at the head of the document that are not printed. These are all listed in the handbook. In addition some are inserted in the margin wherever they are required to take effect. For example PE which causes the printer to move on to a new page.

There is yet another type of command which goes into the margin in a similar manner but is not actioned until a relevant point is reached in the printing. This is the highlighting command. To make use of this it is necessary to have a PRINTER DRIVER GENERATOR program which in turn creates a machine code program which then controls the styles of printing between the highlights inserted in the text.

TO BE CONTINUED IN ISSUE 3 ....

HACK ATTACK
By Jack Warburton

Welcome to a secret world, dial the special number in Detriot and you have arrived at the "Forbidden Zone". This is strange territory, a menu offers passwords to gain access to government computers, a list of credit card numbers, and what every good citizen needs to know, how to make .... nitro-glycerine! Not tempted? Well what about " Dragonfire "? Here phone freaks are offered the access codes of telephone companies enabling free calls to be made. Hackers may also aquire the numbers and passwords for university computers or corporate mainframes.

For this is the world of the underground bulletin board. Run by precocious youngsters who possess an alarming knowledge of computer security systems, and how to get round them. Unfortunately their language and grammer indicate other studies have been neglected. The numbers of these boards are closely guarded, their security formidable and would put some large businesses to shame.

One reporter, Richard Sandza managed to penetrate this secret world, using the undercover name "Montana Wildhack". He then wrote an article in NEWSWEEK about the boards. Furious about the exposure the hackers revenge was swift. Richard found his car license had been revoked, his social security records altered and his credit numbers posted on Bulletin Boards throughout the country, inviting use.

So remember, the next time you get a bill for something you haven't bought, it may not be a mistake...

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SAM 16 - REVIEW

Picture the scene. It's Christmas day, lunch is over, you've pulled the last cracker and three turkey wish-bones (the result of too much brandy on the Christmas pudding or modern genetic engineering!). You are slumped in your favourite chair with a battered paper hat on your head. You can now look forward to an afternoon of watching films that you saw on video two years ago, or (if you wrote that note to Santa) you can sample the delights of PLAY IT AGAIN SAM 16 from SUPERIOR SOFTWARE !! And 'sample' is all you will be able to do in one afternoon - there are no short measures and no padding in this compilation. As announced in E.U.G. Issue 1, SAM 16 features a new game called VERTIGO. Games like it, with titles such as 'Gyroscope' and 'Spindizzy' have been available for other 8 bit machines in the past, but this is a much improved version. There are 50 screens to tackle for a start. The object of the game is to guide the "Perfect Octahedron" (or "Bouncy Ball" to you and me) around the screen, collecting diamonds and other valuables. The playing area, which is viewed in isometric 3D consists of a series of blocks which form pathways, ramps and steps etc. Your task is to keep your Bouncy-Ball playing piece on the straight and narrow. As you are playing against the clock, it is vital that you choose the quickest route around each screen and to avoid any Black Demon balls which may be roaming about. You are awarded a fixed number of points for each screen you complete (which increases with each level) plus a 'Time' bonus.

It is also possible to gain extra lives up to a maximum of five. As with all the best games these days there is a password system which means that once you have completed a screen there is no need to start from the beginning if you lose all your lives. I must say that before I attempted to play the game seriously, I spent some time admiring the graphics. The laws of gravity and inertia are faithfully reproduced on screen, so when for example you need to gain momentum in order to negotiate a ramp, you must use just the right amount of 'force' to clear it and not go sailing off the playing area (fatal!). This may sound daunting but even I got the hang of it after a few minutes! Another novel feature is the way your playing piece sometimes disapears from view as it goes 'behind' parts of the playing area and has to be guided blind. You are not left completely in the dark though, a small dot indicates it's position at all times (you'll have to play the game to see what I mean!). This is a game that requires ever increasing skill and planning as you progress through the levels and should keep even a Master Gamer like RAY LENNARD busy for quite some time! (Now, there's a challenge!) One of Ray's past conquests was PERPLEXITY which is also included in this compilation. Ray was one of the first THREE people to complete this game and divulged the passwords in Issue 1. Knowing the passwords can only help you to practice on any one of the 16 levels of this game, you have to complete it without using them in order to read the final on-screen message! Next up we have

HOSTAGES in which you can become a crack member of the SAS in the comfort of your own home. The game consists of three increasingly difficult 'missions', each of which in turn has three levels. In order to complete the last 'Ultimate mission', you will need to have become an expert in concealing snipers, entering a building through the windows, abseiling and searching for hostages without being shot by terrorists. This is not a game for lilly-livered wimps - that's why I resigned my commission and moved on to play PIPEMANIA. The idea is simple. A grid is drawn on screen with a 'starting piece' in position. You have to score as many points as possible by constructing a pipeline begining at this point. Sections of pipe appear at random on the left of the screen which you can place anywhere on the grid. After a time a strange liquid called 'flooz' begins to flow through the conduit you have built. If the flooz runs through the required length of pipe (indicated at the top of the screen) you may advance to the next level, if not you lose a life! As you encounter higher levels the gameplay becomes faster with more speialised sections of pipe, like Reservoir, Bonus and Obsticle pieces becoming available, so you'll need to keep your wits about you. All in all SAM 16 is a brilliant compilation without a dud in sight. It's an ideal xmas gift to give or receive - and beats 'The Sound of Music" hands down !!

ELECTRON WORKSHOP
By Marc Harris

Hello, and welcome to the first Electron Workshop! In this series we will be looking at how to create your own hardware add-ons. In later workshops we will be seeing how to make full use of your Romboxes and Plus ones, but for now, all you need is is your good old Acorn Electron Computer.

How often have you pressed the BREAK key in the middle of a program? I've done it quite a lot, it's annoying, and valuable data could be lost. As this is the first Workshop we will give two solutions (both from old editions of 'Electron User'- may it rest in peace!) Only one of them will require soldering skills, but in future workshops this will become more and more necessary. But for now, I give you DAN EDEN's Anti-BREAK system

ADVANTAGES:
****

(1) Fairly easy to make.
(2) No soldering required.
(3) Will not cause interference with system.
(4) Cheap to make.

DISADVANTAGES:
****

(1) Looks tacky
(2) Can be knocked to the floor and trodden on.

Cut a piece of aluminium (0.5mm) to the dimensions in figure i score along the dotted lines and carefully bend. Smooth the edges with emery cloth and slide it over the BREAK key as in figure II.

Figure I

Figure II

Figure III
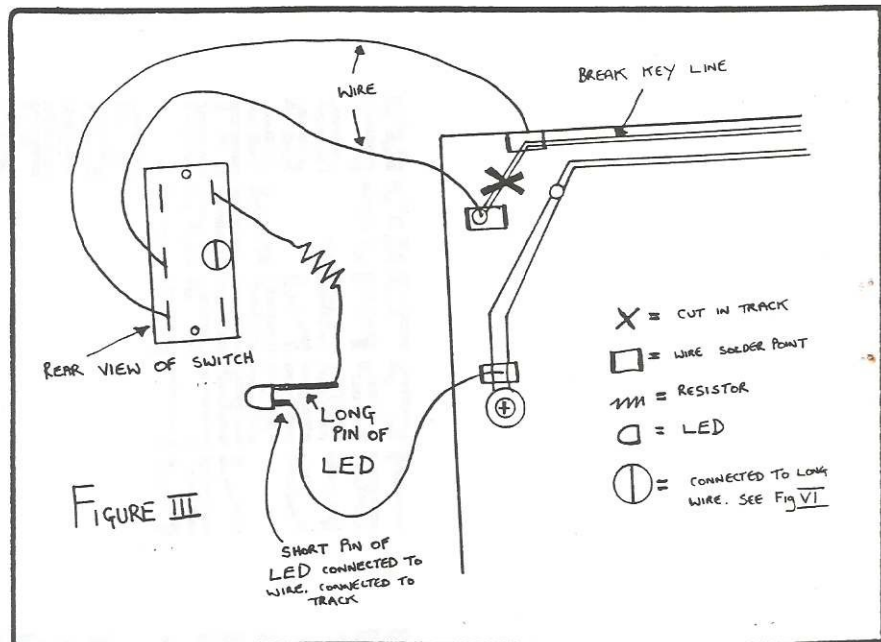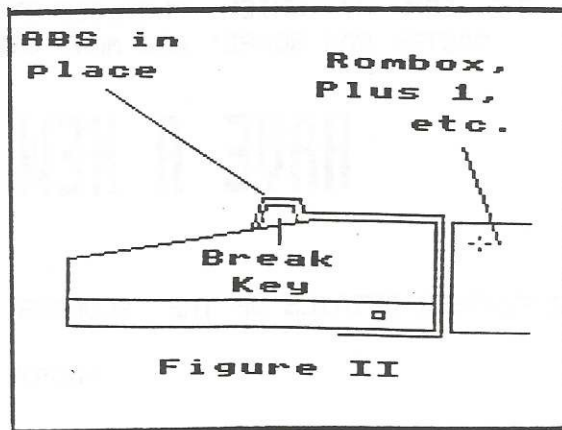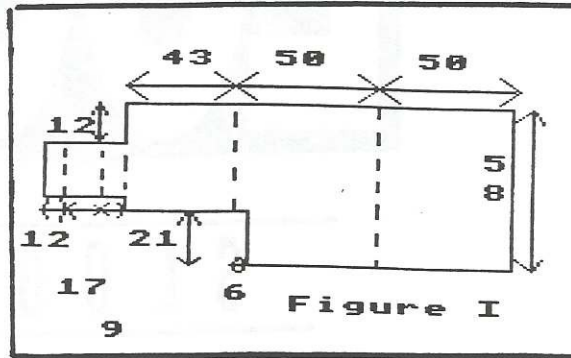
To use the BREAK key again, simply slide the ABS out of the way, yes, it really is that simple!

Next we have PETER JULIAN's BREAK on-off switch.

ADVANTAGES:
xxxxxxxxxx

(1) Quite easy to make.
(2) Only limited soldering skills required.
(3) Cheap to make.
(4) Looks professional.
(5) Cannot be broken easily.

DISADVANTAGES:
xxxxxxxxxxxxxx

(1) Some soldering skills necessary.
(2) If BREAK key is turned off when the computer is first switched on then the Elk will 'Hang-up' - to reverse this effect simply turn the key on and press it. This will not cause damage to the computer.
(3) In•correct installation can cause expensive damage.

First undo the four screws on the bottom of the Electron (if it is not under any service guarantee) and gently ease the keyboard connecting cable from the row of pins on the main curcuit board so that the keyboard can be taken off for easier access and closer examination.

All that needs to be done is for a deep cut to be made in the track on the circuit board that

Switch should go here or on top of the case.
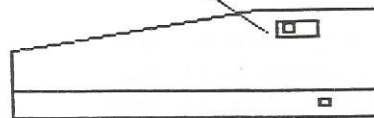
Figure IV

To Break key line

The L.E.D.

The short negative (-) pin connects to a 470 ohm, 0.25 Watt carbon resistor. The + pin connects the - track.

switch

470 ohm resistor   Figure v

L.E.D.

PULLED BACK FOAM PAD

SOLDER LEAD HERE
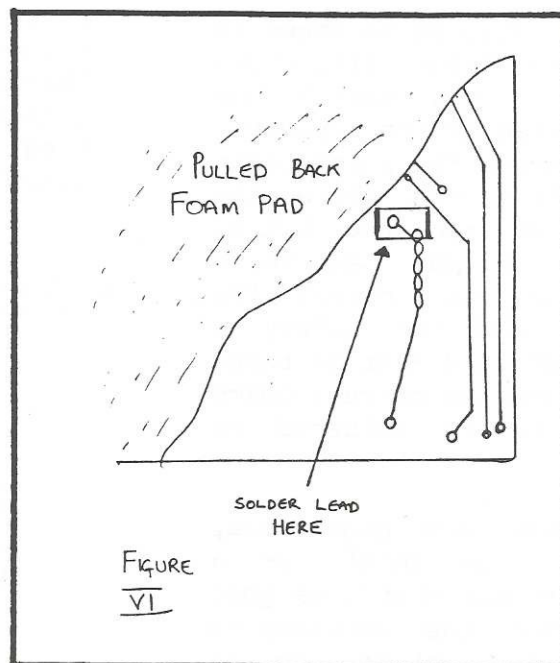
FIGURE VI

OVER →

leads to the break key as shown in figure iii. Next a two position double-pole slide switch is fitted (see figure iv)

Acurately mark out where the slot and fixing holes will go. Drill carefully two holes at the ends of where the slots will go. Use a small file to enlarge and square the holes until the slot is the correct size. The fixing holes should then be drilled and countersunk with a large drill bit. This is best done by hand as even using a hand drill it is quite easy to go straight through the plastic, making a hole which is much too big.

Finally a 3mm hole is drilled next to the BREAK key to take a 3mm light emitting diode. This draws power from the keyboard and dims/goes off when the BREAK key works and lights up when the key is switched off.

The curcuit diagram is shown in figure v. and figure iii. shows where and how the switch and L.E.D are wired to the keyboard. Figure vi. shows the point under the protective pad where the power is taken for the L.E.D. The insulating pad has to be pulled back to reveal the connection, and for safety a thin piece of card must be taped over the exposed circuit board once the wire is soldered in place.

Both of these are good ideas, but if you can think of a hardware project that's as good or better for the workshop to consider, please let me know at:

MARC HARRIS, HARDWARE, 205 ANSTY ROAD, COVENTRY, CV2 3FJ.

The components for the BREAK switch can be obtained from any good electronics supplier. If you have any difficulty, send an UNCROSSED POSTAL ORDER for £3-00 made payable to M. HARRIS with a stamped self-addressed padded envelope to the address above. The components will be dispatched as soon as possible. Any profit made will be used to to fund future projects.

Please note that you undertake any hardware project at your own risk and we cannot accept responsibility for any damage, loss or injury which may occur.

Next time we'll be looking at some basic electronics and later we'll make a multi-purpose user port, with which we can interface with such things as 'buggies',robot arms and other computers. Finally, could some kind soul lend me a ROMBOX manual for a few days please?

ELECTRON EXCHANGE

FOR SALE
========

Electron fitted with Jafa Shadow RAM board giving 64k RAM and Turbo speed approx 300% up on normal.
Slogger ROMbox Plus with printer interface and sockets for 4 ROMs.
P.R.E.S. ADFS plug-in disc interface.
VIEW and VIEWSHEET cartridges.
All manuals for above and some other books
Will sell everything for £160-00
May sell items separately at prices to be negotiated.

MR. P. BALDWIN 22 FENNS WAY, HORSELL WOKING, SURREY, GU21 4BJ.
Telephone WOKING 763470.

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FOR SALE
========

Seldom used Electron and various software titles all in perfect condition.
Telephone (0236) 752861

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FOR SALE
========

Electron and power supply, TV lead and tape recorder lead.........£30-00

Slogger Rombox plus............£10-00

Slogger Pegasus 400 Disc System, consisting of cartridge slot interface and separate 40/80 track disc drive....................£45-00

Slogger Starword ROM based word processor and printer lead.....£05-00

Slogger Switched Joystick cartridge slot interface and Quickshot II+ joystick.......................£05-00

There is a quantity of original software on cassette, both games and business, also 'Electron User' magazines dating from June 1986 (Vol 3, No.9) through to July 1990, plus a few others.

All equipment is in full working order.
All documentation available for above items and most boxes.
Would be prepared to accept a reduced price of £95-00 (plus postage if necessary) for ALL the above items.

Also for sale - 12" Hitachi colour monitor suitable for use with an Electron. Originally produced for rack mounting, it has no case of any sort hence will sell for £25-00. Please note this item is unsuitable for posting and would have to be COLLECTED.

R. DURNFORD, 10 CLARE WALK, THORNBURY BRISTOL BS12 1EN.

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W A N T E D
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To buy or borrow, SEPTEMBER 1990 issue of the MICRO USER magazine.

JOHN BROWN, 45 MARLBOROUGH AVENUE, FALMOUTH, CORNWALL TR11 4HS.

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ALAN JONES
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HARDWARE,SOFTWARE,BOOKS,MAGAZINES,ETC

Alan produces a periodical catalogue containing all manner of weird and wonderful items not all of which are Electron specific, but it's well worth being included in his mailing list.

ALAN JONES, 2 TOWNMEAD, OAKFORD, nr TIVERTON, DEVON, EX16 9EW.

Don't forget to mention E.U.G. !!!!

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MUSIC / SOUND

Having no wish to 're-invent the wheel' I don't intend to explain all the workings of the MUSIC 5000 here, as HYBRID TECHNOLOGY can do it so much better themselves. Below are a few quotes from their publicity hand-outs.

"The MUSIC 5000 is a stereo digital synthesizer capable of a vast range of high-quality instrumental, percussion and other effects......You build music and sounds in an intergrated environment of easy to use editors the Main Menu, Mixing Desk, Staff (or Stave) editor and the Notepad. It is a multi-track recording system with unmatched power for editing, organising and structuring music.......and allows you to have up to eight different sounds playing at the same time......The software system is based on AMPLE (Advanced Music Production Language Environment)".

"Yes, yes", I hear you cry, "But what does it SOUND like???". The simple answer to that is "Very good!!". Hybrid Technology can provide you with an audio cassette entitled "The Hybrid Music System's Greatest Hits". It features the work of such household names(??!!) as Pilgrim Beart, Alistair Johnston, Michael Harbour, Mark Mulders, Obernell, David Reed, Jim Woodhouse, and Andrew Uttley, so you can see (or rather HEAR) for yourself. The tape contains a total of 13 tracks which demonstrate the systems potential and covers a wide aural spectrum of musical styles (although which musician produced which piece I can't say as the cassette comes without an inlay). Don't expect 'hours of

entertainment' from this tape, it's a demo in the true sense, with most examples lasting under 90 seconds. What it does give you is you a good idea of what can be done with the system. Some of the sounds are very good representations of acoustic instruments, piano, clarinet, harpsichord, etc but being a bit of a 'headbanger' I prefered the more 'electrified' synthetic voices, my favourite tracks being the second on side one and the first on side two. As well as spotlighting some of the voices the system can produce, several dynamic effects are also demonstrated, fade ins, fade outs, mid-piece tempo changes, echo, reverberation and stereo panning can all be heard. If you are considering buying the Music 5000 I would advise you to send for this tape which comes with a number of detailed glossy fact sheets explaining the system. If after hearing the tape you decide to buy, contact P.R.E.S. as they can supply a special Electron version of the package.

MUSIC 5000 DEMONSTRATION CASSETTE PRICE £2.95 (approx) FROM:
HYBRID TECHNOLOGY LTD, 88 BUTT LANE, MILTON, CAMBRIDGE, CB4 6DG. Telephone (0223) 861522

MUSIC 5000 SYNTHESISER FROM:
P.R.E.S. LTD, PO BOX 319, LIGHTWATER, SURREY, GU18 5PW
Telephone (0276) 72046
****

TROUBLE-SHOOTING

By John Brown

Having almost completed rebuilding an Electron, these notes are given in the hope that they may be of some use to others. I will start with the POWER TRANSFORMER. This is internally protected with a cutout, so any serious fault will blow it. The output of the transformer is between 16 and 18 volts. This is fed to the socket on the right hand side of the Electron. Inside the computer are two 'boards', the one on the right is the POWER SUPPLY SYSTEM BOARD. The incoming Alternating Current (AC) is rectified and modified to give 5 volts Direct Current (DC) positive and 5 volts negative DC to supply the needs of the computer. The power supply could be quite easily modified to run from 12 volt DC (like a car battery). These voltages are connected to the MAIN BOARD by a three-wire connector. One wire is Positive, one is Negative and the last is 'Common' (this is best explained as being Positive to the Negative line and Negative to the positive). Coming to the main board, you will see a small metal box on top, this is the MODULATOR which converts the incoming signals to video composite at RADIO FREQUENCY (RF). This will be acceptable to any carefully tuned television set. This composite signal is comprised of two digital signals called the VIDEO and the SYNC, the latter being required to keep the video in step with the T.V. The sync itself needs two types of signal, FRAME, which produces the vertical pulses, and LINE which produces the horizontal pulses. You need not concern yourself with these as they are produced internally by the computer's electronics.

SOME SNAGS ENCOUNTERED
========================

(1) Screen lit with 'noise' (white dots etc). Modulator fault (no data from the computer)

(2) Screen lit with a square raster but no data. ULA - which stands for Uncomitted Logic Array - (large IC marked "ICL") could be faulty, or in my case just dirty contacts. Release the spring clip that keeps the metal square in place. This must be done carefully with preferably NO LEVERAGE. Remove the metal plate and the chip can be carefully unplugged. IMORTANT - BE SURE TO NOTE THE EXACT POSITION OF THE ICL BEFORE REMOVING, as there are 68 connections. Holding lightly, clean the connections with a pencil rubber/eraser (use a new, clean one - they're cheap) After cleaning, replace the chip in the correct position and re-fit the metal plate. Having switched on you should see the "Acorn Electron" logo, if not, you may have a faulty chip. These are now obsolete and unobtainable as far as I know, but if a stock does exsist somewhere you may be asked to pay the proverbial arm and leg for it.

(3) No colour from the RF socket. In my case IC11 was faulty, this supplies the pulses to drive the colour burst. IC12 can produce a similar result. Please remember, the above is only for the electronically minded and should not , be attempted by the faint-hearted! Happy Computing....
❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊❊

If you have a problem with your Elk and would like a 'second opinion', or if you're interested in electronics/computers in general, why not drop John a line?

JOHN BROWN, 45 MARLBOROUGH AVENUE, FALMOUTH, CORNWALL, TR11 4HS

```
>LIST
    5 REM By WPW  (1991)
   10 MODE4
   20 VDU23,1,0;0;0;0;
   30 PROCwons
   40 REPEAT
   50 X%=RND(535)+368
   60 Y%=812
   70 GCOL3,1
   80 MOVE X%,Y%
   90 DRAW X%,Y%
  100 REPEAT
  110 MOVE X%,Y%:DRAW X%,Y%
  120 Y%=Y%-4
  130 MOVE X%,Y%:DRAW X%,Y%
  140 UNTIL POINT(X%,Y%-4)=1
  150 GCOL0,1:MOVE X%,Y%:DRAW X%,Y%
  160 UNTIL FALSE
  170  END
  180 DEF PROCwons
  190 MOVE368,812
  200 DRAW904,812
  210 DRAW904,368
  220 DRAW368,368
  230 DRAW368,812
  240 MOVE368,500
  250 DRAW408,508
  260 DRAW504,508
  270 DRAW572,496
  280 DRAW764,496
  290 DRAW848,524
  300 DRAW864,548
  310 DRAW904,544
  320 MOVE596,496
  330 DRAW596,632
  340 DRAW756,632
  350 DRAW756,496
  360 DRAW656,496
  370 DRAW656,540
  380 DRAW692,540
  390 DRAW692,496
  400 MOVE620,588
  410 DRAW640,588
  420 MOVE716,588
  430 DRAW736,588
  440 DRAW736,568
  450 DRAW716,568
  460 DRAW716,584
  470 MOVE640,588
  480 DRAW640,568
  490 DRAW620,568
  500 DRAW620,584
  510 MOVE596,632
  520 DRAW680,680
  530 DRAW756,636
  540 MOVE712,660
  550 DRAW712,688
  560 DRAW724,688
  570 DRAW724,656
  580 MOVE480,508
  590 DRAW480,560
  600 DRAW436,560
  610 DRAW464,576
  620 DRAW444,576
  630 DRAW472,592
  640 DRAW452,592
  650 DRAW476,608
  660 DRAW460,608
  670 DRAW488,632
  680 DRAW516,612
  690 DRAW496,612
  700 DRAW520,596
  710 DRAW500,596
  720 DRAW528,576
  730 DRAW508,576
  740 DRAW536,560
  750 DRAW496,560
  760 DRAW496,508
  770 ENDPROC
```

Mystery Listing

WHAT DOES IT DO ??
WHAT IS IT FOR ??
HOW DOES IT WORK ??
I'M NOT SAYING !!
YOU'LL HAVE TO TYPE
IT IN AND SEE FOR
YOURSELF !!

TAKE CARE WITH ALL
THOSE NUMBERS THOUGH.

```
           ??????
         ?????????
       ??         ??
     ??             ??
     ??             ??
     ??             ??
     ??             ??
       ??         ??
                 ??
               ??
             ??
           ??
          ??
          ??
          ??
          ??
          ??

          ??
          ??
```

THE WONDERFUL WORLD OF THE COMPUTER
BY DR. BERNARD NERDFERGLER.

Affordable home computers have been available for about ten years now, but in all that time nobody has ever produced a really helpful guide to their use. Oh, sure, there have been tons of books and magazines printed about computers but they have all glossed-over the most important aspect of the subject, ie, the "Of Course It's Not Like This In Real Life" factor. It's not that writers have been dishonest about this, rather they have just been lazy and consequently much vital information has been omitted from computing literature. Let's look at how this applies to the Elk.

Firstly when a person acquires an Electron they read in the manual that there is a "Power in socket" on the right hand side which is used when connecting the computer to the mains electricity supply. This is not true! Situated on the right hand side of an Electron is the "Hole Where The Power Lead Goes, Which Becomes Very Wobbly After a While And Turns Your Computer Off At The Most Inconvenient Times". As you can see it's a lot quicker to write "Power in socket" than to give the more detailed description!

The computer keyboard is another area where the true facts have been distorted. Most people believe that "QWERTY" keyboards are so called because the first 6 letters on the top row spell this word. Wrong! "QWERTY" is an acronym for "Quite Wantonly Enjoying Regularly Tricking You" Keyboards are laid out in what we experts call the "Undetectable Mirage Pattern" or UMP for short.

Keys are moulded with angled surfaces in such a way that without your knowing it, the rays of light that reach your eye carry not the image of the key you actually pressed but that of the one four places to the left and one row down. I know this is true because I get the 'UMP' whenever I'm typing.

Another undocumented aspect of computer keyboards is the fact that they all come equipped with a pad which generates static electricity positioned beneath them. This helps the computer to attract dust, grit, toast crumbs and small rodents into the gaps between the keys. No one has ever been able to discover why manufacturers insist on including this feature.

All computers need some means of storing information. With the Electron you have the choice of cassette tape or floppy disc. The Elk has a very advanced tape filing system which is way ahead of it's time. You may find this hard to believe, but the Electron is capable of reading ALL the information on a 90 minute tape in under three seconds. Unfortunately all cassette players available at present are unable to run at the speed needed for the Elk to perform this feat. Because of this the Electron gets 'bored' waiting for the information to dribble into it's memory and tries to hurry things along by sending what is known as a "Continuous Helical Enhancement Wave" along the connecting lead to the tape player's motor control. The inefficient cassette deck is

unable to keep up the furious pace demanded of it which can result in the state of affairs known as tape-CHEW-syndrome which I'm sure you've all experienced at some time.

A disc drive is rather like a wellington boot filled with plastic imitation fruit sprinkled with soot — once you've owned one you will wonder how you ever lived without it, but I'll save this dicussion for another time!

X WORD

Another simple puzzle to complete while you wait for your breakfast egg to boil! A few clues concern the Electron, some are 'seasonal' and some are just there coz they fit! Last issue's solution is on the right. Does anyone else fancy compiling a crossword?...................

Last issue's solution grid (words): SWAP, DATA, SOS, PROG, CLOSET, BLACK, ELITE, STAR, RUN, WARE, TIME, KITE, VICE, END, WINDOW, WINNER, PRINT, RETURN, WORLDTOUR, TEXT, FRACTALS, COLOURS
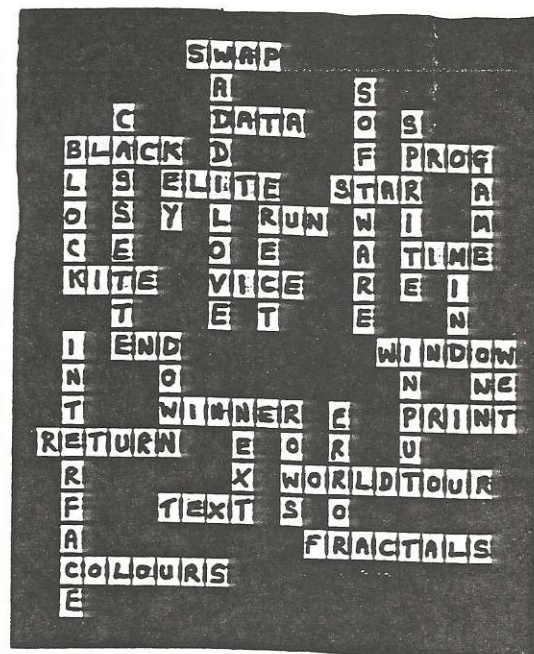
CLUES

ACROSS

2 A PLAY ON WORDS (3)
5 DONKEY (3)
8 NEVER CEASING TO BE VERDANT (9)
11 LUNATIC FRUITS (4)
12 NEEDED TO RUN SOFTWARE (8)
13 MODULE OF A STRUCTURED PROGRAM (9)
14 EXTERNAL CONTROL DEVICE (8)
16 NOT SHUT (4)
20 SOLID, FOUND IN FREEZERS (3)
21 TRADITIONAL CHRISTMAS BIRD (6)
22 THE 6502 HAS 6 OF THESE (9)
25 SMALL CHILD QUAFFS A DRAM (3)
26 THREE FOLLOWED A BRIGHT STAR (5)
28 NO! REVERSE! (2)
29 SEVEN DAYS (4)
30 MAY SHED LEAVES IF SPINE BROKEN (4)
31 BED FOR A BABY (3)
32 LIQUID REFRESHMENT (5)
35 BRAT'S TOYS ON BOXING DAY? (6)
38 COMMAND TO LOAD AND RUN PROGRAM (5)
39 PART OF A SKELETON (4)
41 BEAVER'S HOME (5)
42 NO ROOM FOR MARY HERE LONG AGO (3)
43 STICKY SUPPORT FOR THE TEETH (3)
44 BUNS ARE HOT AND ANGRY (5)
45 SOUNDS LIKE A NEEDLE IS USED (2)

DOWN

1 USUALLY SET AT E00 ON AN ELK (4)
3 NO LONGER GLUED (7)
4 'DIM' THIS BEFORE USE (5)
6 FAMOUS OVER A STABLE (4)
7 THE XMAS PERIOD (8)
8 SEND LETTER OR CHANGE SOUND (8)
9 SANTA'S COMPLEXION (5)
10 SANTA'S POLE (5)
15 TIE KNOTS IN THIS VARIABLE TYPE (6)
17 INVENTORY OR EXAMINE A PROGRAM (4)
18 COMMAND TO RESET DATA POINTER (7)
19 ANNUAL REBIRTH (3,4)
21 KATE SHUFFLED, HELPING HERSELF (4)
22 NOSES AND ERROR-FREE PROGS CAN (3)
23 UNIMAGINATIVE PRESENT (4,5)
24 A WHITE ONE KNEW 7 SMALL MEN (4)
27 'HANG-UP' FOR SANTA (8)
28 AN ACORN IS IT'S FRUIT (3)
31 PULL OR EAT WITH CHEESE (7)
33 ESKIMO SHELTER (5)
34 ARMOUR TOO NOISY TO BE 'SILENT' (7)
36 POOH'S RED-FRONTED FRIEND (5)
37 DECK THEM WITH 'BOUGHS OF HOLLY' (5)
40 NO LONGER STAMPED WITH LIONS (4)
42 INFORMATION TECHNOLOGY (2)
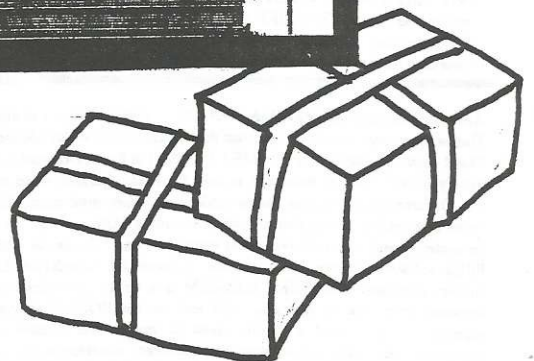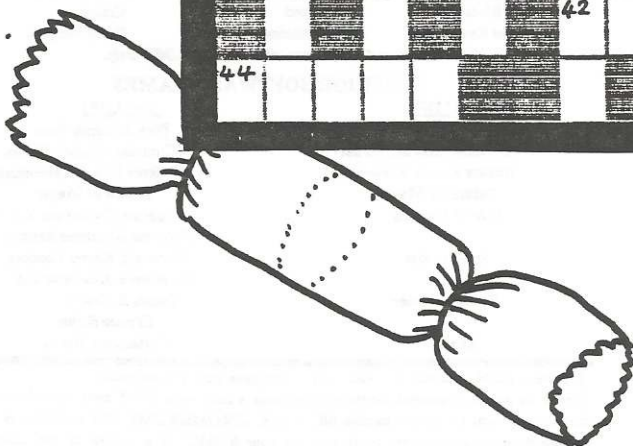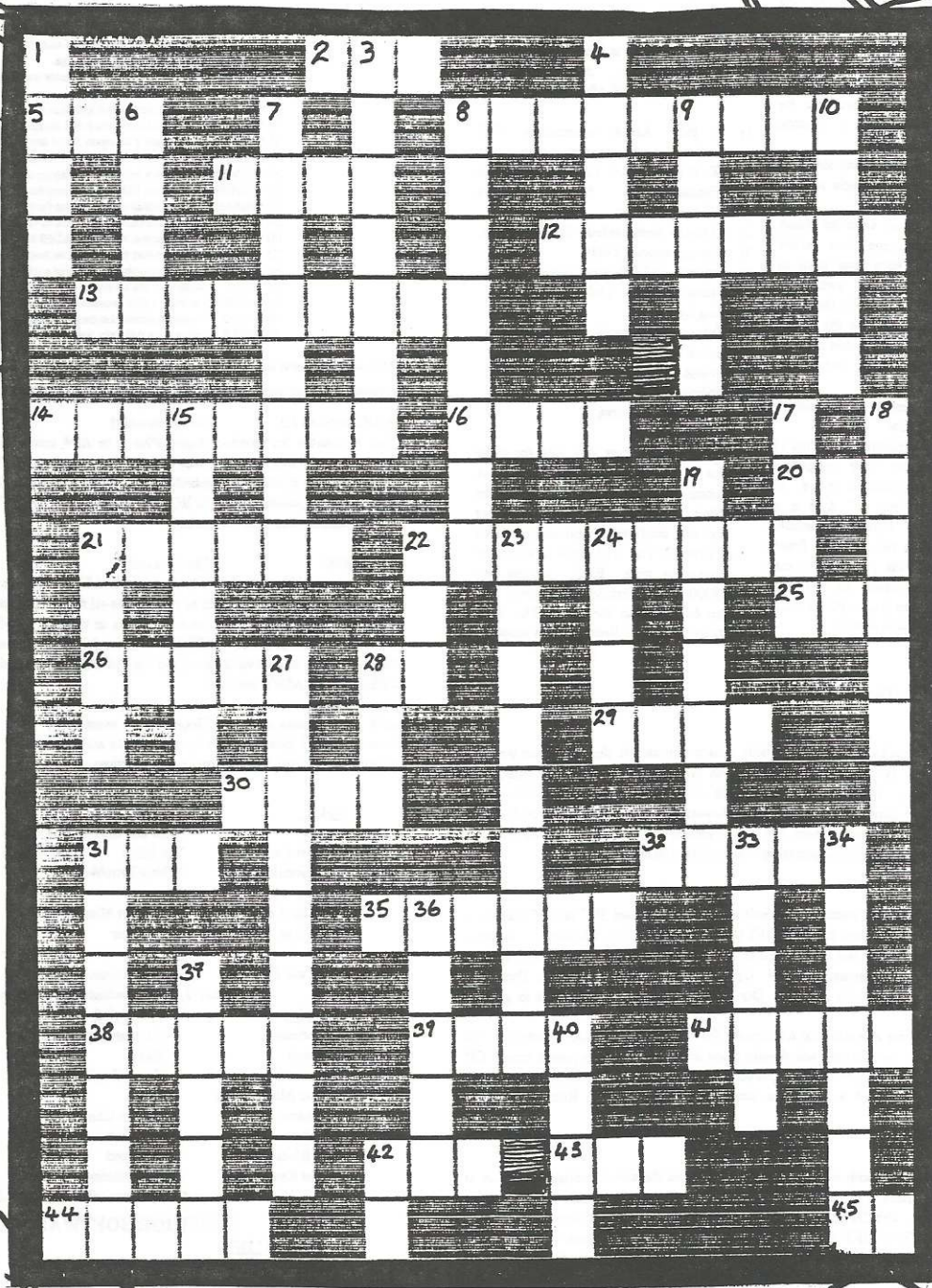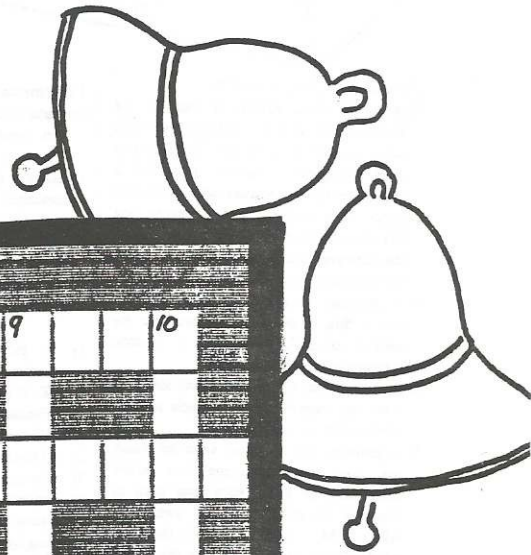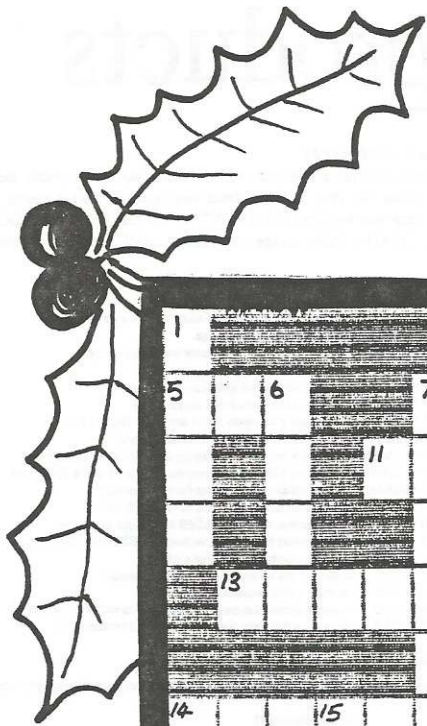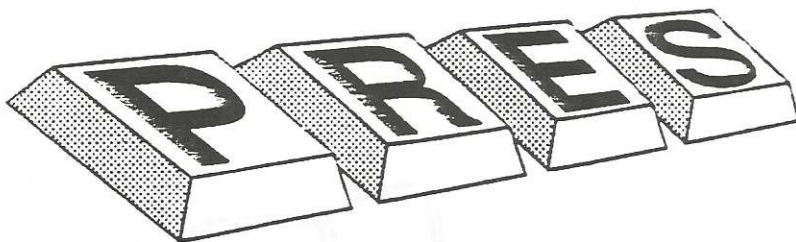
electron products

The Advanced Plus 1 <AP1>

This is the main expansion unit for the Electron and is now produced by PRES under license from Acorn. On its own it does not appear to do very much but is needed to allow the many add-ons we can supply.This colour matched oblong box fits onto the edge connector at the back of the Electron and is then secured in place by two bolts. It has three main functions.

1) It provides a centronics parallel printer port - this is the standard interface for adding compatible printers / electric typewriters to the Electron.
2) It provides an analogue joystick interface - we can supply either a single or twin joystick for use with this.
3) It provides two cartridge slots for which the uses are numerous-these allow connection of ROM cartridges such as View & Viewsheet and our own AP3, AP4, AP34, ARA2, 1 MHz Bus, and ABR. Our AP1 also includes the circuit modification necessary for some modern printers and has extra fitted sockets for easy installation of AP6.

Advanced Plus 6 <AP6>
(connects inside Plus 1)

Described by Electron user magazine (May 88) as "A marvellous piece of design....dont hesitate, buy it!" AP6 is a fully buffered 6 ROM expansion module for the Electron user. It can be easily fitted inside our Advanced Plus 1 or with some soldering experience inside an original Acorn Plus 1. If using an Acorn Plus 3 only 5 of the 6 sockets will be available.

DISC INTERFACES (Plus 1 required)

AP3 Interface

as supplied with AP3 package this gives a fully Acorn compatible disc interface that will accept any standard 5¼" or 3½" 80T drive with power supply unit. It is fitted with Acorns ADFS Filing System and supplied with ADFS manual and Welcome disc + Utilities and 3 bonus games Snapper-Draughts-Reversi (please specify 3½" or 5¼" 80T format).The interface also has a spare 16K ROM socket and can be fitted with our DFS modification kit to give BBC compatibility. (see AP34 details)

AP4 Interface

a fully Acorn compatible disc interface that will accept any standard 5¼" or 3½" disc drive with own power supply.It runs the 1770 DFS (as fitted in the BBC & Master computers). It keeps page at &E00 and the utilities are in the ROM giving instant access to such as FORMAT and VERIFY commands. full DFS documentation is supplied. There is a spare 16K ROM socket in the interface. Our ADFS 1.1 Rom can be fitted to give an AP34.

Special package prices are available for a complete 5¼" upgrade to include Advanced Plus 1 - AP4 - 5¼" 40/80 switchable track double sided drive with built in power supply OR AP4 and 5¼" drive only. Our PRES Special 3½" drive fitted with second drive lead could be added to the AP4 + 5¼" drive along with the ADFS 1.1 Rom to give full software scope.

AP34 Interface

This gives you the best of both Filing Systems giving you the same standard interface as AP3 and AP4 but fitted with both ADFS and DFS. Full documentation is supplied for both filing systems. The DFS. which keeps page at &E00 .has its utilities contained within the Rom. The ADFS which takes page up to &1D00 comes complete with Welcome disc containing utilities + 3 bonus games Snapper-Draught-Reversi (please state disc format required ie 5¼ or 3½" 80T ADFS)

Advanced Battery-Backed RAM <ABR> (requires Plus 1 to operate)

This is an Acorn approved cartridge that is connected to the Electron through one of the Plus 1 cartridge ports and gives 32K (2 X 16K) of Battery-backed Sideways RAM .The battery-backed feature enables it to hold the RAM contents when the power is switched off! Different ROM images can be loaded into either bank from ROM images previously saved and the banks can also be locked to imitate ROM use e.g. View and Viewsheet can be loaded in and available every time you switch on. The use of ABR is simplified by the PRES software utilities which include :- SaveROM. LoadROM. Lock. Unlock. Printer Buffer, Zero and MakeROM. MakeROM is a utility that allows you to put your own software from disc or tape into ABR and use the ROM filing system. All software is supplied in ABR with a simple menu to transfer the utilities to your own media. Instructions for using the software and necessary information for users developing their own applications are supplied. Compatible with both the Master and Electron Computer.

The Advanced Plus 3 Mk 2 <AP3>

(requires Plus 1 to operate) now you can turn your Electron into a full disc system - no more waiting for tape loading or "bad block" /"data ?" messages. The AP3 is the only fully compatible disc upgrade running Acorns own filing system the ADFS as supplied in Acorns Plus 3, Master 128, Master Compact, Archimedes and A3000 range. AP3 Mk 2 gives you.....

1) A fully Acorn compatible 1770 interfacem cartridge form with spare 16K ROM socket. Can be fitted with DFSmodification kit to give BBCcompatibility.
2) 80 track- doublesided - 3½"disc drive.
3) Storagecapacity 640K.
4) Seperate PSU (Power Supply Unit).
5) Acorn ADFS (Advanced Disc Filing System).
6) Welcome disc with extra 3 bonus games of Snapper - Draughts - Reversi.
7) Utilities.
8) Full documentation.

Special package price available for those who do not already own a Plus 1. A second drive, either 3½" or 5¼" can be added by fitting our AP3 second drive lead and configuring the second drive as Drive 1. The AP3 drive is upwardly compatible with BBC. Master and A3000 computers.Second drives can also be added to the Acorn Plus 3 by fitting our Plus 3 Second drive adaptor.

The Advanced Plus 2 ROM <AP2>

Described by Electron User as "the definitive Plus 1 Rom" the AP2 replaces the existing operational ROM inside the Plus 1. Once fitted you need no longer search for your utilities disc every time you want to FORMAT/VERIFY a disc.BUILD a !BOOT file or LOCK/ UNLOCK/ LOAD a ROM image into ABR or AP7 PLUS much more . AP2 gives you

1) Fix for Tape filing system in Hi-res screen modes.
2) *ROMS - to display all ROMs/RAM images present on the system.
3) *UNPLUG - disable ROM/RAM image.
4) *INSERT - enables or inserts a previously unplugged ROM.
5) *KILL - to totally disable the Plus 1.
6) *LOCK - to lock a sideways RAM bank in ABR. or AP7.
7) *LROMS - to lock all sideways RAM banks found.
8) *UNLOCK - to unlock a sideways RAM bank in ABR or AP7.
9) *UROMS - to unlock all sideways RAM banks found.
10) *SAVEROM - saves a copy of a rom image to the current filing system.
11) *LOADROM - loads a ROM image from the current FS into a RAM bank.
12) *FORMAT - will format an ADFS disc for Plus 3 or AP3.
13) *VERIFY - reads and tests every sector of an ADFS disc.
14) *VFORM - formats and verifies an ADFS disc in one command.
15) *BUILD - creates a text file that can be used by *EXEC (ie !BOOT)
16) *LIST - displays a numbered listing of a text file.
17) *TYPE - displays a file on screen with no line numbers.
18) *DUMP - to view a files contents on screen.
19) *LANG - selects a default language to be booted on <CTRL-BREAK>.
20) *HELP - provides a full 'help' list on all the ROM's commands.

All in all a very useful. time saving, low cost companion for the Plus 1.

ADFS version 1.1 (Electron only)

This is suitable for existing Acorn Plus 3 or AP4 users. This version has the software fixes for Zysyshelp, write protect disable and compaction. The ADFS is Acorns adopted standard filing system as supplied with the Plus 3, Master 128, Master Compact and the Archimedes. Available on 16K ROM with either 3½" or 5¼" Welcome disc and utilities. (ADFS manual supplied seperately)

ADFS E00 (Electron only)

This requires 32K of sideways RAM such as ABR to operate and can be used by Electron users with Acorns Plus 3. AP3 or AP4.It has all the benefits of ADFS without the loss of RAM and includes all the software fixes as in version 1.1 plus an FX call for managing the original ADFS. PRES ADFS E00 regains 3.75K of memory and leaves page at &E00 the same as on tape. Available on 3½" or 5¼" ADFS (manual supplied seperately) or 5¼" DFS(2 discs + ADFS manual)

AP4 modification kit (Electron AP3 users only)

Turn your AP3 into an AP34 by the simple addition of this two chip DFS upgrade. full documentation and fitting instructions supplied.

Vol. 1	Vol. 2	Vol. 3
Invaders	Felix and the Fruit Monsters	Danger UXB
Jet Power Jack	The Mine	Ghouls
Killer Gorilla	Rubble Trouble	Felix and the Evil Weevils
Stock Car	Swag	Adventure
Bandits @ 3 o'clock	Cybertron Mission	Positron
Bumble Bee	Moonraider	Swoop
Croaker	Frenzy	Chess
Felix in the Factory	Escape-Moonbase Alpha	Galactic Command

Volumes 1, 2 & 3 available on 3½" and 5¼" ADFS.

Vol. 4	Vol. 5	Vol. 6
Arcadians	Starship Command	Strikers Run
Meteors	Maze	Zalaga
Snooker	Killer Gorilla 2	Fruit Machine
Magic Mushrooms	Frak	Invaders
Monsters	Cosmic Camouflage	World Geography
Qwak	Guardian	Alien Dropout
Bug Blaster	Planetoid	Centibug
Video Revenge	Constellation	Percy Penguin

Volumes 4, 5 & 6 available on 3½" ADFS only.

SUPERIOR SOFTWARE GAMES

5¼" DFS	3½" ADFS
Play It Again Sam	**Play It Again Sam**
(Contains Citadel. Thrust	(Contains Citadel. Thrust.
Strikers Run & Ravenskull)	Strikers Run & Ravenskull)
Palace of Magic	Palace of Magic
Life of Repton	Superior Collection Vol. 3
	(Contains Synchron,Repton.
Spellbinder	Repton 2, Karate Combat.
	Overdrive, Deathstar and
Bonecruncher	Smash & Grab)
	Crazee Rider
Elixir	**Codename Droid**

Advanced ROM Adaptor 2 <ARA2> (requires Plus 1 to operate)

This is an Acorn approved cartridge containing a card with TWO 'zero' profile sockets that allows you to fit compatible 8K or 16K EPROMS/ROMS. The cartridge is fully enclosedproviding complete protection for your ROMS. It is simple to use. complies fully with the Acorn (sideways) ROM filing system and has gold plated connectors for maximum reliability. Compatible with both the Master and Electron Computer

ELECTRON PRICE LIST

ITEM		EX VAT	INC VAT
Interfaces & Upgrades			
Advanced Plus 1	<AP1>	£50.00	£58.75
Advanced Plus 6	<AP6>	£33.00	£38.77
Advanced Plus 3 MkII Disc upgrade	<AP3>	£129.00	£151.57
AP3 (ADFS disc Interface only)		£52.00	£61.10
AP4 (DFS disc Interface only)		£60.83	£71.47
AP34 (ADFS & DFS disc Interface only)		£69.55	£81.72
Advanced Battery-Backed RAM	<ABR>	£39.00	£45.82
1MHz Bus Cartridge		£19.96	£23.45
Filing Systems			
ADFS version 1.1ROM + disc		£14.95	£17.57
(Please specify 3½"or 5¼"software)			
ADFS E00 (requires ABR to use)			
3½" ADFS disc (manual avail.sep.)		£14.95	£17.57
5¼" ADFS disc (manual avail.sep.)		£14.00	£16.45
5¼" DFS (2 discs + ADFS manual)		£19.00	£22.32
AP4 modification kit		£21.74	£25.54
Books			
ADFS Guide Manual		£ 5.00	NO VAT
Electron Advanced User Guide		£ 3.95	NO VAT
Games			
Advanced Games Compendiums			
Volumes 1,2 & 3 3½"ADFS		£ 9.99	£11.74
5¼"ADFS		£ 8.99	£10.56
Volumes 4,5 & 6 3½"ADFS only		£ 9.99	£11.74
Superior Software 3½"ADFS		£ 6.77	£ 7.95
" " 5¼" DFS		£ 5.92	£ 6.95
Adventure Games			
Taroda Scheme 3½"ADFS		£ 6.95	£ 8.16
Ultimate Prize 3½"ADFS		£ 6.95	£ 8.16
Disc Drives			
Cumana CS400 5¼"dble sided 40/80 with psu		£113.00	£132.77
Cumana CS354 3½"dble sided 80 track with psu		£78.00	£91.65
Discs			
10 X 3½in library box		£12.72	£14.95
10 X 5¼"discs dbl/sided dbl/dens		£ 9.32	£10.95
ROM Cartridges			
VIEW wordprocessor cartridge		£12.72	£14.95
VIEWSHEET spreadsheet cartridge		£12.72	£14.95
VIEW + VIEWSHEET		£16.98	£19.95
Printers			
Panasonic KX-P10819pin 144cps (28 NLQ)		£137.00	£160.98
Panasonic KX-P1124 24pin 192cps (63 NLQ)		£207.00	£243.23
Citizen Swift 2yr.wrnty 24pin 192/64cps		£247.00	£290.23
Colour Kit for Citizen Swift		£34.00	£39.95
Accessories			
AP3 2nd drive lead		£ 5.96	£ 7.00
Plus 3 2nd drive adaptor		£ 6.91	£ 8.12
Panasonic KX-P1081 printer ribbon		£ 5.50	£ 6.46
ROM Software			
Advanced Plus 2 ROM	<AP2>	£11.00	£12.92
Advanced Disc Toolkit	<ADT>	£30.00	£35.25
Advanced Disc Investigator	<ADI>	£25.00	£29.38
Advanced Control Panel	<ACP>	£30.00	£35.25
Advanced File Manager	<AFM>	£25.00	£29.38
SPECIAL PACKAGE PRICES			
AP1 + AP3		£165.00	£193.87
AP1 + AP6		£77.00	£90.47
AP1 + Delta 3B Single Joystick		£59.53	£69.95
ABR + 3½"ADFS E00		£48.65	£57.16
ABR + 5¼"ADFS E00		£46.95	£55.16
ABR + 5¼"(DFS) ADFS E00		£51.00	£59.93
AP4 + Cumana CS400		£147.78	£173.64
AP1 + AP4 + Cumana CS400		£189.00	£222.07
AP1 + KX-P1081 Printer + View		£185.53	£218.00
Music 5000 + 1MHz Bus		£ 99.00	£116.32

T.B.A.T.B.

See You Next Year!

SUPER ELK

ANOTHER ISSUE BITES THE DUST.

TO OBTAIN A COPY OF ISSUE 3 (WHICH SHOULD BE AVAILABLE IN FEBRUARY '92)

PLEASE SEND A CHEQUE OR POSTAL ORDER FOR £1 MADE PAYABLE TO "W. WATTS"

TO:-

134 GREAT KNIGHTLEYS

BASILDON

ESSEX

SS15 5HQ

****
IT ONLY REMAINS TO WISH YOU ALL A MERRY CHRISTMAS & A HAPPY NEW YEAR !!
****

```
*******************************
**#                       #**
*#    --- E U G ---         #*
*#    --- NEEDS ---         #*
*#        YOU   ---         #*
*#          ---            #*
**#                       #**
*******************************
```
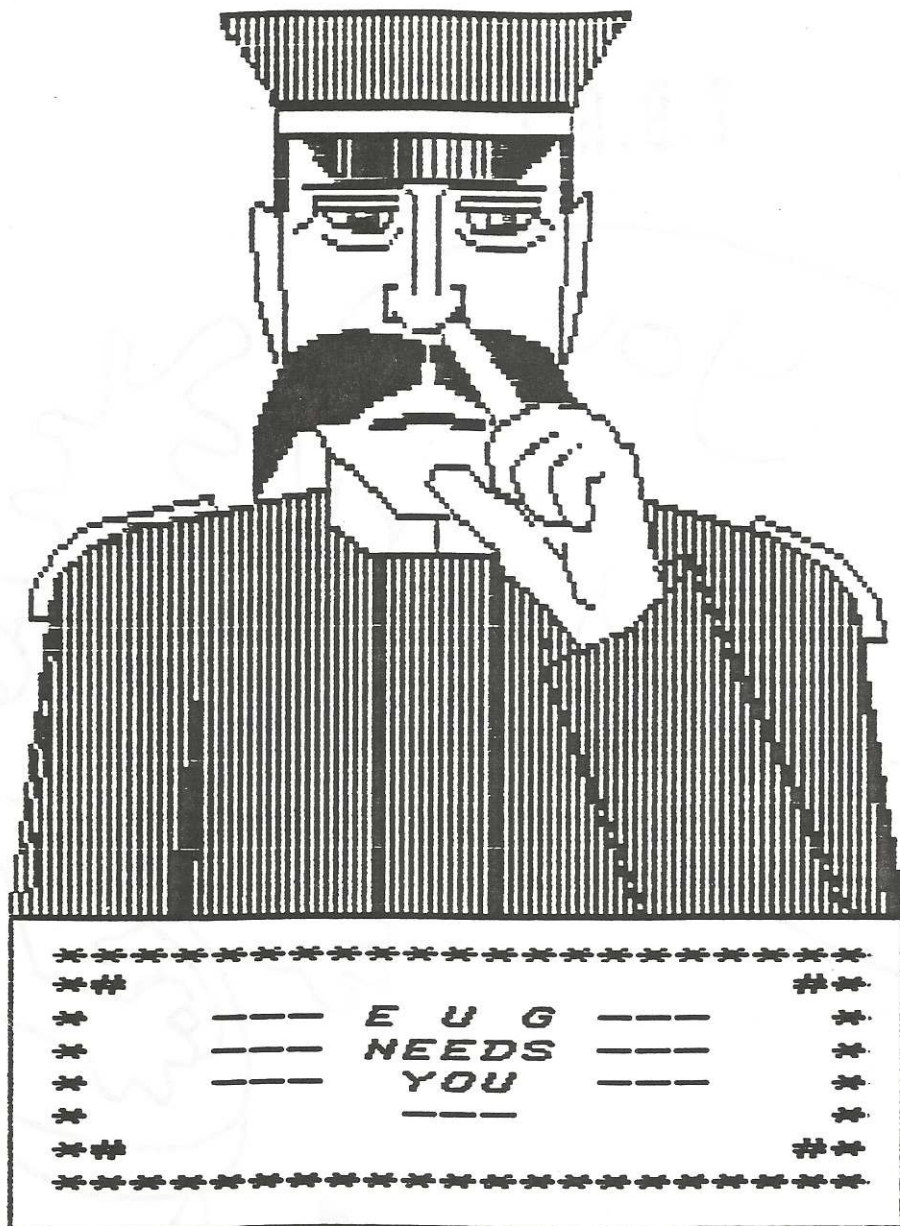
Have YOU:

* Written a program you're proud of?

* Discovered a great piece of P.D.?

* Created a stunning graphics display?

* Made amazing music with one channel?

* Got a question to ask?

* Got things to tell?

Then write to:

E.U.G.
134 Great Knightleys
Basildon
Essex
SS15 5HQ