

EINSTEIN MAGAZINE

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No. 81

EINSTEIN MAGAZINE 81/2

* YOUR NEW EDITORS *

As you will have read in Issue 80 of the EINSTEIN MAGAZINE Jenny and I have taken over as general editors as of this issue. We hope to be able to improve on the publishing times and get back to at least 6 issues per year.

We have received a great deal of help from Tony Adams and Ted Cawkwell in getting us started and we will probably require a good deal more for some time to come.

Neither Jenny or I have any technical skills to speak of but we will pass on all your questions to Ted Cawkwell or put in a -please help- to our fellow members, after all that's what the group's all about, to make sure that the interest in the Einstein is kept alive and kicking.

Jenny is a retired nurse and as for myself I am a counsellor for alcohol abuse, unfortunately at the moment I am not fit enough to work at this due to a trapped nerve in my neck which prevents me driving for more than a short while. This of course, gives us a great deal of time to fill and the chance to edit the mag. which is just the ticket.

Jenny and I have other hobbies such as Marine tropical fish keeping, rock and mineral collecting, reading, gardening- (in Johns case from a distance watching me--Jenny) and spoiling our cat. We also look forward to having a break in Jersey as often as the finances will allow, which lately is not so often.

We manage to run an old Ford Escort, which we think the world of and hope to keep it running for a long time to come. It's due for M.O.T. quite soon and this is always a worry as there always seems to be some problem, but this is the joy of motoring.

We are as yet waiting for our first letters from you all to come flooding onto the doormat, but the days go by and we rush eagerly to the door at the sound of the letter box and guess what--NOTHING--how sad, but we're sure you've just forgotten to post your contribution.

* EINSTEIN MAGAZINE 81/-3 *

We are at the moment gradually reading our way through previous magazines to get more idea of the kind of items you enjoy, and to learn something about you as members, if you are technically minded or if you just enjoy contact with other users through these pages.

We want to continue to cater for all Einstein users no matter how they use their machine. Tony and Ted are a great help as far as getting us started goes, and we're sure that they will soon get fed up with all the questions we fire at them, but as stated we know nothing except word-processing and are only just able to figure that out.

We have used a few different w/p's including WORDPRO, MINI-OFFICE II (on a BBC B), WP80, BIG 3 (supplied by FMP Buiness Software through your old pal B&H) and also started on WORDSTAR with only moderate success, but we are still trying.

We are both using WP80 to produce the magazine and have found it to be more than ideal for the job, once again it's thanks to Ted who wisely encouraged us to use this, after overcoming my (John again) pig headed-I'll do it if it kills me frame of mind.

As you are aware there are quite a few pages to fill so please start sending in your problems or articles or even moans if you want. We also need any ideas you might have to improve the magazine content, it is after all your magazine and it can only be as good as your input.

If you write in you can send it on disk, with a hard copy as well please, just in case we have trouble reading your disk. You can if you wish just send a letter to Jenny or myself and one of us will type it up ready for the magazine, so you have no reason not to contribute something no matter how small.

Finally, why not use these pages if you have some computer spares or books you wish to part with or perhaps something you need for your own use to keep your Einstein up and running.

John and Jenny Murray/General Editors

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AMS 96 SHOW REPORT

Stephen Potts

Hello to you all. I have a great deal to tell you as it has been a hectic year as far as computing goes.

Some of you may have met me at one of the many shows I have contributed to or perhaps read some of my previous magazine articles.

I always treat the shows as an opportunity to show off the EINSTEIN to the public as if it were a CLASSIC car or motor cycle. I feel I have now been accepted and the public come to the stand and converse freely.

The welcome I received from Graham Bettany and Ray Gamble at Stafford was very warm, I thank them both for allowing us the space and support so that we can keep up the interest in Classic machines, I was ready to chicken out but I am glad I didn't. I did think I was well prepared for the show with relief cavalry in the shape of two volunteers; however stage fright must have struck and it was left to me and my non-Einsteiner friend John to fly the flag.

I have changed my car this year to an A reg. Maestro. I took out the rear seats and HEY-PRESTO !!-an Einsteinmobile. I took the day off work to sort and prepare the kit I was taking with me: two working TCO1's and one not working with the top off to show the workings, various disk drives and monitors. Problems came when my Tatung colour monitor RGB lost the B sending the colours very strange.

Came the 9th of November we set off at an unhealthy time and just managed to get to the show ground before the loading door was due to close. We were able to drive up to our stall and unload directly onto the tables, this was brilliant. Machines, sheets, signs and disks were unloaded and put together just as the public were let in. We got the XBAS demo from the master working on the colour machine and on the mono I decided to run 'THE HITCHHIKERS GUIDE TO THE GALAXY', an interactive book type game by INFOCOM, based on the book, tv and radio series by Douglas Addams.

Many visitors to the stand were amazed it came with sound and colour as well as the number of user ports available. The truth is, to get anything of similar standard you would be looking at a 386 machine.

About mid-morning Mike Smallman gave me a carrier bag of mixed 5.25 disks. "These should keep me busy sorting out over the winter" I joked. Seriously though thank you very much. If you like the way I run the display and have anything to keep it going i.e. books, equipment or even some of your time please call me and I will find a home for it (the wife may scalp me though). Please - PLEASE don't throw ANYTHING in the skip as this upsets me very much. Think of the dedicated hours that went into producing this first practical home computer that still holds its head high in word processing etc.

The way I run the stand is to raise interest in the Einstein by showing them in good working order with extras also on display. The keyboard faces the public for them to test run games etc. I always try to put members and visitors in touch to get or give advice, this seems to work as my success of the day proved. A chap at the stand was taking an interest in the Einstein with the lid off. It transpired that he had worked at a factory assembling them. He also had one gathering dust under the stairs and would I like it, I sure would!! About an hour later I had a conversation with a man who was amazed at the Einstein's capabilities. He was an exchange student living in Germany visiting friends in the UK. Putting on my good guy white hat I introduced them and they chatted away all day, getting on like a house on fire, with the result that the Einstein will be jetting off to the US of A in the near future. I had hoped to have a demo running but it didn't arrive until after I had left for the show, but it will be used next time.

If you have anything you wish to show us bring it along to the shows, I take my modified 3.5 drive, (see issue 80 for instructions) to the shows, come and test drive it.

(Thanks Steve, sorry about the delay in printing: Jenny Ed.)

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CHIEF EDITOR'S PAGES

FREE MEMBERSHIP !!

Actually it's a competition, but since none of you lot out there believe in entering our competitions nowadays, the Chief Editor and bottlewasher has got crafty, and is trying to bribe you with free membership to see if that works any better.

Our illustrious Technical Editor has bought himself a new magical 21st-Century printer that is not too conceited to take notice of a steam-age relic like the Einstein. (Well at the second go he got one that will, anyway!) This produces near commercial typeset quality output which will transform the magazine's appearance and legibility.

It actually achieves even better results when set to "proportionally justify" its output, and we'd like to use it in this mode, but therein lies a stumbling block. It's one that your 'Umble Servent the Chief Editor and your illustrious Technical Editor can probably crack between them fairly easily, but we thought you'd like to have a go too, and earn yourself a free extension at the same time.

The problem is that while the new "faster than the speed of light" printer that Ted's installed prints truly proportionally justified—i.e. a line consisting only of repeated "i's" gets a lot more of them in the same space than if it were the character "w" you were printing—the word-processor programs that we have available assume that Einy is an 1866-vintage steam typewriter, and allows a fixed on paper per character, regardless of how wide the character is.

To get slightly technical, true justification (in the terms of William Caxton and his metal type) consists of adding hair-thickness spaces between characters to space out the text to fit the line width, and what Ted's printer is doing in it's "proportional justification" is exactly the opposite—in that it reduces (/increases?) the space that each character occupies on the paper to the actual width of the character, plus a hairline space.

What old-style computer wordprocessor programs do, on the other hand, is allocate a fixed space to each character, regardless of its actual width, and what they call "justification" is nothing of the sort, but is merely the insertion of an extra space between words, repeated each side outwards from the centre of the text, until it fills the line.

As a trained printer your Chief Ed. thinks this looks appalling, so normally sets his text to "unjustified", or "ragged right" margin.

With a printer set to proportionally justify, "ragged right" produces a printed line length that is totally haphazard. What it does to "justified" text your Chief Ed. doesn't dare to try and visualise for the sake of his sanity. "HERE BE DRAGONS !!!" just about sums it up.

It is possible to manually adjust the length of each line to get a really superb overall effect when printed out, but it is so laborious and consuming of time, sanity, ink and paper that even saints have been known to opt to go downstairs and stoke up the boilers in preference to being given the job. In essence it is a simple repetitive extremely boring job—and therefore just what a computer would love to do for us, if we wrote a program for it to follow.

As you know your Chief Ed. just loves to extend your membership for you at the slightest excuse at no cost to you, so although he could probably crack this in conjunction with our Tech Ed. in a little less than no time at all, he's turned this into a competition that everyone of you out there can enter — AND EVERY ONE OF YOU CAN WIN !!!

The problem is one that doesn't just afflict Einy's, but it applies to all other computer wordprocessors too (with the possible exceptions of computers designed to operate on the "point and grunt" system), so the Compo is split into three sections, depending on whether or not you are a BASIC programmer, a programmer in something exotic like Forth, Logo, Pascal, "C", or assembler, or not a programmer at all.

Most members are probably not programmers at all, but it doesn't matter in the slightest if you are sufficiently organised and logical to be able to select the right channel for the TV programme that you want to watch, and check that the tram conductor has given you the right change for your fare. (You may have to have been in Blackpool or the Isle of Man or Yucutan or Hong Kong or Melbourne or "The Continong" for that, but super-trams are about in Sheffield, Manchester, etc.)

If you are a programmer, we'd like a commented listing from you in whatever language you prefer, or more than one if you like, plus a compiled working example (if this is a practical proposition.) If you are a non-programmer, what we'd like from you is an algorithm to solve the problem. All this is is a "recipe" listing the logical steps that would form a program, in the order that a computer would need to act on them. In many ways it would be similar to the "How to get from the Stafford Showground to 23 Railway Cuttings, East Cheam by the longest/shortest/prettiest/ugliest/flattest/hilliest route "sort of a route chart" that the AA used to provide to members on request when your CH.ED. was still in short trousers (and may still do, for all he knows).

Your Ch.Ed. thinks this is probably something that every single one of you could make a pretty good try at, since he doesn't regard himself as a computer programmer at all, and wouldn't know how to write/code such a program in Pascal or BASIC, but reckons an algorithm to do it ought to be quite simple, and that he could do it as an MsDos batch file on the PC (like SUBMIT files under CP/M but easier to use) if the commands available will stretch far enough, and that he could certainly do it as a dBASE 3+ program.

Why should you bother to even try? BRIBERY! For every genuine attempt that you submit, the Ch.Ed.(who just happens to be the membership sec. too) will add one magazine issue to your present subs for your trouble. If you come up with an answer that does the job, you get ONE YEAR'S FREE MEMBERSHIP added to your present subs. If there is more than one "correct answer" submitted in any of the three sections or categories of "type of programmer", then the editors will

select a "Super Prize" of TWO YEAR'S FREE MEMBERSHIP added to your present subs. This will be awarded on the basis of points by a combination of number of "correct answers" submitted, and elegance and simplicity in solving the problem.

A couple of clues for you, and one design feature that will score you extra points. Firstly we already have a program in the software library that takes 64-character-line-length TASWORD text files, reads them, and outputs the same file reformatted to standard (80-column?) line length. Being a BASIC problem it must be doing it in series of simple logical steps. Study the program if you have it, or think through logically the steps that it would need to take to achieve this, as a starting point for your own algorithm.

Secondly, the faster-than-light printer probably has a look-up table in its permanent memory, allocating a fixed value to each character according to its true width when printed out on paper. The printer may not be able to tell us this value, but we should be able to find it out, if only by printing out a full line of each character, and calculating the value from this. Several characters may well have identical width values, of course.

The final point is that a highly desirable feature of such a program is that the total line length should not be predetermined and fixed, but that it should either have a default value that the operator can readily alter to some other value if he needs to, or that the operator should select the value when he runs the program. The new version of the text file, to avoid overwriting the old one, may need to be given a new name, preferably selected by the operator, and you should bear this in mind too.

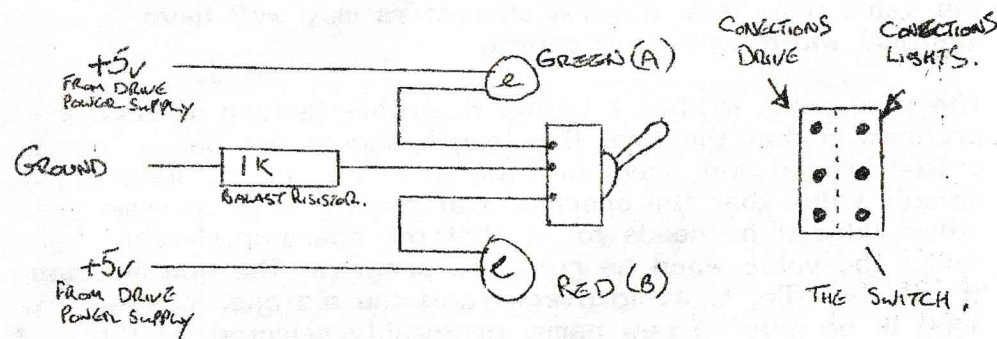
If you can conveniently do so, please submit three copies of your solution (or solutions), sending one each to the editors at Barnstaple, Winterton and New Romney, and making it clear that you have done so. If this is not convenient, PLEASE KEEP A COPY and submit your answer to***John and Jenny Murray at 11 Beaufort walk, Barnstaple, Devon, EX32 7JD.***

EXTRA DRIVES WITH SWITCHABLE SIDES (Part 2)

Stephen Potts

SIDE SELECT INDICATOR LIGHTS

I decided to make mine an EINSTEIN type i.e. "A" selected will light a green diode and "B" will light a red diode. Armed with the expensive MAPLIN catalogue I selected CJ64U "red" and CJ65V "green" and a switch FH04E. the 6 poles set like a domino. On the left bank of three the middle is connected to pin 32 on the drive, top to line 32 in the cable, and the lower to ground. On the right the centre is connected to the 5volt on the power supply, the top to the diode positive (anode), and the lower to the other diode positive (anode), the two negative or "cathode" ends joined and taken via a 1k resistor (for current limiting) to ground. Test, and all should be well with your standard XDOS because you are using the drive as if it was a 3" at 180K per side but a damn sight cheaper and more available.



As you can make backups on to the 3.5" disks this will release some of your 3" for use. The next step is to replace the 0/A drive with a 3.5" and use the 3" as 1/B drive, this

would relieve the use of the 3" and extend the life of the unit.

TECH ED's note. For some reason Steve's diagram shows the opposite polarity of the above description but would work equally well, assuming the LED's are the right way round. LEDs are usually marked with a flat on the case and have a short lead on the same side to mark the CATHODE. This is not always the case however, my stock of LEDs has all colours with both long and short leads under the flat. To test one use a 1k (1000 ohm) resistor and a 3 to 9 volt battery. Connect the presumed CATHODE to the negative of the battery and the other lead to positive VIA THE RESISTOR. If the LED lights all is well; mark (bend) the cathode lead for future reference. Otherwise reverse the battery connections and a good LED will then light. Again mark the cathode. No light or light both ways indicates a duff component. In circuit, the LED should have + volts to anode via 1k and cathode to ground. Seperate resistors are safer, one for each LED. Using 5 volts and 1k some LED's may be a bit dim, though reds are usually OK. Lower resistances of 820,680 or 560 ohms may be tried in succession for a brighter display, but be wary of going any lower.

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JUST JOKING!

Murphy's Hardware Laws.

1. The maintenance engineer will never have seen a model quite like yours before.
2. It is axiomatic that any spares required will have just been discontinued and will no longer be in stock.
3. Any VDU, from the cheapest to the most expensive, will protect a ten pence fuse by blowing first.
4. Any manufacturer making his warranties dependent upon the device being earthed will only supply power cabling with two wires.
5. If a circuit requires n components, then there will be only n-1 components in locally-held stocks.
6. A failure in a device will never appear until it has passed final inspection.

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TWO MORE GRAPHIC DUMP PROGRAMS

Ted Cawkwell

You get sick of the same old rubbish on TV don't you? When it really got to me the other day I started looking through some old UKEUG Newsletters instead. (After Coronation St. of course!)

As I had recently acquired a ZEN assembler I was pleased to see that there were some assembler listings by Dave Salvage with four variations of the basic graphic dump program. Two of them were the standard one and the double size one as featured in The Compendium 1 and elaborated upon in a recent article.

The other two were designed to do dumps along the page instead of across, one at normal size and the other magnified by 3 one way and by 4 the other to give a dump which had circles looking like circles instead of eggs. The second also needs a very large sheet of paper, but more of that anon.

My first attempt at using ZEN worked OK but was very slow due to my cack-handed entering of the listing, but I ended up with a GDUMP3.SRC file that worked and was easily made into an .OBJ file.

For the next, longer, listing I used WP80 to write the .SRC file and got on much quicker. Zen was only used to make a .COM file which was rapidly changed to an OBJ one, by LOADING into DOS and then SAVEing as GDUMP4.OBJ.

As it stands GDUMP3 simply prints the screen contents in the bottom LH corner of an A4 sheet as viewed in the 'landscape' orientation, and appears to be of limited use. However, the printer can be configured to print the screen anywhere on the page by using the Left margin and Vertical Tab ESCape codes. Note that some early printers (e.g. Tatung TP80) do not use a left margin code so Horizontal Tab must be used. A Vertical Tab could also be replaced with multiple Line Feeds.

Remembering that the text is twisted through 90 degrees, the Left margin adjustment becomes up or down on the page and vertical tab moves things left or right. It now becomes possible to print on A4 so that the page may be folded down the middle to make an A5 'book', with text/graphics on each side. When moving up/down the line number refers to the top line of the 24 line screen, and the left/right column numbers refer to the 32 column screen because we are working in graphic terms. I.e. a VT of 32 is needed to move to the middle of the page - not 40 as might be thought.

The XBAS program GDUMP3T.XBS is included to demonstrate the above principals. The DIR on line 45 is done to get something on the screen to print and this is the point at which your own text/graphic screen should be input. The values to input for up/down the page alignment have been adjusted so that 0 is top of page and 45 is bottom. The numbers refer to the TOP of the SCREEN IMAGE, so with a value of 45 the top of the screen is 45 lines down with room below for the rest of the screen.

The other routine, GDUMP4, produces a huge print about 10 by 18 inches but is corrected for the screen aspect ratio of 3:4 and therefore prints real circles as they appear on the screen. If your printer will not do larger than A4 it will be necessary to confine your screen images to the area X=0 to 166 and Y=0 to 154, X and Y starting at the bottom left. If you have a long carriage printer it would be possible to make 10 x 18 posters with a Teletext look!

GDUMP4

DB20E61CFE10C02A
9AFBE52A9CFBE501
0000C50604C5ED43
00AF06082178A07E
CF9F2310FAD1C1C5
D51100182100FF19
E5D1D52108002BE5
1909C5E5C1CFC2CD
81A0C1E13E00B520
EDD13E00B220DD3E
00B320D83E0ACF9F

GDUMP3

DB20E61CFE10C02A
9AFBE52A9CFBE501
0000C50608216BA0
7ECF9F2310FAC1C5
1100182100FF19E5
D1D52108002BE519
09C5E5C1CFC2CF9F
C1E13E00B520EED1
3E00B220DE3E00B3
20D93E0ACF9FC121
080009E5C13E00B0

C110BAC121080009
E5C13E00B028AB3E
1BCF9F3E40CF9FE1
229CFBE1229AFBC9
0D1B41081B4B4002
C9C5F5ED4B00AF10
09CDB9A007CDBFA0
181D1009CDBBA007
CDBFA018121009CD
BDA007CDBFA01807
CDBFA007CDBFA079
CF9FCF9FCF9FF1C1
C907070707070707
CB110FCB1107CB11
0FCB11C9C9.

28B83E1BCF9F3E40
CF9FE1229CFBE122
9AFBC90D1B41081B
4BC000.

The above are the hex codes of the two graphic dump routines. They should be entered under MOS from start address 0100 up to and including the full stop at the end of each block. Then do a CONTROL/BREAK to return to DOS and SAVE the code as an OBJ file. (SAVE 1 GDUMP3.OBJ or 4 as the case may be; the 1 means 1 block or 256 bytes of code and is required for SAVEing this way.)

N.B. For GDUMP3 you just need the code in the right block above and for GDUMP4 only the left block.

Now the XBAS program. (GDUMP3T.XBS)

```
10 CLS: CLEAR &A000
20 LOAD "GDUMP3.OBJ"
30 INPUT "Down the Page(0 to 45)?" ; LM
40 INPUT "Across page(0 to 64)?" ; VT
45 CLS: DIR
200 IF (INP(&20) AND &1C) = 16 THEN 250
210 PRINT "PRINTER NOT READY - CORRECT THEN PRESS SPACE"
220 Y$ = INCH$: IF Y$ = " " THEN 45 ELSE 220
250 PRINT &1; CHR$(27); CHR$(108); CHR$(45-LM);
260 PRINT &1; CHR$(27); CHR$(66); CHR$(VT); CHR$(0)
270 PRINT &1; CHR$(11);
280 CALL &A000
290 END
```

A few trial runs with the above will soon give you the idea of how to position your screen dumps on the paper. Printing several times on one sheet is easy with a sheet feeder, but with a sprocket feed you will need to wind the paper back to a marked point. If all of the entering involved gives you the willies, a 3" disk and return postage to the Editors will save you all the trouble!

Note that if your program starts at any Line Number other than 45 you must change the 45 in Line 220 to suit, and of course, delete the DIR on Line 45.

---@---@---

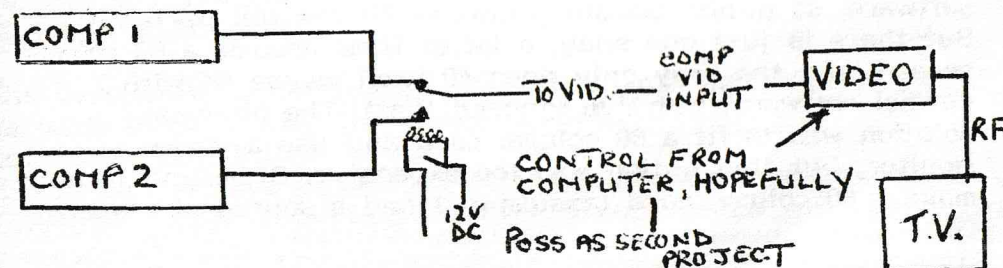
MORE ON THE EINSTEIN TWIN COMPUTER

(By Les Foksett - continued from issue 80)

Dear Ted,

Further my previous letter, I haven't been able to get any reed relays yet but thought you might be interested in a small test I carried out. Using comp video I wired up a Lucas car change-over relay (I have better but wanted to see what the worst would produce). I took no precautions as regards shielding and fed the output to a video recorder. Only one relay is required, as in video stop mode the computer signal passes straight through the TV. To put pics. on screen go into play. As I have said, to be of any use the video would have to be controlled by one of the computers. I did of course use screened cable and it is essential to have tight fitting plugs and sockets. A ten minute job. but the results proved it would be possible for an inexperienced member to do with care; and no problems with RF. Hope this will be of some help. I always use an electro cap in the comp lead by the way in hope that it will offer some protection to the computer, but my theory side's a bit weak.

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80 Column output without the card.

--By Duncan Elvin--

Before I get started let me introduce myself, my name is Duncan Elvin, I am 27, married with two new born daughters. My profession is as a Electronics Engineer which fits in well with my hobby of computers as my job involves me writing a fair amount of software.

This is intended to be the first of a series of articles about the projects and add-ons I have built for my Einstein. At this stage I don't know how many articles there will be in the series, we'll just see how we get on.

There is a joke about a man traveling around the country who stops to ask a irish-man directions, who answers 'well I wouldn't start from here if I was you'. This will be the case with a number of these articles, as hind-sight has showed me a better way of doing something or the components I have used are not available, as I tend to do things on the cheap and so therefore use junk I have laying around. But I will give enough information to get you most of the way there and am open to questions on any of the articles.

One project I will not be covering will be adding extra disc drives to the Einy as that has been covered in detail before, but I do have a format program, which I wrote (based on BACKUP.COM supplied with Xtal DOS), that will format any combination of 40 or 80 track, single or double sided, which I have the source code to, and which I will place in the library if anyone is interested.

Now I don't like paying much for things, and that includes software, so public domain programs fit the bill perfectly. But there is just one snag, a lot of them assume a 80 column screen, and the Einy only does 40 (well maybe 64 with special software, but I've ignored that). The obvious solution was to fit a 80 column card and use a video monitor, but that option was too expensive. Or maybe I could make a 80 column card (assuming I had a source of cheap

monitors), that was too hard. Then in a flash of inspiration I hit upon the perfect idea, use a serial (RS232) input terminal, driven from the Einy's serial port. These were occasionally on sale for between 10-40 pounds at a local government surplus shop. After much wire swapping here is the configuration that worked (be careful as the Einstein end can be inserted two ways, incorrect insertion won't damage anything, it just won't work):

Einstein End
(5 way DIN)

Terminal End
(25 way D)

1	-----Ground-----	7
2	-----CTS Handshake-----	4
3	-----Data Output-----	3
4	-----RTS Handshake-----	5
5	-----Data Input-----	2

Now set the terminal baud rate to 9600, 8 data bits, 1 stop bit, no parity (on mine there is setup key on the keyboard which brings up a menu, but it may be some DIP switches on yours), and set the Einy serial port baud rate to 9600 with the MOS command 'B 88'.

In Xbas enter 'PRINT\$2; "HELLO WORLD"' if the message appears on the terminal you're there dude!, if not check the cable and the setting on the terminal. It may take some fiddling about to get it working but it's a educational experience !!

To get your version of DOS to output to the screen will require some patches to the console output routines in the BIOS, the address of these will be different for each version and you may need to include some code to do software (XON/XOFF) handshaking.

The version of CP/M Plus I have written for the Einstein can be made to do it with the command 'DEVICE CON:=SIO[9600,XON]'.

If you do not have CP/M Plus you can use the program TERMPTCH (available from the user group) which will patch the copy of DOS that is loaded into memory, the penalty

being that it will stop DOS accessing drive 3:. This program will need to be run each time the machine is booted.

One final thing, when you get your BIOS patches up and running, you will find that all console output will appear on the terminal but the Einy keyboard will still work. The only problem with this is that the output from some programs (BACKUP, XBAS etc) which do not use the operating system to output to the screen, but instead use MCAL routines in the MOS will still output to the VDP. This should not be too much of a problem as the reason you would want to have a 80 column screen would be to run CP/M programs which perform their output through the operating system anyway.

Well that's how I did it, and I'm still using that setup, and to date have found no serious problems with it. See you next time !

(Gen. Ed. Many thanks Duncan and we look forward to your next project. If any member has a go at this please let us know—Jenny)

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SOME THOUGHTS ON THE EINSTEIN 256

By John Murray

I purchased my 256 about 18 months ago thinking it would be a step up from the TC01 I used in work. Oh dear, what a shock I was in for. Firstly it wouldn't run WDPRO so I had to buy more software, and then I found out to my horror that I got garbage out of my printer (a Citizen 120D+).

Back to the famous B&H to find out why and I was told, You will need a printer driver which you can purchase from us at an extra payment of £30. I paid up, waited 5 months for it to arrive and it worked like a dream.

If only I'd belonged to the group at that time, I would have had the warning not to buy one, and certainly not from B&H. Still I have it now and must admit it has served me well as a word-processor. I am trying other software and quite a lot of TC01 programs work just as well.

I will from time to time include further details and thoughts on the 256 as and when space allows and also include some technical information.

---@--

WORD-PROCESSING WITHOUT A WORD-PROCESSOR (Written by Andrew McRobbie and added to and expanded by Chief Editor Tony Adams)

The last thing you want to see in your favourite magazine is a continual moan by your editor(s) about the lack of input from you, so why not save us all the bother of moaning at you by simply writing something to keep us quiet, AND PUTTING A COPY OF YOUR LETTER OR ARTICLE ON DISK as well as on paper. If you don't have a printer, just tap it into your keyboard and save it on disk, for us to print it out at this end.

"That's all very well for YOU, but I don't have a word-processor!" do we hear you say?

Not to worry — YOU DON'T NEED ONE! All you need is Xtal BASIC — as it has a very useful line editor built into it — and you ALL have that. It's XBAS.COM on your Dos 1.31 system master disk (or 1.11 if you've never upgraded). Simply write your letter with the XBAS line editor, just as though you were writing a program. Number each line as usual, then key in REM, followed by the line of text.

You can make alterations easily while you are on the same line. If you want to make changes later, either enter the line again, or make a note of the change later in the text, noting the Line No. to be changed, and what the change is.

If the text has scrolled off the top of the screen, you can check it by using the LIST command.

When you are satisfied with it, SAVE it to disk as a tokenised XBAS file in the usual way, or you can save it as an ASCII file by using the command SAVE "EXAMPLE.ASC" instead of the usual SAVE "EXAMPLE". Then use COPY or BACKUP (on your system disk) to put a copy on disk to send it in, and you'll get it back with the next magazine.

Tony or John and Jenny will copy it with anything else

that's come in, and all we need to do is use the 'Find and Replace' option in our word-processor to replace each REM with spaces.

Your article or letter can then be copied into the magazine with no typographical errors at all on our part.

EXAMPLE

5 REM EXAMPLE.XBAS from A.Nonnymouse, member 999-99. (9/99)

10 REM A good way of keeping in contact with other Einstein

20 REM users is simply to send Tony an letter or article for

30 REM the mag. using XTAL BASIC instead of a word-processor

40 REM If using a switchable 5" drive, set it to 80 tracks.

Gen.Editors. This item is reprinted from magazine No.76 (Aug-Oct 1995). We make no apology for using it again as a reminder that WE NEED YOUR INPUT to keep your magazine alive and well filled ---John and Jenny

---@--@---

General Editors:- Jenny and John Murray, 11 Beaufort Walk, Barnstaple, North Devon, EX32 7JD - (tel.01271-24019)

Technical Editor:- Ted Cawkwell, 9 King Street, Winterton, North Lincolnshire, DN15 9RN (tel.01724-733640)

Chief Editor/Printer/Publisher, Membership/Distribution, general correspondence/enquiries, non-Einey matters:- Tony Adams, Ivy Cottage, 1 Church Rd, New Romney, Kent.TN28 8TY

Oh No, NOT The Chief Editor AGAIN !

Yes, sorry, it is. We've got to find at least 4 more pages from somewhere, so someone's got to write something, nah so? Which brings me to a tricky little point, which our "Anyone got any idea which end of the tunnel the light's at?" - "If this is what the deep end is like, I wish we'd learned to swim before we got thrown in" new editors mention elsewhere.

At present we have just one lonely article on hand to make the next issue out of. We'd like to give you a magazine at least every other month, but it's going to be very hard to make a single solitary article stretch out to fill a whole magazine. You wouldn't be very pleased with us if we did!

It's a swings and roundabout situation at our end. We'd very much like to give you a nice fat magazine full of nourishing meaty things to chew over and learn from at least every two months, but there are just too few of you providing anything for us to print, even with Little Me constantly whacking off persuasive letters in the direction of anyone who looks remotely possible for an article, and even when I assume that every letter I receive that might even remotely be of interest to anyone else is really intended for publication.

We can't print the magazine and send it out to you until we've received (or magicked out of thin air) enough material to avoid having to send it out with blank pages in it. Dave Arts got very upset and put his Einey away in the attic when he got my letter that wasn't intended to be rude and hurtful, but which seemed to be so to him when he read it. I really am very sorry about that Dave. You were a valuable asset to us, you are badly missed, and your absence leaves a big hole in the magazine that is very hard for us to fill.

The flip side of the coin is, if we don't send the magazine out (with blank pages?) you get out of the habit of writing in with letters and articles for us to print. Some of this may be directly my fault, by encouraging contributors to share the sort of technical discoveries with the rest of us that were a distinctive feature of the magazine when the Einstein was new and exciting territory for the hardware and software hackers to conquer. However, the opportunities for me to do this are much more restricted now that Steve Potts has (thankfully for me!) taken on running the show stand for us at Stafford and elsewhere, so that I am unable to pounce on unsuspecting lone Einstein whizzkids who sidle up to the stand and drop fascinating hints about the amazing way that they have made a few slight modifications to their Einey, so they can now use it to control a nuclear power station!

In addition to our VERY small band of long-service technical material contributor members, my attendance at Stafford show and my overall tendency to encourage all users to share ideas and information have enabled us all to benefit from some VERY significant breakthroughs that have been made by Steve Potts and Duncan Elvin, to name but three.

Steve has given us the key to keeping the Einy in continued productive use by being able to upgrade the disk drive to modern standards with economical 3.5" disks and ex-equipment 3.5" drives (fitted internally?) switched between modes under hardware control, and using these to the full (even without upgrading the Dos from 1.xx). However, we are still some way from unravelling all the technical complications of the precise differences between double density and high density disk media coercivity and disk drive write currents, etc., and we badly need you hardware experimenters out there to evolve a practical standard novice-user-fittable disk drive upgrade kit from standard ex-equipment-dealer-sourced "high density" (actually switchable mode) 3.5" drives.

Duncan has made a number of significant contributions to keeping the Einy in productive use by working out how to use a standard serial terminal as an alternative display unit instead of fitting the very-hard-to-find standard Einstein 80 column display card, see his article this issue.

However, serial terminals in good working order are none too common now, Duncan. Can you tell us whether other Z80 or 8080-based (and other processors?) computers with integral 80-column display could be adapted & used in the same way if they were going cheap (maybe without drives/software?)?

Duncan has also ported CP/M PLUS to Einy and made it XtalDos-compatible, and has written a utility program to run under it (so long as you have MOS 1.21 or later) which can read and write MsDos disks (so you can transfer text files to and from them). He has also fitted his Einy with a couple of hard drives of the "Scuzzy" variety.

The latter is hardly a d-i-y option for the average user, but hopefully he will be writing it up for us anyway. His TRANSFER program is easy to use. It ought to work under Dos 2 ("System 5") (as well as CP/M PLUS), but sometimes gives spurious "disk is write-protected" error messages instead. We've had CP/M PLUS under test for a while now. It has minor problems with the disk drive CONFIGuration utility, which doesn't seem to do anything at all on my machine. Duncan? (And what happened to AUTOCONFIG?) We intend to release it to UKEUG members as soon as we're OK'd to print the Manual.

So what does the future hold for the Einstein User Group?

Well, we've now got a brand new printing machine to produce the magazine on. This hasn't cost us anything at all (other than two days a week of my time given free to my local group of churches). They provide the printing machine & printshop, while I provide all the labour needed to do their printing for them. Their commercial printing machine can't handle the thick card covers (cut from a stock of disk drive packing box sleeves from a manufacturer who went into liquidation in the recession) that we use as magazine covers, so I have bought an antique flatbed duplicator built into a wooden "suitcase" for this job, though it isn't yet in service.

As I explained in the last issue, I am long-term unemployed (Romney Marsh is a long-term employment blackspot) and I took on the user group when I had lots of spare time but no income but the dole. As a result of the change to the new JobSeeker's Allowance I am under very heavy pressure to get off the dole, but am unlikely to be able to get conventional employment again, so part of the deal with the local church over their new printing machine is that I can use it at cost to become self employed as a specialist small publisher.

If you know of the Plateway Press or David & Charles or the Middleton Press; or the publications which your local history society, civic society or family history society probably publish, then this is the sort of area that I am aiming at. I already have a small selection of UK authors, plus a few USA and Canadian ones who are keen to have me publish them, and I am looking for more in these and other English-speaking areas. Conventional printing usually needs a print run of around 2,000 copies to get the unit cost down to a viable level, but this new machine can cut this number dramatically, so I am seeking titles that are out of print or cannot get into print due to expected low volume of sales

However, this means that although I shall continue to print and mail the magazine out, act as a general contact and information point, run the membership database and look after subscription renewals, I shall no longer be able to spare the time to spoon-feed or mollycoddle the Einstein user group. From now on, whether it grows strong & thrives, or shrinks, disintegrates and vanishes, will be determined solely by YOUR willingness as Einstein owners to play an active part in helping yourselves. The group cannot generate enough income to employ me, even part-time, and it is up to Einstein owners to decide whether the Einstein Magazine and the user group are worth keeping, strengthening and making even better, or whether it is just too much bother to try.

Over the past six months everything has been coming together nicely in such a way as to make it possible for me to hand over the the responsibility for the future of the Einstein, the Einstein Magazine, and the Einstein User Group into the hands of those who own and use Einstein computers, for you to determine your destiny for yourselves with the greatest possible freedom of action, while I am still in a position to actively support and encourage your efforts and to share my knowledge (gained "on the job" since 1959) of producing a volunteer magazine and of making a volunteer society work.

From this issue on we have a pair of willing new apprentice Einstein Magazine editors who are being taught "on the job" (a sort of employment training scheme "employer placement" where you don't get any pay and you have to do your own training on your own equipment!), & an experienced Einstein technical whizzkid & former assistant editor (whose Dear Old Dad was a professional proof-reader & taught him to tread the minefield of grammar, syntax, punctuation and spelling). He is now your Technical Editor (and is also learning to be a lion-tamer in his spare time so that he can fully master the intricacies of electronic typesetting with a 21st-century computer printer linked to a 1980s Einstein TC-01).

It is obvious that there is a considerable learning curve ahead of these keen new editors in many different ways -- it has taken me 37 years as a volunteer editor to "learn the trade" to the point where Ted the proof-reader's son thinks that I am now an asset as an editor -- the ideal time to give it up! -- and that there are a few teething troubles in this, the very first issue which combines their "having a go" as editors with Ted Cawkwell's trying to teach himself how to become an instant expert at electronic typesetting.

The new "typesetting machine" produces quite superb results in fully proportional mode, as you can see for yourself through the main part of this issue, though perhaps Ted was a bit over-optimistic in using this mode on supposedly-"justified" text as well as on "ragged right" text, and your entries in the "teach the printer to count the characters" FREE MEMBERSHIP competition are obviously very necessary. So too are lots of letters and mini-articles to print, with a copy on disk. Make it "ragged right" text, and it will be output good enough to have earned Ted's Dad's approval.

I'll be unable to proudly polish your poetic prose to pure perfection prior to printing now, as I shall get it already "typeset". If you find bad grammar/syntax/spelling/spacing/punctuation that has been overlooked, help the editors to become experts by telling them about it. But do so gently.

0530-11. LET
13 FEB 1997

17 Ravensglass Close
Westham, Kirkham
Preston PR4 3HZ
9th Feb 1997

Tony Adams,

Many thanks for your letter and for your sentiments which I suspect were sincerely meant.

But first things first, there was certainly no misunderstanding on my part, after reading your letter I felt that I had wasted 7 years of putting articles together for the magazine, you stated that I couldn't get a technical point across clearly, my spelling was abysmal and not many people were reading my articles anyway. It wasn't so much the above content of the comments which hurt so much -- which they did, but in rather the underlying self satisfied almost smug way you did it, characterised by the tone of your letter.

Anyway I don't wish to dwell in the past, life moves on -- the world on -- after receiving your letter -- and it's 3 years or more now. I canefully packed all my test equipment away, bugged up all my components and placed them in the garage. You see, Tony, I haven't done one minute's worth of research since then.

I still use Albert but only to act as a database for my 60's record collection -- nothing else -- nothing at all.

I did help Andrew Sumpter with the first two issues of his Diskmag, but that was with material I'd produced years ago -- Andrew did the work -- I hadn't the heart.

You probably unwittingly did me a favour, as conceiving new projects and programmes for Albert was becoming almost a consuming passion taking time away from other much more important issues.

Finally, I wish you well, I must state openly that I admire you for your tenacity in turning the magazine around in its presentation, against formidable odds which were certainly stacked against you, it's just a great shame that you chopped me off at the knees on the way.

Regards
Steve Ashby

Tel: 01702 74800

39 Parkside,
Westcliff-on-Sea,
Essex,
SS0 8PR.

30th January 1997.

Dear Tony,

Thank you for forwarding the EINSTEIN MAGAZINE No 080 and other newsheets.

In the accompanying note you ask if I am still using the Einstein and, if not, whether it serves any useful purpose for you to keep me on your mailing list.

The answer to the first question is that I no longer use the Einstein which has been stored away in my loft. As far as continuing to receive your literature is concerned, I feel that now is the time to request that I be taken off the distribution list. Many thanks for keeping me on the list for so long.

I have found past issues of the magazine very interesting and have been pleased to receive them. It was also good to know that the running of the User Group was in capable hands.

I have been very involved with the PC and am constantly updating a Shareware Vendor Disk for distribution to those who request a copy. The advent of Windows 95 has resulted in a complete range of 32-bit programs becoming available. However, I feel that the future for Shareware distribution is probably with CD-ROMS and this will involve purchasing expensive equipment capable of writing CD disks.

Best wishes for the continued production of the Einstein Magazine.

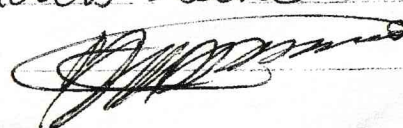
Yours sincerely,

Jim
Jim Ellacott.

MR F. W. METSON
18, POPLAR ROAD
BRIDGWATER
SOMERSET
TA6 4UH.

Dear Mr Adams,

Please see my late remittance for six copies and accept my profound apologies. As you will be aware I am currently working throughout Europe a long way from my Einstein (TC-01) and 2x3" drives and mono & TV displays my post is taking a fair while catching up with me. However, please send copies to above address

Thanking You
Yours Sincerely


EINSTEIN MAGAZINE

Garden Close
Greenway Road
St. Marychurch
Torquay
TQ1 4NJ

8/-28

23rd. September 1995

Dear Tony,

Thank you for your letter of the 3rd September
the Pascal disks.

Your explanation of the drives has
cleared up something the has puzzled me
for some time, I put the failure to load
sometimes down to DOS problems where as
your explanation makes things much clearer.

I have spent considerable time with
the problem you set in producing a
diagnostic program to enable anyone to
correct mis-alignment between track and
head, but I am afraid you are crediting
me with more 'marbles' than I possess,
even before the onset of my present sad
decline, so with regret I pass on this one.

As you can see from my letter I am still
having problems with my typing with the word-
processor, this is my fifth attempt at this
letter so in desperation I have sent it
as produced

I have a tip which you may have already
that can overcome some 'NO SECTOR' ERRORS.
Some old drives are getting slow, the
DOS is configured for time between stepping
pulses of 12mS.

By changing the scratchpad location
FBB0H the problem can be overcome.

FBB0 Contents Step Time

00	6mS
01	12m
02	20mS
03	30mS

System defaults on 12mS.

Once again thank you, keep up the good work,
Yours sincerely,

L.J.A.

L.J. Avery, 1612

STUART MARSHALL, 25 CARLCROFT,
STONYDELPH, TAMWORTH, B77 4DL (01827 897920)

Stu usually helps Sharward at the Stafford shows,
can still supply his auto-switch cards + software
(cut down from Betamax controller cards), switches
cables & just about everything he ever advertised
for Einey. He can blow replacement MOS EPROM chips
@ £5 each (inc p+p), £3 back on your good old one.

BUT HE CAN'T SUPPLY THE SPECIAL UTILITIES FOR THE
ACC EINSTEIN HARD DISK -- SO CHECK YOUR DISKS!

JOB VACANCIES: UKEUG Publicity Officer required as
we've worn out the old one! Pay non-existent, but
the prestige is fabulous! Immediate Start! Your
subs are paid for you while you slave away for us.
Apply NOW to UKEUG HQ. (Bribes always accepted!)

JOANNE ELIZABETH HARRISON

Dear Einstein User Group:

I have in my loft an Einstein computer, it has twin 3" drives and the 80 column
display adapter. Rather than throw it away, I wondered if one of your members would
like it for free. As long as they are prepared to collect it, I'll even find all the manuals and
disks (I might need a bit of notice for the search though!).

I live in Billericay, Essex and my phone number is 01277 - 652342.

31/01/97

'PHONE : 01923 265704.

FRANK WADL
66, KINDERSLEY WAY,
ABBOTS LANGLEY
HERTS. WD5 0DQ.

Dear Tony,

Thank you for the magazine and letter; I have sent the first adverts to PC Mart
and MicroMart this year and will continue to do so for the time being. Would you be so
kind as to put an advert in the magazine for fax machines as two of my acquaintances now
need one; who knows there might be some redundant ones out there.

Miss Linda M. Howard,
6, Fry Crescent,
Burgess Hill,
West Sussex.
RH15 8TP
Telephone: (01444) 247628

Tony Adams, Esq.,
Einstein Magazine,
Ivy Cottage,
Church Road,
New Romney,
Kent.
TN28 8TY

5th March 1997

Dear Tony,

RE: ABOVE MEMBER UKFUG 1441 - 82

Please advertise the following in the "Market Place" in your next magazine :-

£50.00 FOR THE WHOLE LOT, BUYER COLLECTS

Einstein Computer TC01 - 3" single floppy disc drive, TM01 colour monitor, fitted with TK02 - 80 Column Card
Twelve 3" disks for formatting, Printer cable and 40/80 Column switching device
Pristine Einstein Computer Upgrade Kit - second disc drive, still in its original packaging

Quendata Daisy-wheel Printer with TWO type-faces - Courier and Script, Operating Manual and Two new ribbons

Original Einstein Manuals - DOS/MOS Introduction

- An Introduction To Einstein
- BASIC Reference Manual
- BBC BASIC (Z80) Reference Manual
- Dr. Logo Introduction
- 80 Column Card Unit Instructions
- Einstein Reference Card

Software and
Manuals
as originally
supplied

- Master Disc
- Spreadsheet
- Wdpro
- Basic Tutorial
- Programmers Kit
- Pete's Utilities
- Spell
- Solo Maxima
- The Cracker
- Database
- Kuma Non-VAT Accounts
- Small Business Accounts and VAT Made Simple
- Super Six Games Pack
- Oh Mummy
- Chuckie Egg
- Disco Dan
- F1 Simulator/Soul of a robot
- Buzzoff/Sharkhunter
- Castle Quest
- Cursed Chamber & Zrim

Separate Books

- Programming the BBC Micro
- Games BBC Computers Play

Einstein Magazines

- Tatung Einstein News Issue 1 (Dec. 1985) Issue 2 (May 1986)
- Einstein User Volumes 1, 2 and 3 : Numbers 1,2,3 and 4 for each,
Volume 4 : No's 1 and 3, Volume 5 : Numbers 1, 2 and 3
- Alternative Micro News: Volume 1 Numbers 2, 4, 5,
- All Micro News: Volume 1 Numbers 2, 7, 8, 9, 10, 11, 12, Volume 2 Number 1
- Einstein Monthly: Volume 2 Numbers 8, 9, 10, 11, 12, Volume 3 Numbers 1 and 2
- Combined All Micro News/Einstein Monthly etc. Issues 65 - 80

Many Thanks.
Yours sincerely,

Linda M. Howard
Linda M. Howard.

Stephen Potts.
85 Thorold Ave.
Cranwell village,
Lincolnshire.
NG34 8DS

DATE 11/2 97

01400 261839

Dear Tony

Just a quick line to say things are going along at a steady pace and I will be attending some shows to display the EINSTEIN notably the STAFFORD shows in April and november also the WACCI convention for the third year at Walsall Bescot stadium on 6th of July.

Im still ok for printed forms ect at the moment thanks.

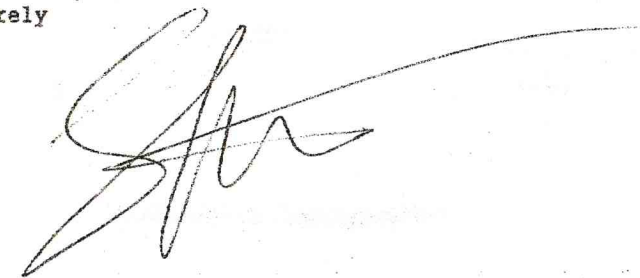
I have some good news due to my assosiation with another usergroup there will be 3" drive belts on sale at the stand and also ""NEW FREDDY DRIVES"" these are self powered ready sorted 3 $\frac{1}{2}$ " drives for you to plug and play !!!

I will put together a story of my trip to Colossus the first electronic computer as and when ok.

HELP LINE my monitor is still only R and G so if anybody has any help it would be apreciated.

I would like a large screen T.V. as used in pubs ect [projection type] dose anyone know of one going spare????

thats all for now,
Yours sincerely



Ps is there an emulator for
A P.C. THAT YOU KNOW OF