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(opinions herein are not necessarily those of the publisher)

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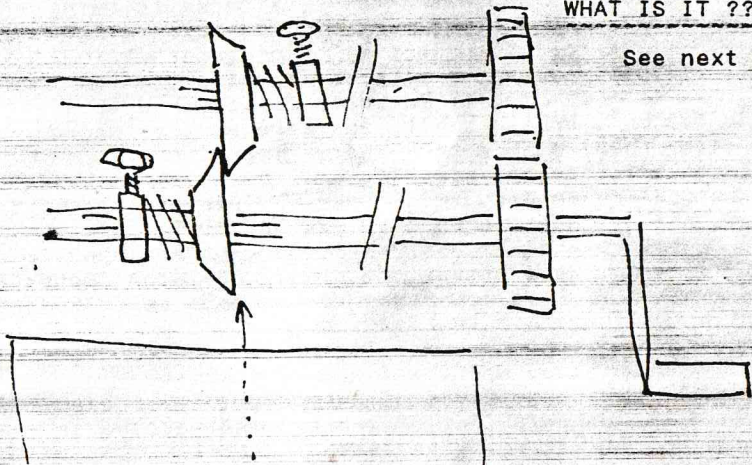
- AND LOTS MORE on various subjects..... 16

THE NEXT ISSUE

It hasn't been possible to catch up on the normal publishing
schedule, disrupted by General Dogsbodys severe arm damage
earlier this year, so you'll only get five issues this year
instead of six. You'll still get the full number of issues
that you've subscribed for though -- the last issue you've
currently paid for is shown on your address label against
your membership number -- but we're intending to bring you a
bumper issue next time anyway, so you don't feel neglected.

WHAT IS IT ???

See next page



In the last issue we reminded you that we're still reviving your abandoned-but-no-one-had-told-the-members user group by applying long-established light railway frugality & running it on a shoe-string. Sadly, shoe-strings are very expensive things, & we don't have any money to waste, buying new ones!

We hope you can read this issue OK, but at present we have 3 copiers to print it on. 1 has a scored and worn drum, 2 have incompatible toner in them, 1 has a bad paper feed problem, & 1 won't copy 'til a week after it's switched on.

WHAT IS IT ??? - see front cover

In the last issue we reported that our extreme frugality extends to exercising economy in obtaining getting-more-expensive-by-the-minute paper to print the magazine on by using short ends of newspaper/magazine web-offset rolls that would otherwise be a nuisance to the waste paper merchant.

However, it's tough on the teeth, tearing page-sized sheets from rolls of paper a yard wide and quarter of a mile long, and we asked for your help in locating (or building) a simple paper converting engine of Victorian simplicity.

Not untypically, the only help or advice we received was from non-member John Marriott in Exeter, to whom we'd sent a copy of the mag in the hope that he'd join the group. John sent us the sketch on the front cover. He says:-

"Re your urgent need for a paper trimmer -- if your members try the old wallpaper stockists / decorators / paint (trade) stockists in their area for you, they're pretty sure to find one somewhere who has an old wallpaper trimming machine cluttering up a store room. 20/30 years back it cost 6d (OLD MONEY!) a roll to have the "print edges" trimmed off a roll of wallpaper with one of these machines, which looked like a funny sort of mangle. The cutter discs had square holes, to fit on a square shaft, and were spring-loaded against each other, with a self-sharpening effect."

This is NOT the sort of thing we can do from next door to where armed French gendarmes guard the English end of the Channel Tunnel. It needs a hunt by ALL OF YOU locally, to find one of these machines that we can beg/borrow/(buy?)/steal -- well, no, we'd better not steal one! John suggests that YOU look in YOUR Yellow Pages if you have never bought any paint or wallpaper in the last 30 years.

John has also contributed a letter, adding to what we said in the last issue, and the first of a series (hopefully) on making good use of our computers, thereby putting to shame an awful lot of members who have never shared anything at all with the rest of us.

"Use it or lose it" means contributing something of yourself, not just something from your wallet when we ask you to renew your subs. Enabling new (& old) members to find us is critical to the group's survival. What are YOU doing in YOUR locality to make it possible for them to find us?

WORD-PROCESSING WITHOUT A WORD-PROCESSOR
(Written as Editorial Comment by Andrew McRobbie)
(but 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 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. (see Example below)

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 number to be changed, & 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. You can 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 a disk to send it in, & you'll get it back with the next mag.

Tony will copy it to us with anything else that's come in, and all WE need to do is use the 'Find & 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.

5 REM EXAMPLE.XBS 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 a letter or article for
30 REM the mag using Xtal BASIC instead of a wordprocessor.
40 REM If using a switchable 5" drive, set it to 80 tracks.

MEMORY MATTERS by David Williams
(See BASIC listing MEMORY.XBS on page 15)

Would you like to have a look at what makes Albert tick without even removing the covers?

MEMORY.XBS enables you to view the contents of any area of Random Access Memory, (RAM), from address values 0 up to the maximum of 65535.

For an insight into what I believe is a very interesting and informative aspect of our hobby, we will commence with an examination of the memory contents for this very program. I will assume first that you have entered it exactly as printed on pages 15-16, and that it is running.

On the TC01 all basic programs start from memory address 15873, while their end addresses will of course depend on the lengths of the programs themselves. I have just checked the copy of MEMORY.XBS I am using to write this and find that mine ends at 17194.

If yours doesn't end at this value, then don't worry about it. Provided that it is working, then at least we will be starting from the same point. After a little practice, you will soon become memory conversant and be able to identify, and correct, any differences between your program and the listings.

After RUNNING the program, the first thing we do is enter the start address 15873, then key Enter. This should present you with a table showing, in the LH column, memory addresses starting with our 15873 at the top. In the RH column, you should see the ASCII codes, and their characters, contained at these addresses. This table should always be viewed commencing from the top.

Now turn your attention to the published listing. This starts with line number 5 followed by a gap, then a REM statement followed by a space. Note that gaps automatically follow, and precede, all line numbers, while spaces result from operator actions when keying the space-bar.

If we now compare the listings with the memory contents, things begin to fall into place. The first item that we might recognise, is in address 15875. This contains number 5, our line number, while 15876 contains 0 which is the gap I referred to. Note also, that 15874 contains the gap which precedes that line number.

So far so good but, you may ask, what about the REM statement which follows that gap. Well, in the interests of conserving memory, the boffins have been very clever here. When a Basic program is encountered, it is scanned for reserved words such as PRINT, FOR, REM, NEXT etc, each of which is allocated a number. This number/token is then placed in the appropriate address when the program is run.

Table 1 below lists the reserved words and their token values called up in this program. To assist with their identification, they are contained in numerical order.

Token	Word	Token	Word
114	TO	164	REM
115	THEN	168	RETURN
122	AND	197	ASC
123	OR	199	CHR\$
132	CLS	207	LEN
141	ELSE	210	PEEK
142	END	220	VAL
143	FOR	222	MID\$
144	GOSUB	230	MUL\$
145	GOTO	255/80	DRAW
147	IF	255/129	TCOL
148	INPUT	255/130	GCOL
155	NEXT	255/131	BCOL
162	PRINT	255/148	RST

TABLE 1. Token table for Memory program.

Note that the token for our REM statement is 164 and that this value is indeed contained in memory 15877. This is followed by 15878 which contains 32, the ASCII code for a space. Based on our progress so far, you should now have little difficulty in completing line 5 without help. When you reach the last address on screen, press key C to continue to the next fifteen addresses.

Now that you have completed line 5, we'll continue on to line 10 which is really where the program starts. If we look at address 15910, we should begin to recognise this as line number 10 and, as before, both its following and preceding addresses contain the gap 0.

As you are now becoming quite an expert, continue on to address 15920 which could very well be your last hurdle. This address contains 255 which, on referring to TABLE 1, shows that several values start with this number.

The reason for this, is that certain reserved words have been allocated token values greater than 255. As 255 is the maximum value that can be stored in one address, it is therefore necessary for to be shared between two addresses for it to be complete. If you examine the next address (15921), you should find that this contains 131.

Returning to TABLE 1, we can now recognise that 255/131 is allocated to BCOL, which is the word required by the listings. You should apply this same method to identify the next word which is TCOL, the text/background colour. Using the techniques we have used thus far, you should now be able to complete the rest of this program with every confidence.

Should you wish to examine other areas of memory, then press key A (for Again) and you will be asked to input the new address. Something that I'm sure you will all recognise, is contained in address 64319. This one is the location which holds the cursor character. It should contain 127 which is the ASCII code for the character blinking at you. Another item of interest that I'm sure many have seen on screen is an Error Message. These are detailed in Appendix B of the Basic Reference Manual, if you have a copy. They can be seen in memory starting at 14596 and ending at 14858.

Another area in which you might be interested is 14861 to about 15411. This contains the list of RESERVED words we use when writing our programs. Pages 318 to 320 of the Reference Manual contains some 223 of these. Lastly, look carefully at locations 64406 and 64408. These are the destination addresses for the X and Y positions found after a DRAW statement. What are their values and where do these come from? No prizes are offered but the answer will given in a future issue. Why not explore other addresses and see what else you can find. Have fun with it! If any of the experts know of any addresses that might be of interest, then I'm sure that Tony would like to hear from you.

UPDATE ON KEYBOARD REPAIR by A McRobbie

I have been trying to find a way to 'get at' the keys situated away from the edge of the keyboard. You may recall from the article on keyboard repairs, that these keys were tricky to remove.

My chance came when one of the keys, the letter J, dropped off while I was lifting the machine. The plastic yellow lug had broken. On closer inspection, it was apparent that the key, had at one time, been super-glued in position. This was a key removal job!

Dismantling the keyboard was carried out as per previous article with the use of a soldering bolt. The solder was removed from the circuit board making sure that the contacts themselves were not connected to the board. The contacts were straightened and using a pair of long nosed pliers, the offending key extracted - rather like at the dentist. This broke the assembly in the process.

A spare contact assembly was cleaned of solder, the contact legs straightened and checked for operation using a continuity meter, (A bulb and battery would also do) before being 'wurdied' into position and re-soldered.

The letter J (with part of the broken lug) was drilled out using a 1mm drill, to remove the remains of the lug before fitting to the contact assembly. I made the mistake of using a centre punch to mark the plastic lug before drilling. All this did was to push the broken bit farther in. Not recommended!

Once soldered in, the key was again checked for continuity before re-assembly.

This Einstein will now replace one which is currently in service, but suffers from sticky key syndrome in a number of the keys. I shall turn my attention to trying to solve this particular problem. - Another project in the making.

VIDEO OUTPUT - FURTHER NOTES by Ted Cawkwell

Since writing the article on the 80 column card in Issue 73 a few additional points have emerged.

Firstly, the switch connections described are only valid if the TC01 is set up for YUV output as explained on page 228 of the manual 'An Introduction to Tatung Einstein'. i.e. with the link connectors all in line on the M100 connector. When the RGB output is used, the spare switch on the bank is probably used to switch the Synchs line which is used with RGB, but I have not tried this yet.

Secondly, there follows some points about the YUV set up when the colour monitor TM01 is used. When switched to 80 cols, the output will be mono black and white unless the Green Screen option is chosen on the slide switch on the back of the monitor. I find the green rather garish and prefer the B&W. The contrast and brightness may need to be adjusted by the rear controls. There does not seem to be any way to change the screen colours otherwise.

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EINSTEIN GAMES REVIEW

Finally, Les Foskett has written to tell us that composite video may be obtained in better quality by tapping off the modulator direct, via a 25volt 470mfd capacitor and screened lead. This operation requires the removal of the RH drive, if fitted, and soldering one of the leads of the modulator. Not for the faint-hearted! As this same point is taken to the 6pin DIN socket when in YUV mode (pin 2), I wonder if the improvement is caused by the added 470mfd capacitor?

If any one wishes to make this modification, the point to connect to is the junction of transistor Q003 emitter and R026, a 470 ohm resistor. Probably the best place is where this wire enters the modulator. It would seem easiest to use pin 2 on the 6pin DIN socket, however - no soldering to the board and no extra wires inside the TC01.

~~~~~  
DRUID - A Review by Roy Prime  
~~~~~

Druid was written by Firebird for the ZX Spectrum and was converted for use on the Einstein in 1987.

As its roots are Spectrum based, the sound effects are pretty naff. However, it is still a very good graphic-adventure-shoot-em-up style game. Your aim is to progress through the various levels and destroy the four Princes of Darkness.

You start at the beginning, a half wit, with only four type of spells, namely Water, Fire, Lightning and Invisibility.

To do this, you have to build up a better inventory of spells and kill lots of "baddies" who are out to kill you.

For every one you kill, your rating will go up. For every "baddy" that touches you, your energy goes down.

To make your life a bit easier, I will tell you what kills what.

Ghosts - Can be killed by one Water spell OR one Fire OR three Lightning spells.

Beetles - Can be killed by one Fire spell OR Two Lightning spells OR three Water spells.

Slime - Can be killed by one Fire spell OR two Lightning spells OR three Water spells.

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Skeletons - Can be killed by one Water spell OR two Lightning spells OR three Fire spells.

The Unknown. Yes I admit it. I have forgotten the names of these beasts. However, you will know them when you see them as they look very much like you! They can be killed by one Fire spell OR two Lightning spells OR three Water spells.

Snakes - Nasty but easy to kill. They are killed by one Fire spell OR two lightning spells OR three Water spells.

Birds - Look like vultures. They can be killed by one Water spell OR two Lightning spells OR three Fire spells.

Demons - Lively things - can be killed by one Lightning spell OR three Water spells OR three Fire spells.

Finally, the Princes of Darkness, the nice ones who spit at you. All four of them can only be killed by one Chaos spell. This spell has to be cast when you are not touching them. It is not a pleasant experience to be spat upon.

The spells are listed in order of seeing them.

Water. Up to 99 can be collected, fired at a distance from the "baddy" by pressing the space bar.

Fire. Up to 99 can be collected, again fired from a distance.

Lightning. Up to 99 can be collected, again fired from a distance.

Invisibility. This spell only lasts for a short period of time. All the creatures on the screen freeze, very handy if you get into a tight spot. Be warned though, this spell does not work on the last level before you kill the last Prince of Darkness.

Key. A very essential spell. If it is not collected on level one, you will not be able to progress to the other levels.

Golum. This spell creates a hulking monster who basically kills any "baddies" who come near you. The only bad thing about him, is that he often gets lost when he tries to find you. Sometimes he blocks your path, which can be dangerous!

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Chaos. The all powerful spell. You can activate it to wipe out all the "baddies" in the area for a while or you can activate it against a Prince of Darkness. Activating it near a Prince of Darkness will not do much. You must be touching one. Then you can say "Goodbye Prince."

All the spells can be collected from yellow chests which are spread around the eight levels of the game. Open the chests by walking up to them and they will show you what they contain.

You may only choose one type of spell. If you are offered seventy Fire spells and eighty Water spells, the choice is yours.

Overall Value:-

What do I think of the game? Great, with a lot of playability. Marvellous when you have half an hour to kill.

GRAFDRAW by A C McRobbie

Question. What is Grafdraw?

Answer. One of two programs available which is the nearest thing you will get to Desktop Publishing for the Einstein, Powerdraw being the other.

Question. What is desktop publishing?

Answer. A means of manipulating and displaying text and pictures on the screen at the same time, usually with the object of printing out as hard copy on paper for mass distribution.

Those of you who have tried to copy an image on screen to printer (by pressing CTRL A) will have found that only text will be printed out. Graphics have to be catered for by a different method. BASIC and machine code programs have appeared in earlier magazines to enable you to do this.

However, with this program you can create posters quickly and easily from a blank page, and you can obtain printed copies from a humble 9 pin printer, or link up a number of pages to form a screen or video demonstration.

You have the choice of 32 or 40 column text characters, wire or block characters, with a solid, clear, hollow or patterned fill. The characters can be shown as overlays, horizontal or at 45 degrees, plus italics of course.

With the different types of pattern, you can easily create letters with a 3D effect.

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On top of this there are 16 colours available. Graphics can be drawn using line, box and circle options. There is also a zoom mode if a particular area needs to be worked on pixel by pixel. A joystick can be connected and activated using CTRL T if you prefer to draw by this method.

Apparently your work can be recorded on video - as a video titler - but I haven't tried that yet. (We have had a lot of correspondence on this subject from one of our members, Les Foskett, on how to improve the video display. Details of this are included in Ted's Video Output Update.)

Pictures can be imported from other Art packages like Screen Plus. Saved screen displays from a BASIC program can also be used.

On the minus side, there are a few bugs in the program. There is a slight hiccup as the background defaults to black when Screen Plus files are transferred across. Drawing a circle with too large a radius, will cause a fatal internal error and text importing doesn't work very well. The colours are limited by the screen display limitations too.

Don't judge the package from the demos available. I was really disappointed with them. The program is one of the best available when you have taken the time to master it.

USING GRAFDRAW.

Grafdraw V2.12 or V2.1, depending on whether the title or main menu screen is correct, comes on one disk accompanied by a small A5 size instruction manual. The master disk is copy protected to the point that it needs to be run from DOS to start the program. The write protect on the disk needs to be off too. Not very satisfactory! \$\$\$ Once the program has checked that the program is an original, you can then put in your backup copy and continue from there.

\$\$\$ Ch.Ed:- This is a fiendish bit of copy-protection. If you run a pirated copy, it wipes everything on the disk!

The program is menu driven with drop down type menus, really smart considering the memory limitations of the machine. The program works with a series of overlays on a par with the number of options in the main menu, so constant access to the disk is required. Grafdraw does take up quite a lot of room on disk so you'll need another disk to save your work.

HINT:- If you get ERROR INSERT PROGRAM DISK at any time, press the space bar to continue, with the correct disk in the drive.

OPTIONS AVAILABLE.

After an initial screen display about the program the following Main Menu is displayed:-

- 0 - End Grafdraw.
- 1 - Page/Font Directory.
- 2 - Prepare a Page.
- 3 - Prepare a Font.
- 4 - Print Pages.
- 5 - Demonstration Mode.
- 6 - Convert Data Files.
- 7 - Delete Page Font.

This is where I made my first mistake. I thought that Option 5 would give me an overview of the program. Not so! This is for designing and running your demonstrations.

Option 1 is required first as there is a tutorial of sorts on disk. Why it couldn't have run like the demo disk in the software library goodness only knows, but if you want the tutorial, you should note down the names of the files listed when option one is selected. i.e. TUTOR1 through to TUTOR5.

Different drives are catered for, but don't type in a non-existent drive number or you will have to start the thing up again. Once the files are listed, you simply press the space bar to return to the main menu.

With the names of the tutorial programs known, you can select Option 2. You are presented with a blank screen with a program status bar and an outline of a cursor some 50x50 units in size. Press F1 and highlight 'Load Page' from the four options available, by moving the cursor keys.

Type in the first tutorial name after the prompt. This can be prefixed by a drive number.(e.g. 0: or 1:) The five tutorial pages will give you an appreciation of how to operate Grafdraw and alter things like the size of the cursor, load and save pages and make you aware of how the use of colour can hide or enhance graphics or text.

The cursor size is the limit of any character displayed by pressing any of the cream keys on the Einstein keyboard. Press a key and the corresponding character is filled in within the limits of the cursor. It is as simple and as quick as that. The cursor can be increased or decreased in size at any time. The larger the character, the more ragged it appears when printed out and fewer characters can be displayed on any line.

You are limited to a maximum of 40 characters to a line although different styles of characters are available. If a larger number of characters is required for your particular work, you can, at the print stage, print two pages alongside each other. You can also make up your own fonts by selecting option 3 from the main menu, although six are supplied.

When you switch to graphics mode, two cursors appear. One moves relative to the other, so for example, a circle is drawn with one cursor at the centre, while the second is the radius. With different line thicknesses available, plus a spray option, there is plenty of room for scope. An Undo key erases changes made since the last zoom was displayed.

CONTROL KEYS.

- CTRL Q - Decreases width by 5 pixels.
- CTRL W - Increases width by 5 pixels.
- CTRL L - Decreases height by 5 pixels.
- CTRL S - Increases height by 5 pixels.
- CTRL E - Decreases width by 1 pixel.
- CTRL R - Increases width by 1 pixel.
- CTRL Z - Decreases height by 1 pixel.
- CTRL A - Increases height by 1 pixel.

To reposition part of your work if you have not got it quite correct, increase the size of the cursor to cover the required area, GET a snapshot of the area by CTRL G and PASTE numerous copies all over the screen by CTRL P.

It is really up to your own artistic ability what you can achieve, although it pays to spend a little time setting out details before diving in at the deep end.

We shall look at more features of this amazing program in the next issue.

Pascal on the Einstein - the JRT way. PART 2.
by Sid Dunn.

The program is run by invoking exec quad to give the following result:

```
0:exec quad
Exec ver 3.0
Enter values of a,b,c
1 2 3
roots are complex
Again?
y
Enter values of a,b,c
1 1 -3
roots are 1.302775637732 -2.302775637732
Again ?
n
Program termination
```


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EINSTEIN PASCAL PROGRAMMING

This program uses one of the novel Pascal features, SET notation; another useful trick is the CASE statement shown in this example:-

```
PROGRAM wire;{converts wire gauge to turns/inch}
{global variables}
VAR swg:INTEGER;
    n:REAL;
{a look-up table linking gauge & turns/inch}
FUNCTION swg_to_tpi(swg:INTEGER):REAL;
VAR p:REAL;{local variable}
BEGIN
  {'CASE' is a software 'switch'}
  CASE swg OF
    16: p:=14.8;
    18: p:=19.7;
    20: p:=26.0;
    22: p:=33.0;
    24: p:=42.1;
    26: p:=50.2;
    28: p:=61.0
  END;
  swg_to_tpi:=p{function value declared}
END;
BEGIN{main}
  WRITELN('Enter swg, or 0 to quit');
  READ(swg);{keyboard entry required}
  {provides repetitive action while swg not 0}
  WHILE( swg > 14) AND (swg < 30) DO
  BEGIN
    n:=swg_to_tpi(swg);{function call}
    WRITELN(swg, 'swg implies ',n:4:1, ' turns/inch');
    READLN(swg){a chance to terminate or continue}
  END;
END.
```

A nice feature of JRT is its graceful recovery from abuse by the operator; try entering an odd-numbered gauge or one greater than 28.

You will have noticed that BEGIN, END are used to separate discrete sections of the program. The other effective separator is just 'white space'. In the next example I have taken the risk of making the program a bit harder to read in order to emphasise that liberties can be taken with the layout. The language feature demonstrated, is the RECORD structure which enables quite complicated sets of data to be referenced by a single identifier. It is also a good example of the way novel types of data can be created and processed.

The complex numbers here are typically those that would be found in an electrical circuit and are assumed to have a positive real part.

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EINSTEIN BASIC PROGRAMMING

```
PROGRAM prod;{multiplies 2 complex numbers}
{defines a complex number}
TYPE complex = RECORD r1:REAL;im:REAL END;
{uses this type to declare 3 of them}
VAR z1,z2,zp:complex;s:CHAR;
PROCEDURE getz(VAR a:complex);VAR b:REAL;
BEGIN WRITELN('Enter real part');READ(a.r1);
  {1} REPEAT WRITELN('Enter sign');READLN;READ(s);
  UNTIL s IN ['+', '-'];
  WRITELN('Enter imaginary part');READ(b);
  WRITELN('Number is ',a.r1:5:2,s:2,' j',b:5:2);
  {2} IF s = '-' THEN a.im:=-b ELSE a.im:=b END;
PROCEDURE ComplexMult(a,b:complex;VAR c:complex);
BEGIN c.r1:=a.r1*b.r1-a.im*b.im;
  c.im:=a.im*b.r1+a.r1*b.im END;
BEGIN getz(z1);getz(z2);ComplexMult(z1,z2,zp);
  {3} s:='+';IF zp.im < 0.0 THEN
  BEGIN s:='-';zp.im:=-zp.im END;
  WRITE('Product of z1,z2 is zp = ');
  WRITE(zp.r1:5:2,s:2,' j',zp.im:5:2) END.
```

By combining the features of these short demonstrations into longer programs, some very useful utilities can be created which have the merit of being still easy to understand several months after they've been written.

UKEUG Software Library volume EIN293 contains the source (.PAS) and (.INT) files which are in effect worked examples from two of the standard texts: Jensen & Wirth and Grogono.

BASIC PROGRAMS TO TYPE IN.

David Williams has written the following BASIC program. Together with his explanatory article earlier in this issue, it should help you gain a much better understanding of what goes on inside your computer.

```
5 REM Memory by D W for UKEUG, Feb '95
10 Q=65535:BCOL7:TCOL1,0:CLS40:GCOL1,0
15 PRINT@13,2;"MEMORY CONTENTS"
20 Z=78:Y=167:X=168:W=Y:GOSUB 210
25 PRINT@3,6;"This program displays the contents"
30 PRINT@3,7;"of Albert's memory over the range"
35 PRINT@3,8;"of address values from 0 to 65535."
40 PRINT@3,9;"From which address number shall we"
45 PRINT@3,10;"start our investigation ?"
50 PRINT@3,20;"Input number then press ENTER key."
55 PRINT@19,14;MUL$(" ",40)
```


(No.76) EINSTEIN MAGAZINE & ALL MICRO NEWS (AUG-OCT 1995)
EINSTEIN LETTERS:- PROBLEMS/TIPS/HINTS/IDEAS

```

60 PRINT@14,14;:INPUT"From:";V$
65 V=VAL(V$):L=LEN(V$):IFL>5 THEN 55
70 FOR A=1 TO L:B=ASC(MID$(V$,A,1))
75 IF B<48 OR B>57 THEN A=L:GOTO55
80 NEXT:IF V<0 OR V>Q THEN 55:ELSE CLS:TCOL1,14
85 FOR A=0 TO 19:PRINT@10,A;MUL$(" ",20)
90 NEXT:Z=56:Y=191:X=183:W=31:GOSUB 215
95 PRINT@11,1;"Address Contents"
100 PRINT@13,2;"DEC ASC CHR"
105 Y=164:W=Y:GOSUB 210
110 Z=116:Y=191:X=Z:W=31:GOSUB 210
115 FOR A=V TO Q:P=P+1:B=PEEK(A)
120 IF A>15872 AND B=126 THEN B=61
125 Z=LEN(STR$(A))-X=LEN(STR$(B))
130 PRINT@17-Z,3+P;A
135 PRINT@21,3+P;MUL$(" ",8)
140 PRINT@24-X,3+P;B
145 IF A>14595 AND A<15412 AND B>127 THEN B=B AND 127
150 IF B<33 OR B>122 THEN 160
155 PRINT@27,3+P;CHR$(B)
160 IF A=Q THEN PRINT@11,4+P;Q;"IS MAXIMUM.":GOTO 170
165 IF P=15 THEN P=0:ELSE 200
170 GCOL1,0:Z=30:Y=16:X=200:W=7:GOSUB215
175 TCOL1,3:PRINT@6,22;"A=Again ";:TCOL1,11
180 PRINT " C=Continue ";:TCOL15,4:PRINT"E=End:":TCOL1,0
185 PRINT@34,22;:C=INCH AND 223:IF C=65 THEN RUN
190 IF C=67 AND A<Q THEN 200
195 IF C=69 THEN 205:ELSE 185
200 TCOL1,14:NEXT
205 BCOL4:RST:END
210 DRAW Z,Y TO X,W:GCOL1,14:RETURN
215 DRAW Z,Y TO X,Y TO X,W TO Z,W TO Z,Y:RETURN

```

Our member Carlos M C Silva has written to us again from Portugal to ask if it is possible to connect a Sinclair Spectrum +3 keyboard to the Einstein monitor, and if so, exactly how it is done.

Can anyone help on this one?

Stan Gibbs would like to know of any routine which can be added to a program to stop it locking up if there is no printer connected or switched on? There appears to be nothing in BASIC to do this. When it happens, the machine locks up and you have press the reset button resulting in a loss of everything you have typed in.

ED:- Ted Cawkwell is looking at this very problem, also on how to set the VAT rate in WP80. Any ideas, anyone?

(No.76) EINSTEIN MAGAZINE & ALL MICRO NEWS (AUG-OCT 1995)
EINSTEIN LETTERS:- PROBLEMS/TIPS/HINTS/IDEAS

Clem Cole, our hard-working Software Library organiser, has put forward an explanation for disks that give data errors with certain disk drives in Drive 1, but behave properly in Drive 0. Clem says that radiation from the monitor line-output transformer was getting onto the drive heads with the unscreened Hitachi drive he was using, whereas the original TEAC drive is in a metal box.

The test is to move the monitor backwards from its usual place on top of the Einstein, to weaken the field. The solution is to make an aluminium screen to cover the top and sides of the drive, with plenty of ventilation holes.

Ch Ed:- An alternative explanation given in the very early days of UKEUG for this peculiarity, and for mysterious failures in strong sunlight (or powerful artificial light), is that the light detector that tracks the disk spin speed (& sector 0 position) was getting flooded with stray light. The remedy is the same, whichever reason is the right one.

Les Avery has been trying for some time to get the Software Library 'Small C' language to work without success, and asked for advice from Sid Dunn ~~QA~~ which DOS he is using, as Les is having no luck with Xtal DOS 2.2, ZDOS 1.61 or DOS+.

ED:- Diagnosing a software problem long distance is always a tricky problem. I would have thought that the DOS on the disk 'Small C' language was supplied with should work, but we shall await Sid's response. Can Les also please give us more details on what the language actually does before it hiccups?

Ch Ed:- Sid says that he has a copy of 'Small C' on Dos 1.31 disk, and another on Dos 2.05 disk, and that he has had no problems with either.

We passed this info on to Les, who says that his problem is that when he has a Dos 2.02 disk in "drive 1" and copies a program to a Dos 1.31 disk in "drive 3", the file copied over will not run.

This sounds as though it has nothing at all to do with Small C, but is due to a major design fault of XtalDos & CP/M, both of which are completely unable to tell whether disks in double-sided drives are single-sided or double-sided, and happily trash existing data by writing all over it if they "guess wrong", as they look in completely the wrong place for the directory tracks and think that the disk is empty.

(No.76) EINSTEIN MAGAZINE & ALL MICRO NEWS (AUG-OCT 1995)
EINSTEIN OPERATING SYSTEMS/DISK FORMATS

MsDos has always been able to tell exactly what format disks it is dealing with by reading a "media descriptor byte" off the disk boot track, & checking it against a list it holds in an internal "look-up table".

CP/M and XtalDos have a far more primitive and far less satisfactory "disk configuration descriptor byte", which might be employed to alleviate this universal problem, but a much more satisfactory answer -- if CP/M and XtalDos cannot readily be adapted to the system that MsDos employs -- would be to use the simpler, more reliable and proven technique of side-select switches on double-sided drives, allowing XtalDos 1.11 or 1.31 to be used (set for 80 track drives if appropriate), with each side of the disk used just as though it were as a separate single-sided disk.

One of our recently-joined members has such a system in use, and we hope to have precise details/diagrams/sketches of the modifications that are involved from him shortly, so that we can print it in the magazine as a practical d-i-y project.

Meanwhile we can provide a temporary fudge round this problem in most cases, since there is a routine in Dos 2 BACKUP (and in the not-adequately-debugged Pascal FAIRYSOFT utility) which reads and displays the drive configuration that Dos is set to. If the FAIRYSOFT utility could be fully debugged, or this routine written into a 2K utility that could be autobooted with the Dos, and if external disks were properly labelled this would at least alleviate matters.

Any offers?

Steve Potts is a new member who has written in, saying that he would like to see an updated review of System 5 or DOS 80 and find out exactly what the relationship is between C/PM and the Einstein. He is also willing to write an article for us on his Solo Software. YES PLEASE!

Ch Ed:- System 5/Dos 2 and also Dos 80 were exhaustively reviewed in the magazine when they were introduced.

Dos 80 was effectively the "poor man's" substitute for Dos 2, being introduced by Tatung as a cut-down low-price average user's competitor to Crystal Research's Dos 2 upgrade -- which expected you to be a competent machine code programmer to even manage to configure it to your system!

Both introduced unforgivable incompatibilities and fatal user traps in producing upgrades to the standard BASIC (which even now few people use to any extent), & their only redeeming feature is the facility they add to use double-sided and/or 80-track external disk drives to full capacity.

(No.76) EINSTEIN MAGAZINE & ALL MICRO NEWS (AUG-OCT 1995)
EINSTEIN OPERATING SYSTEMS/DISK FORMATS

Dos 80 is effectively a hastily-written clone of XtalDos 2, which is itself a modified clone of CP/M, the universal 8080/Z80 disk operating system. In essence CP/M dates from the days before disks and even before tapes and punched cards, and before cathode ray tube consoles (keyboard and tv/monitor screens) replaced teletypes.

Crystal Research had previously ported their XBAS (and also CP/M) to the Sharp MZ-80 computers (and others), and in "improving on" CP/M for the Einstein they introduced serious incompatibilities in the way the two store information about their files and programs, so you can't run one's programs from the other's disks (unless you use a UKEUG Software Library utility to change the system tracks on the disk).

At present we have a version of the later CP/M PLUS under development for the Einstein, modified so that it will be compatible with the XtalDos file directory structure, but it will still not overcome the problem of double-sided & single sided disks being completely incompatible with each other.

And John Walkerdine brings us news of the bargain of the year:-

Dear Mr Adams,

I wish to join the user group as I still collect Einstein hard/software.

On Sunday 5th March, I found another Einstein for sale at a car boot sale in Derby with a User Group magazine stuffed in the drive. At a cost of TWO POUNDS, how could I resist it? This INCLUDED A MONITOR and it ALL works.

INSIDE THE NOVEMBER/DECEMBER ISSUE

More basics for beginners.

Grafdraw Part 2.

A competition to enter.

More of your letters so keep sending them in.

Ch Ed:- Well, that's what we planned before we realised the significance of November 1995 for the group. Instead these items are put off until the New Year issue, and we're planning something REALLY SPECIAL for the next issue instead -- which (hopefully) you'll thoroughly approve of. With a modicum of luck we'll have persuaded at least one of the photocopiers into a state of obedience by then, such that you may even be able to read it !!!

In common with others we've had problems with disks being corrupted in transit. We asked Royal Mail Letters to identify the cause and suggest a cure. They said:-

"Computer disks/cassettes can be seriously affected, & even wiped clean, if they come into contact with a magnetic field. To protect them we recommend that you use a minimum thickness of 100mm of soft packaging all around each item."

Right. That's clear then. 100 mm is 4 inches. So for ONE disk you need soft packaging A FOOT EACH WAY BY 8 INCHES THICK. Just add four inches of thickness for each extra disk. They're not exactly playing safe, are they! Spell "OVERKILL"

MORE LETTERS

Dear Tony,

I am writing in response to your difficulty in reading my correspondence from Wordperfect (with Laser printer set up).

It is not until corresponding with someone like yourself that people like me realise that computers, amazing as they may be, do suffer from inter-exchange with each other due to the various software in use today.

From this you will no doubt gather that I fit into the category of computers {novice}, most of which (as far as the hardware is concerned) was picked up on the cheap. First was my daughter's old PC2086 with its 8086 chip (from her employer, who upgraded to a 486), then a cheap Daisy-Wheel, then onto a Intergrex dot matrix graphic capable printer.

Then I came across my pride & joy; a large, cumbersome Canon Laser printer with costly cartridge replacement/refill

Then my nephew gave me the Einstein, which I have now passed on to my two grand children, hoping to foster their interest in computers.

This does not mean that I have lost interest in my "Albert" due to passing it to the younger generation. More the opposite. As their interest grows I will become more involved, and hope to use the society more than I might at present.

I am still going through the software available for the Einstein, but will need to buy blank disks. They do not seem to be obtainable in this area, at least not with the logo on & that will work with the machine. Where can I get them?

Sorry to hear that you are not as fighting fit as you would like to be due to your arms and legs problem, so any difficulty in replying as quickly as you would have liked to have done is more than understood on my part.

It seems you need to take more care of your health and sit on your rump if only for a spell: "It will all be here after you're dead and gone". But please don't go just yet!

B Gilbert. Sheffield, Walsall. Member No 1758-B5

Dear Tony,

Thanks for the sample magazine. As Secretary of a Local Computer Club over the last 14 years, I can well confirm the need for others to "do their fair share"!

I took early retirement 4 years ago (with a spare room, loft and garage!), so you can guess just how little others have managed to get away with doing...

Now I've "pulled the plug" and the rest have taken the easy way out & let the Club die - Einstein Users take heed!

A quick jump to Bob McDonald (E256 drive belt repair) - The Spectrum+3 has the same problem of belt age/failure. I've found that the problem with replacing the faulty belt with an elastic band (courtesy of the Postman!) is that if the band is too wide when fitted on the pulleys, the special shape of the motor pulley (designed to keep the belt centrally running) is defeated & the band tends to ride on to one end of the motor pulley - mechanical alignment is then defeated to the disk pulley with it either running off one side or jamming the other. If the band is the "correct" width when fitted(!) then disk "wow & flutter" happens with SAVE/LOAD faults and program loss.

For not a direct replacement but a suitable one, drop a line to Mervin of Microcare Services, 39 Marsh Green Road, Exeter EX2 8PN enclosing £1.25p. and a Stamped Addressed Envelope! Otherwise it's £1.50p. + VAT and all the time that'll involve Mervin in.

One thing Bob didn't mention - there is a little pin (looks like a cut-down dressmakers pin!) located within the drive mechanicals - this is actuated when the disk drops into place & the write-protect shutter is in the unprotected setting and pushes a switch lever, so be very careful when you start "loosening" the drive's PCB in order to do work on the belt. Use an old disk with the shutter in the unprotected setting and put it into the drive - ALL being well you can see where that pin is AND make sure that it's still there when you fit things back!

Yes, that bit of pin is important - NO PIN can lead to trashing important disk information e.g. formatting, erasing, over-recording - BE WARNED!

The article on SHAPE & SPRITE commands - having been brought up with everyday maths e.g. Base 10, Base 20, Base 12, Base 4 ... some Users may remember the Pounds, Shillings, Pence and Farthings of Yesteryear, it's a pity that the simplicity of Hexadecimal in 8-bit computers and User Defined Graphic Sprites wasn't gone in to a little bit more - for the simple reason that in HEX an 8-bit splits automatically to 2*4-bit, being the High 4-bit and Low 4-bit with the User only needing how to count up to 15!

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MORE LETTERS

Taking Issue 75 page 5's example

DECimal	128	64	32	16	8	4	2	0	totals	
HEXadec.	8	4	2	1	8	4	2	1	HEX.	DEC.
<hr/>										
BINary	0	0	1	1	1	1	0	0	3C	60
	0	0	1	0	0	1	0	0	24	36

Some maths wizz-kids can add up a sideways column of figures like there's no tomorrow, but I was "rote-trained" to only add up in vertical columns.

I add up, say BIN(1111) as DEC(15) and translate it to HEX(F) in my mind, 'cos even in my BASE(12) period we didn't use the alphabet to get past the value 9 and "just knew" that when we reached the value 12 then 1 was "carried" and we reset our count to 0 ... one of the problems that learning "by rote" inflicts on us Oldsters!

Cheap Scientific Calculators have DEC/BIN/HEX functions built in (e.g. CASIO fx-115N). It's much easier/simpler to get one than struggle with conversion tables.

About 6 Einstein TCO1's have passed through my hands over the years, with at present a TCO1 single 3" drive & RGB/YUV monitor, and (thanks to Les Morgan) some very nice software & an 80-column card & a complete set of manuals.

I can understand how computers "die". Looking at the Einstein software price list reminds me of the Sinclair QL - both pricey machines with software to match, YET ... I can get a PC Shareware program for 20p. from A1 Shareware which makes the KUMA WordPro look like a dead duck - YET I paid £40.00p. for KUMA's offering many years ago AND took it back (a return distance of 100 miles!) because it was so naff and slow, AND I'm still a 2 fingered typist! The 3" disk was pricey, £4.00p. each WHEN you could get them years ago, now - second-hand with worn FAT tracks vary from 50/75p. each for which I can get about 20 5.25" or 10 3.5" disks...

I now find that my PC is used only for word-processing, the TASWORD PC program to about 10% of its capability as compared to 85% on TASWORD EINSTEIN and 60% on TASWORD SPECTRUM+3...

And, I guess, that's it - I hope some of the information'll be of use to some of the TCO1/256'ers as I ride off into the sunset. I SHALL keep my TCO1, ALAS it is going to fall into that "let's go down memory lane" niche when I've got some "spare" time to ponder over "HANGMAN" and even dream of some of the things I can build and interface on all those lovely ports ... even transfer some of my SPECTRUM Z80 MACHINE CODE programs over - or stick an EPROM into that nice empty socket on the PCB (what can you plug in there AND initialise?) and think, and think, and think...

John Marriott, Exeter (nearly a member, but not quite)
<<<Ch Ed:- John's sent an article too, for a later issue.>>>

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MORE LETTERS

Dear Tony, I enclose 2 years subs. Sorry I waited until the last minute -- too busy with Einstein and the family tree.

Last time I wrote to you my typing was very crude and all in CAPITAL letters. Since receiving from you the Surrey Software Services '3s' wp80/wp40 my whole computer outlook has changed. I now use wp80 to draw up my very own family tree, which I have been researching for some time, but could not find suitable programs for the Einstein. It's so easy to use, isn't it? The Manual helps enormously, though on trying the label print I had the same trouble as your correspondent Dick Keynes. The only thing is I don't have SSS's PopUp. Can UKEUG supply it? <<YES! See the software list we sent you>>

My grandchildren enjoy playing on Einey especially Picture Pen but they have to leave the picture and have no record of it. Am I right in believing that if I purchase Superdraw we can now have a hard copy? <<YES AGAIN>>

I look forward to receiving your magazine and find it excellent in that it gives me confidence working with the Einstein - much needed, because in any computer environment if you mention your Einstein you are looked at with complete disbelief:- "Can anyone really have such an old system?"

Queenie Fendley, Northborough, Peterborough. Member 1739

Dear Tony, Graham never came up with an answer as to how the VAT rates could be updated in WP80. Personally I spent long hours looking through the Hex Numbers trying to locate the applicable area, but not being a whizz-kid I failed.

I'm sorry to leave the group & wish you all well. I shall be keeping my friend the Einstein - it has been a good servant (and still is). I've enjoyed making my own prosaic little programs and delving into others. I got into Flight Simulator II and have a chart showing all the ground site locations. Along the edges I've drawn enlarged diagrams of the objects & their actual readings (North/South/East/West). I'm a sucker for making notes of things I investigate.

***** Vernon Hammill, Wakefield. Member 975

Dear Tony, Thanks for the latest copy of the mag. I was sorry to hear of your accident. I can well imagine how you felt, as I put a rusty nail through my foot when recovering old timber a long time ago and hobbled around for ages.

I think you and your helpers are doing a good job with a wide spread of articles of interest to everyone. I was very impressed with A.McRobbie's instructions for replacing keys in the keyboard. I've tried this myself; the ENTER key was easy but the 'E' key required a bit more patience. I would advise anyone to start with an end key for their first attempt & use desoldering braid to ensure all the solder is removed. I've also found that a silicon spray does wonders for sticky keys. Many thanks for keeping the group going

Dick Keynes, Bexhill. Member 1005

EINSTEIN USER GROUP

Ivy Cottage, Church Rd, New Romney, Kent, TN28 8TY

REPLY TO YOUR LETTER (PLUS MAG ITEMS) TO FOLLOW

USER GROUP IN CRISIS !!!

Those with more wisdom & experience gave up Einey as a hopelessly lost cause nearly five years ago.

Our Revival Plan was based on economic magazine production by access to copiers owned by others. This worked fine, but put us in a real fix when we were gazumped on price & hemmed in on access.

We'd no choice but to get our own copier to keep the mag going, but we had no money to invest. Subs are our only income, and we'd spent/pledged all these on reviving Einstein software and hardware.

We got 3 copiers cheap, but one is faulty, and two are loaded with the wrong toner. The truth of the matter is that they're just not up to the job.

We have been offered a "new" copier free, instead of these three -- but it's not new, we'd have to move it from Scotland to Kent, and it seems like a bad case of "out of the frying pan into the fire".

It seems crazy to abandon the mag or the group for this reason, but poor print quality isn't fair to you, and it is hurting our renewals & recruitment.

We've tried copy shops (and mags on disk) but it doesn't work. Other than trying to print on an old ink duplicator, we must have a good, reliable copier, or just give up on the Einstein after all.

But we don't have one, the present ones aren't up to it, and we don't have any cash to spare.

If YOU want OUR continued help and support, WE need YOUR help and support on this matter.

We urgently need your donations, loans, advance subs, and multi-year renewals. AND NEW MEMBERS !!!
OR HOW ABOUT LIFE MEMBERSHIP ?

NO. 76) EINSTEIN MAGAZINE & ALL MICRO NEWS (AUG-OCT 1995)

published bi-monthly for users of Einstein & other computers by Steam Computer Society. Chief Editor and Publisher:-
A E Adams, Ivy Cottage, Church Road, New Romney, Kent. TN28 8TY.

SALES/WANTS/NOTICES

1. STAFFORD SHOW, 11 NOVEMBER. SEE OTHER SIDE OF THIS SHEET.
2. WE NEED YOUR HELP. SEE MAGAZINE COVER. BE SHERLOCK HOLMES
3. EM - THE DISK AND SURREY SOFTWARE ACCOUNTS PROGRAM
Do you have either of these? Our master disks are corrupted, & we never had a copy of the Manual. We need good copies to restore our masters. Can we borrow yours please?
4. Stan Gibbs says he is getting nowhere with acceptable VIDEO TITLING. Problem was said by Tatum to be output at 0.5V not 1V, but a friend has tried this fix, with little improvement. Anyone with any ideas please tell us!
5. Need a dust cover? We have an Amstrad PCW8512 (mainly to transfer data between these machines and Einey) which we made up of components from all over the country. We bought a dust cover for it for six pounds including postage from Dave Toscani, and it looks quite useful for the Einstein too. There's a PCW printer cover included. Ring Dave on 01268 745 211 if you're interested, as he had several sets to sell.
6. A member many years ago for all of 3 months, according to our records, James Paterson of Lochgoilhead (a good haggis-throw west of Arrochar & Tarbet station on the West Highland Railway) wants to sell (part exchange for IBM kit?) a TC-01, printer (unused) & VDU, bought to run his bakery.
If you'd like a good excuse to ride the West Highland Railway and tramp the rugged heather across the Ardgill Estate to Lochgoilhead, ring 01301 702 527. Or if you don't like riding trains and hiking the heather, the road via Rest And Be Thankful and Hell's Glen will get you there.
7. WANTED Toner cartridges/refills for CANON NP-125 and CANON NP-155 copiers. NP-150 should be the same, so maybe there was an NP-120 too, using the same toner as NP-125. We've found out the hard way that most other toners are NOT compatible, and cause terrible problems with print quality, and toner everywhere bar where it ought to be in the copier!
8. WANTED -- MORE MEMBERS, to replace those getting promoted to heaven or seduced by sexy mice looking through 95 lovely new windows. What can YOU do to help new owners to find us?
9. We'd intended to start a new section for non-Einstein machines with this magazine, as you have nearly as many of those as Einsteins, and - with a few notable exceptions - most have no organised support. To get it rolling, can you please update us on your non-Einey kit, if you've not done so in recent months. We ALSO want use group info please.
9. WANTED. 256 owner to write/edit 256 items for the mag.
10. WANTED. TPC/TCS owner to write about them for the mag.
11. WANT July '80 BYTE mag (article on VCR-computer hookup).

(No.76) EINSTEIN MAGAZINE & ALL MICRO NEWS (AUG-OCT 1995)

BACKPAGE INFO

One copy of this magazine is mailed FREE OF CHARGE to each paid-up member of our U.K. EINSTEIN USER GROUP (UKEUG).

** All contributions, subscriptions & enquiries should be ** sent to Ivy Cottage, Church Road, New Romney, Kent. TN28 8TY

(Telephone or personal enquiries cannot be dealt with)

*** Membership of the user group is DOWN to £9 per year *** (10% DISCOUNT!) if you pay for 2 years (or more) at a time.

(Members at addresses outside the UK pay slightly more)

(An information pack will be sent on receipt of TWO STAMPS)

If you can't even afford this much, tell us the problem. We happily accept subs in kind, instead of cash, if that helps.

(Or your blood, sweat, toil and tears will do nicely!)

*** All BANK DRAFTS, CHEQUES, POSTAL ORDERS, etc., *** payable to EINSTEIN USER GROUP please.

*** The magazine and user group are run in their spare *** time by unpaid enthusiasts on a VERY tight budget. If you require a reply PLEASE INCLUDE A S.A.E. -- OR WE MAY NOT BE ABLE TO AFFORD TO PAY THE POSTAGE BEFORE MAILING YOUR REPLY!

MAGAZINE BACK NUMBERS are £2 each, (£10 for 6) inc p+p (BUT HALF PRICE TO MEMBERS, PLUS SPECIAL BULK-BUY OFFER)

The following are currently available:-

EINSTEIN MONTHLY 1/5 - 1/12, 2/1 - 2/12, 3/1 - 3/2

ALTERNATIVE MICRO NEWS 1/1 - 1/5

ALL MICRO NEWS 1/1 - 1/12, 2/1

EINSTEIN MAGAZINE & AMN: 65 - 75

*** BUMPER BONANZA BULK-BUY BACK NUMBER OFFER TO MEMBERS ***

Are you wise? Are you wonderful? Are you a whizz-kid expert on the Einstein? You jolly well will be if you read your way through all the user group magazine back numbers, so why not make a start RIGHT NOW! A continuous run of 51 are still in print, and ALL MEMBERS can now have a set for ONLY £20 !!!

***** SOFTWARE / HARDWARE *****

You should now have the software library summary + index + price list, plus our QUALITY HERITAGE SOFTWARE list no.1.

If you need another copy just ask (with sae if urgent).

We've had no software library volumes 353 or 357 returned (with return postage) for a free update to the combined volume. Don't you want it if it's free?

CABLES AND CONNECTORS:- If you need these made up, have a word with member Stuart Marshall on 01827-897-920, or send a SAE to him at 25 CARLCROFT, STONYDELPH, TAMWORTH, B77 4DL.

LATE ITEM - JUST COME IN:- Les STANLEY (UKEUG 406) reports that GREENWELD ELECTRONICS (01703-236363) are giving away their stock of Dragon/Tandy joystick interfaces as free gifts with orders, as they haven't sold any in years.

PUTTING THEM IN THEIR CATALOGUE MIGHT HELP !!!

Get yours quick, as Les says they are almost identical to the one in the EM 1/3 project. This is long out of print, so he's sent full details on how to adapt them for use on Einey