

MARCH '86

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# EDITORIAL

Here we are again (AT LAST somebody cried). My appologies for being late yet again but as you know this is all put together in spare time by volunteers (if I find out who volunteered me I'll, but thats another story) any way we are here which is all that matters.

First of all COMPETITION RESULTS.

The required order was B,E,C,D,A,F. The closest answer was from Mr I.H. Walls.who will shortly be recieving his copy of FORTH.

Our thanks to all who entered.

Not so bad news.The disk famine should come to an end during the next 3 months as production is being stepped up.Also a third party has entered the market with a cheap 3inch disk with an unknown name, lets hope it is not cheap and nasty!.Any further info will be greatly recieved.

Very Good news.We are currently organising a supply of disk drives at unbeatable prices.These are NEW 3inch INTERNAL drives. EXTERNAL should also be available.More news next month.

This month we have a report on Modems, the Adventure Column,and due to a silly mistake a new section, DDT, where we stamp out the bugs we have germinated.

## APRIL FOOLS ?

Some of you may have seen advertising for an Einstein show taking place at the end of April.This show has now been CANCELLED due to the lack of interest shown by the commercial side of the computer industry.Only three companies bothered to reply to the invitations to take part.Credit where credit is due these companies were:SCREENS ,SKYTRONICS,THE BUSINESS CENTRE (Mike Bayliss).Who will you buy your next programme from ?.

We could understand the problems if the show was being held at an expensive venue like Olympia but this was to have been in Doncaster with a measly charge of £25.00 per stand.The profit on disk sales alone would cover this.

It would appear that those companies contacted are only interested in selling the computer and not supporting the purchaser afterwards (those listed above excepted ).

Does this mean that the computer industry in general and the manufacturer in particular has decided to try to kill of the Einstein ?.

We hope not.

Tatung (UK) have over 6000 registered users,and there are two to three times more who have not registered,who all require support of some kind.

Another show will be organised in the near future and invites will again be sent to the commercial sector but if the response is as pathetic the second time around then the show WILL GO ON but will be held behind closed doors with NO commercial companies involved, on a basis of if they won't help us we will help ourselves.

The only time a computer user has been treated like this in the past has been when the manufacturing company has crashed.Tatung have not (YET) but in light of this their future in the computer industry may be short lived (who will want to buy a computer which will not be supported).

Any comments from the commercial sector will be printed as a right to reply.

## DDT

The World part 2 line 20010 should read PKLOK= &804D  
as well as deleting line 10 - 150 also delete lines 20000- 20130

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12040 DATA90,11,90,12,90,13,91,14,92,15,92,16,91,17,91,18,91,19,92,20
12050 DATA93,21,94,21,101,28,101,29,102,30,105,35,109,47,110,49,110,53
12060 DATA114,57,114,58,116,61,116,62,118,64,118,65,119,66,119,67,120,68
12070 DATA120,69,121,70,121,71,122,72
12075 DATA122,74,123,75,124,76,124,77,125,79,126,80,127,79,127,77
12080 DATA126,76
12090 DATA"CHECK":REM LHS TRUNK
12100 DATA111,88,112,89,112,90,114,91,114,100,114,101,114,103,115,104,115
12110 DATA106,114,107,113,108,113,111,112,114,112,120,111,120,110,121,110
12120 DATA126,109,127,100,120,103,117,103,116,104,115,104,113,105,112,106
12130 DATA111,108,109,108,108,109,107,111,104,112,104,113,103,112,93,111
12135 DATA94,110,95,110,99,109,100,93,119,93,120,100,130,109,141,109,141
12140 DATA110,142,116,142,116,141,121,141,122,142,122,144,121,144,121,145
12150 DATA120,150,119,157,120,157,121,158,121,159,123,159,129,155,129,146
12160 DATA128,145,130,142,130,140,132,138,138,138,141,135,142,135,147,130
12165 DATA153,121,153,119,154,118,154,117,151,114,151,113,150,112,150,111
12170 DATA147,108,147,107,142,102,141,102,139,100,142,97,142,96,143,95,143
12180 DATA88,142,87,142,84,141,83,141,82,140,81,140,77,128,77
12210 DATA139,124,138,123,139,122,139,119,138,118,138,117,133,111,133,110
12215 DATA133,110,135,108,136,108,137,107,139,107,140,106
12220 DATA143,109,143,110,144,110,144,111,146,118,142,122,141,122,139,124
12240 DATA140,82,139,70,138,68,138,65,137,64,137,63,136,61,135,60,135,55
12245 DATA134,54,134,51,133,50,133,44,134,45,134,39,133,38,133,35
12250 DATA132,34,132,31,131,30,131,29,130,28,130,27,129,26,129,25,128,24
12255 DATA128,21,127,20,127,16,128,15,127,14,127,9,128,8,128,7
12260 DATA128,6,129,5,129,1,128,0,124,0,124,2,123,3,123,6,124,7,124,11
12265 DATA123,12,123,17,124,18,124,25,123,26,123,40,124,41,124,45
12270 DATA125,46,125,48,126,49,126,55,126,56,126,64,125,65,125,69,126,70
12275 DATA126,74,135,79,140,82
    
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#### HINTS and TIPS

Here is a tip for all of you who can't find all the crystals in time trap.

Load the game, press K or J as usual then as the game starts press CTRL+SHIFT+GRAPH +E+G+M all together .You can now go through the game in complete safety as you are now immortal.

A. MUSHTAQ

ALSO WORKS ON SPACE TRAP ed.

I am writing to give a possible solution to the second problem raised in Frank Skinners letter (Feb 86) regarding data corruption when more than one data file is open.I had a similar problem, at least I thought so , so I phoned Crystal Research . They said that the early versions of 40 col Xtal Basic did have a bug in it which could cause the problem.Their solution was to get a copy of the latest version of Basic.This I did from my local stockist,free of charge .

However in my case it turned out to be a programming fault of my own making.In view of Crystals comments ,may I suggest Frank gets a more recent copy of Basic.

Phil Croshaw

PS

Now that spring is here the first Speculator should be arriving soon.(just like the Cuckoo).

If one of our more agile members can catch one we would be most interested in an First Impressions article.

BACK PAGE INFORMATION

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Staffordshire  
B79 7LR

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## ENCHANTER

Like all the Infocom games, Enchanter comes in superb packaging. Included in the stylish box are specific information for running the game on the Einstein, and a very impressive 'Guild Directory'. This contains all the information you need for playing the game, written by the relevant guilds. For example, information on casting spells comes from the Thaumaturgic Guild, mapmaking and finding your way around the game from the Guild of Cartographers, and so on.

In the game you are a young and inexperienced Novice Enchanter. The land you live in has been subjugated by an evil Warlock, and all who have opposed him have failed (sound familiar?). The Elders of the Circle of Enchanters have realised that the Warlock can only be defeated by someone insignificant like yourself, and so you are recruited and sent off on your quest. You commence the game with just a few fairly inconsequential spells, and must try to build up enough power and experience to be able to cast the final powerful spell and destroy the Warlock. So off you go, no food or water, and a certain amount of trepidation in your heart. The first thing you have to do is find yourself some food and water. This doesn't prove to be too much of a problem, and neither does obtaining your first spell which allows you to enter the castle where most of the adventure takes place. But things get tougher from there on. On your travels through the castle you meet a fellow adventurer (although he's not particularly helpful to you), as long as you can free him from a magic mirror, and a very freindly turtle. Some of the problems you have to solve are extremely nasty, for example, to obtain one spell you have to be killed on a sacrificial altar by a bunch of nasties! And just wait until you confront the guarded door!

As with all Infocoms games, communicating with the game is exceptionally easy, their command parser is second to none, but you have to watch your language - the game doesn't like enchanters who swear. The game really does take you into another world, one where you have to eat, drink and sleep when your body demands it, to forget to do so results in increasingly forcefull warnings, and eventually your unfortunate demise. The game keeps track of when you need to eat, drink or sleep, and lets you know when it's time to do so. Sleeping can be especially rewarding, as long as you kip in the right locations.

This is a big game, lots of locations, plenty of excitement, and a good deal of humour too. If you like books like 'The Lord of the Rings', or play games like 'Dungeons and Dragons', or even if you just fancy become an all-powerfull magician then Enchanter is the game for you. I highly recommend it, I've had the game for months, and I still haven't finished it.

## MAPMAKING

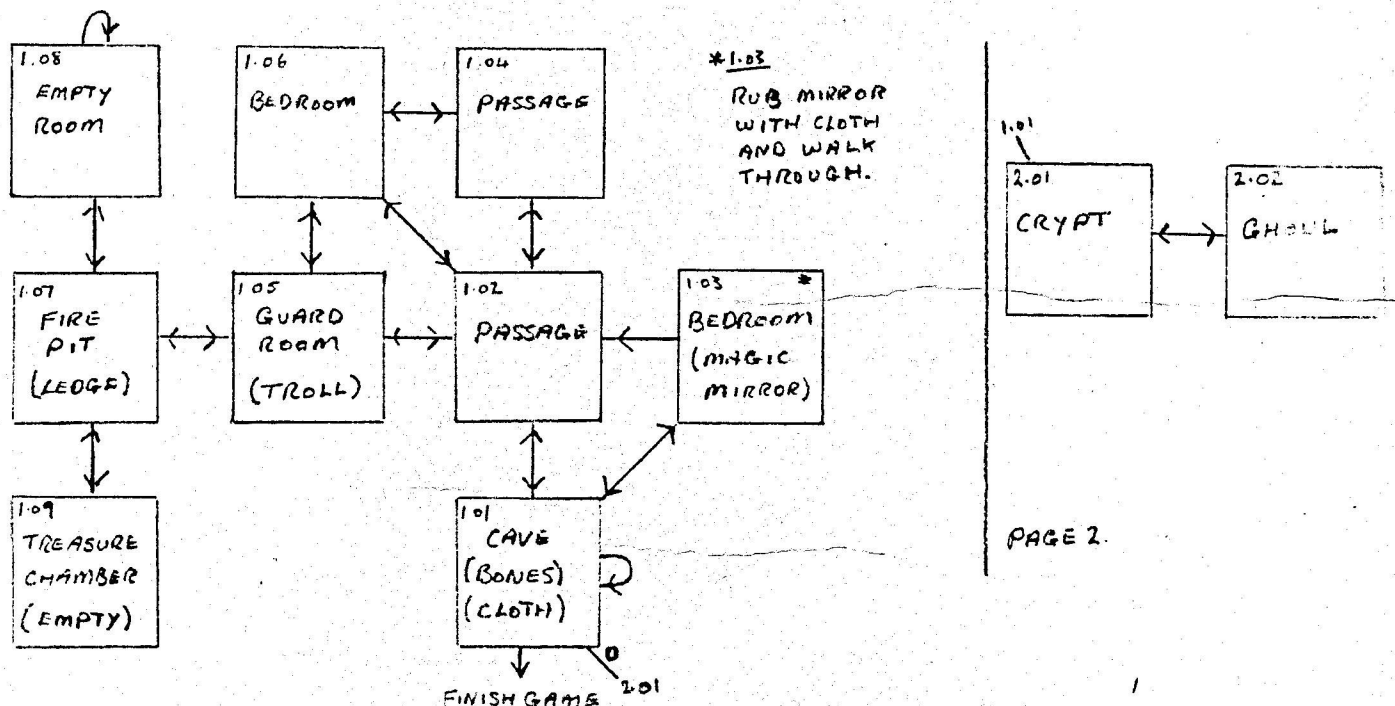
When you play an adventure you find yourself in another world. It is an unfamiliar place, inhabited by strange people and creatures. You have never been there before, and obviously you don't want to get lost. So you must remember the first rule of adventuring, MAKE A MAP! It is very tempting, when you receive your brand new game, to tear it out of the wrapping, load it and leap straight into that unexplored world waiting for you behind the screen. I know, I do it myself every time. But eventually you will begin to forget which way you came, where the deadly adventurer-eating stick-insect's lair is, and where all that lovely treasure is stored. And then you will wish you had just took a few moments to fetch a pencil and a piece of paper. You may think that it doesn't sound like much fun, marking every location you come to, what you found there, and where the exits are, but believe me, it is just about as useful as any of the documentation which comes with the game. You may even find a certain amount of satisfaction out of producing a really good map of your game, and it will often give clues

as to where you may have missed things, where hidden passages or rooms may be, and which routes could possibly lead you back into danger which you encountered earlier on your quest. Illustrated is an example of the way I draw my maps. It is by no means an original method, but is a conglomeration of methods I have come across in adventuring on computers, and also in role-playing games such as Dungeons and Dragons. This method may not look as pretty as some of the maps you may see printed in computer magazines, but it is probably a lot more practical.

Begin your map with a box in the centre of the page. This gives you the ability to travel in any direction without moving to another piece of paper immediately. In the box write a brief description of the location (one or two words), and enter any objects found there. In the top left-hand corner of the box put a number. The number should be in the format N.XX - where N is the page number, and XX is the box number on that page. This may sound a bit complicated, but look at the map and practice a bit, you will soon get the hang of it. This method will help when you travel up, down, or through a magical transportation portal or the like. Indicate directions in which you can move with a line. If moving in a certain direction will bring you back to your starting point, indicate that with a loop. Mark on each line an arrow to indicate which way you can travel along that route. Most routes will enable you to travel in both directions, but you may find some which are one way only. If you encounter a problem such as a puzzle to solve, or a monster to elude, then place an 'x' in the box, and on a separate piece of paper, record the location number and any details of the problem encountered, and what the solution is.

At every location you come across, try all possible directions, just because an exit isn't mentioned in the location's description, it doesn't mean there isn't one. Don't forget there usually ten possible exits from any one location: NORTH SOUTH EAST WEST NORTHEAST NORTHWEST SOUTHEAST SOUTHWEST UP DOWN. Try them all, you never know how sneaky some of these adventure writers can be. If you take an exit like UP or DOWN you will find it gets difficult to draw the map when routes pass under or over each other. To get round this, draw a line between north and northwest for UP, and one between south and southeast for DOWN. End these lines in a small circle and put the location number of the room it leads to in this circle. Then move to a new piece of paper and draw the box for the new location (unless, of course, it is a location you have already mapped).

Finally, keep your map neat. It's useless spending time mapmaking if you can't read a word of it when you come back to the adventure. Graph paper is probably the best paper to use, it keeps all your boxes the same size, and all your direction lines reasonably straight. If you have any comments on this article, or tips about mapmaking to pass on, drop me a line, I'll try to answer all letters as promptly as I can. If you would like a personal reply please include an SAE.



ADVENTURE NEWS UPDATE

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The latest news from Softsel, the UK distributors of Infocom games is that the two follow up games to Enchanter - Sorcerer and Spellbreaker - are now available for the Einstein. Also available are two new games - Ballyhoo and Wishbringer. Look out for reviews of all these games in future issues.

I'm afraid that all the news is not good though. Firebird Software have informed me that the famous space trading and battle game Elite, will not be released for the Einstein. This is because they have been having a lot of problems converting the game for the Einstein, and they don't want to spend any more money on trying to do so. If any of you are as disappointed by this as I am, write to Firebird letting them know, who knows - you may persuade them to change their minds.

COMMUNICATIONS BETWEEN COMPUTERS

All a Computer needs to be able to communicate with other Computers is a serial interface, a Modem, some communication software and a telephone.

INTERFACES

The serial interface that you need is already in the Einstein with a RS232 connection port. What you need is a lead and plug which you can have made up for the Einstein or you can make your own (The details are in Your Einstein Manual and in your Einstein magazine Vol 1 no3).

SOFTWARE

Communication software is the program of instructions that your computer needs to be able to communicate with the Modem and the telephone. The software controls the speed and format of information by regulating the Baud rate, number of stop bits, number of data bits and parity. You can program your own or there is a program in Vol 1 number 4 that you can type in yourself, or Kuma sell two, one called Viewdata at £39.95 or Hackers Delight for £20.00, available from your supplier.

MODULATOR - DEMODULATOR (MODEMS)

The Key component in communications between computers is the Modem. It takes the digital serial numbers from the interface and modulates them into an acoustic signal and send the signal down the telephone line to a receiving Modem at the other end, and when the acoustic message comes back it demodulates the signal back into digital signals that the computer understands, hence the name Modems.

Modems come in two main types, acoustically coupled and hard wired (direct connected).

The acoustically coupled Modem is a bit like a telephone rest, you fit your normal telephone into two cups on top of it and the signal is sent down the line via the hand set. (subject to outside noises). You do not need to worry about what type of wall socket you have with this type of Modem but some of the modern telephones may not be a good fit.

The direct connected Modem bypasses the telephone and taps directly into your telephone line via the modern British Telecom wall socket and your telephone plugs into the back of the Modem. What can you do with your Modem when you have bought it? Well it can be used amongst your club members from computer to computer, to contact Amateur Bulletin Boards or you can use Prestel, Micronet, Telecom Gold and other large data bases anywhere in the world. With some Bulletin Boards you will need to register and you may have to pay a fee but with most professional data bases you will have to register and you will have to pay. I have written to lots of firms for prices and models but I have only received answers from half of



them, however I have been able to get most of what we need. On buying you need to check some of the prices because I have noticed that some of the manufacturers prices are coming down but the suppliers may not have followed suit yet. I have listed on the next page all the firms models and prices in a logical order and have included a brief summary below of what each heading means.

MAKE AND MODEL. Some of these sell direct and some through Retail outlets.

PRICES. Include V.A.T but not postage. Watch what you are getting for your money because some Modems include in the price a ROM for the BBC Micro and you do not want to pay for this if you can help it. The letters A/C are short for acoustic coupler.

SPEED. This is the rate at which the Modem can send data measured in Baud rate, it is the Baud rate which affects your telephone bill so the faster you can send the cheaper it becomes or you can send more for the same money.

300/300. Normal speed for friends and Bulletin Boards.

1200/75. Frestel and other companies send at this one, they send at 1200 you send at 75. You can get some sets that you can switch to receive at 75 and you send at 1200, but I have not listed these because of the space.

1200/1200. Some sets send and receive at this speed, this would be ideal between friends.

ANS. Stands for answer. Most Modems have this facility you will find one or two listed which have not, the Modem which is receiving the message needs this facility so if you ever intend to receive messages yourself you will need this.

AUTO ANSWER. The Modem will listen to your line and answer data calls. (ex) means that you can buy this item as extra, check that your software will work with it.

AUTO DIAL. Your Modem will dial certain selected numbers for you but again you will need the correct software.

EABT. All Modems must be EABT approved to be used over British Telecom.

I was a bit short of room to give more information but all the models I have listed will work with the RS232 interface. Most Modems have some LED's, some Modems have the Bell tones that allow communication with American Bulletin Boards, some Modems have FULL DUPLEX which means that the communication can occur in both directions at the same time. I would advise you to get a leaflet on each model you are interested in, if you have any queries phone me on 0903 724863.

Jean Skillern.

The list of Modems below includes most of the popular models that I could get details of. I have details of a lot of dearer ones but these are more for professional use.

It is possible to build your own Modem, a number of electronic magazines show Modem designs from time to time and electronic mail order firms offer designs and parts. However such Modems are not likely to be approved for connection to telephone lines. Remember badly built Modems can be dangerous to your computer, the telephone network and to you.

Jean.

COMPANY	MODEL	PRICE	300 300	1200 75	1200 1200	ANS F/C	AUT ANS	AUT DIA	BABT APP
ANSWERCALL 01-657-1133	MINI MODEM MM100X	£ 75	*			*			*
BENCOM 01-387-7792	SENDATA 700C	£ 206 A/C	*			*			*
	SENDATA 700B	£ 229 A/C	*			*			*
DA COM SYSTEM 0908-675511	DA COM BUZZ BOX	£ 80 A/C	*			*			*
	BUZZ BOX AA	£ 137 A/C	*			*	*	*	*
DIGISOLVE 0977-513141	CHIP CHAT CC213A	£ 149	*	*	*	*	*		
	CHIP CHAT CC2123AD	£ 230	*	*	*	*	*	*	
DCE INTERLEKT 01-6-88165	PROSPECT	£ 144	*	*	*	*			*
EPSOM UK 01-902-8892	PORTMAN	£ 195	*	*	*	*			*
	EPSOM CX21	£ 184 A/C	*				*		*
G.E.C. 0203-446193	DATACHAT 1223	£ 90		*	*	*			*
JAGUAR 0727-32983	MINIMO 300	£ 110	*			*			*
	MINIMO 3/12	£ 190 A/C	*	*	*	*			*
MIRACLE TECH 0473-50504	WS2000	£ 140	*	*	*	*	EX	EX	*
MODULAR TECH 0869-253361	WS3000	£ 339	*	*		*	*	*	*
	INTERMOVER M5021	£ 98	*			*	*		*
	M5023	£ 115		*	*	*			*
	M3005	£ 137 A/C	*			EX			*
	M3012	£ 160 A/C		*	*				*
PAGE 01-4-729306	PAGE NIGHTINGALE	£ 137	*	*		*	EX	EX	*
TANDATA 06845-68421	TM110V23	£ 114		*				*	*
WALKBURY CONSULTANTS 0733-235187	TM200V21/23	£ 199	*	*	*			*	*
WATFORD ELEC 0923-37774	DEMON	£ 73	*	*	*	*	*	*	
VARIOUS SUPPLIERS	VOYAGER 7	£ 92	*	*	*	*	*	*	*
	VOYAGER 11	£ 115	*	*	*	*	*	*	*

A Computer = Why or Why Not

First Impression from a Small Independent.

For several years we have been told by the "Computer people" "Yes we can do it for you (if you are big enough) at a price", which was always beyond my reach, and open-ended, my reply was that almost all small retail enterprises did their accounting in a similar way and always ended up with the same type of accounts and very similar VAT requirements, and suggested to them in no uncertain terms that the "Computer people" should do their homework and produce a system which they could offer to the retail trade at a price that the "Small man" could afford.

At last! at least one Software firm had done this.



The B.H.F. organised a "Computer Day" in West London earlier this year, Lo and Behold! there it was, a package deal which appeared to do everything that I was already doing manually, almost at the press of a button, and supplying other helpful management information without the hours and hours of work when adding up and balancing every time you turned a page in the accounts book or VAT book.  
Price £1000.

The Supplier said "If you are interested take it home and I'll see you in a weeks time" and I did (how about that).

I got home and the wife's face dropped a mile, not due to cost, she thought that I had bought just another "toy" to play with.

Opening the numerous boxes I found I had a Computer, a monitor, a printer, a box of paper for the printer, 10 blank floppy discs, various discs containing programmes and of course, loads of instruction books.

Never having used a Micro-Computer before, I hadn't a clue, knowing that I had a week to satisfy myself before the man came for his money I "plugged-in" and began to fiddle, apparently, you are supposed to read the relevant instruction books from beginning to end before you try anything (how boring).

Now lets have a look at this marvellous package.

The Computer is an "Einstein" (what?) Yes fairly new on the market, (other makes are available), perhaps the most interesting feature is that the two disc drives are already fitted into the computer, this is very convenient.

The accounting "Master programme" is on one disc and a further disc is used for the current data.

The instruction book is fairly clear and quite well written, and combined with the instructions which come up on the screen as you use the programme and prompts you as you progress, little difficulty is encountered, I found no difficulty once acclimatised to the system,

After becoming accustomed to a "machine" with which I had never before been in contact, and realising that the instruction books were meant to be read thoroughly, I found to my great delight that the "thing" was doing exactly what it was meant to do, I pulled out my last quarter's accounts and in one week (evenings only) entered the whole lot into the computer, subject to a few errors due to personal idleness and impatience, I was astounded that the VAT report pumped out on the printer was within a couple of pounds of the amount I had actually paid.

During this period I had accumulated a foolscap size list of questions for "The Man" when he came for his money, by the end of the week I had answered 95% of the questions by the experience of using the system.

The programme is based on the "Simplex" accounting book.

The system deals with the usual accounting requirements of small retail type businesses-cash, cheques, profit & loss, special VAT schemes A-F, it does not include stock control in any shape or form, on the VAT side it produces a direct copy of the official VAT form.

At the time of purchase I also bought a "Spreadsheet" programme, and have now produced a cash flow forecast for the current year.

This article is being written on a word processing programme supplied

In conclusion I am well satisfied with my purchase, I enter my weekly accounts in about 10 minutes flat, the last week of the month takes about 1/2 hour due to the higher number of cheques and entering bank orders etc. from the bank statement, errors obviously take longer.

I can produce a Profit and Loss account any time I wish, also a VAT report anytime I wish, several other accounting reports also are available on demand.

To cap it all the VAT man visited me this week, he stayed for only two hours (I think that this must be a record), he was very pleased with the system, "excellent" was his remark.

D. Barnett.

#### LASERO

As a journalist, a good word processor is essential for me. Just before Christmas I decided to buy an Einstein after several happy years with a Dragon. It had, in fact, been a toss-up between the Einstein and the new Amstrad. A colleague of mine bought the Amstrad and tells me that he'll have the bugs out of it any day now.

I ask a lot of a word processor, to be frank. It has to allow me to create books, articles and scripts as well as produce brochures for my own business (Any exporters among Einstein users should contact me, I've got some special news for them), individual and circular letters.

However, since I object to the sort of outrageous profiteering in the computer business I decided against purchasing a certain very expensive, well-known, long-in-the-tooth word processing program.

Wdpro sounded as though it could do much of what I wanted. These days I keep a shotgun handy in case I ever meet the programmer who put it together.

It is true that Wdpro provides an enormous variety of sophisticated formatting commands, the only trouble is that user-friendliness is a word I once heard about but never learnt to spell. Writing creatively in between the blobs and letters of the formatting commands is next to impossible, and the constant toggling to and from SETV to correct material really is a pain in the RS232.

The fact is that Wdpro is not a word processor. It is a text formatter, inspired, at a guess, by typesetting techniques rather than typewriting, and as such it is very good indeed.

The chances are that anyone who is using the Einstein for a fair amount of word processing is probably casting about for another wp program to install, and may be considering Tasword.

Tasword, unlike Wdpro, is a what-you-see-is-what-you-get program. While it is simple to use its miserly 64 characters to the line, the awkwardness of changing margins on text once set and lack of page-by-page scrolling detract from its suitability for serious work, and its formatting capabilities are far less than that of Wdpro.

But Tasword is cheap. It would be fine if one could somehow combine both programs. The good news is that you can!

You can write your document on Tasword, edit it and roughly format it

on screen. Then go through the document and insert Wdpro format commands, replacing the blob with "qq", then save the document as "xxx.UFT". If you don't use UFT as the file type it will not be recognised by Wdpro.

Now boot-up Wdpro (I've persuaded mine to autorun, drop me a line for details) and LOAD"xxx". What you will see on your screen is your Tasword text with a lot of unwanted spaces. Now type REP/qq/(esc)/ and the Wdpro formatting commands will be set. Then type REP/(10 spaces)/(one space)/ and enter. Once that REP is finished, go back and DEL one space and press enter again. Repeat this process until you've replaced all two spaces with one space, SETV and PRINT and you should have a converted document.

Incidentally, do set margins when using Tasword instead of using the full 64 character width otherwise you'll find some words joined and it is easier to remove spaces than put them in.

Do check that Tasword has saved your text properly.

Between the two programs, using Tasword for text creation and Wdpro for text formatting one has a very powerful duet.

#### USING THE TEAC FD50A DISK DRIVE. (AND OTHERS)

When I got my Einstein, I decided to keep the Teac FD50A 5.1/4" disk drive which I had been using on my previous machine.

After all, the Einstein uses an FD30A drive, so the FD50A was bound to be compatible.

How wrong can you be! When I came to format the first disk, all I could get was NO SECTOR messages. Yet all the disk parameters seemed to agree with the internal drive.

Tatung technical boys soon pointed me to the problem. The track-to-track time for the FD30A is 12 milliseconds, and the track-to-track time for the FD50A is 25 milliseconds. Furthermore, Tatung technical lads told me that byte FBE0 (01H) controlled the track-to-track time, and my drive should work if I altered that byte to 03H. So I tried it, and it worked fine. The verification time on FORMAT was a bit slower, but otherwise could not detect any slowing of the disk operations.

There was one small snag, however. The byte is loaded with 01H by MOS so that every time I switched on or every time I did a reset, I had to remember to go to MOS and alter the byte, and my memory is not that good.

I use Xtaldos v.1.31, and found that by doing a small modification I could get around the problem, and make the Xtaldos put the new value into location FB0 after the MOS had put in its 01H. Here is what I did.

Go into MOS and type R0100 0200 0000 <Enter> (\* SEE BELOW )

This puts the first 100 bytes of the DOS into memory at 0100H.

Then type M0162 <Enter>

That location will be shown as C9H. Overtyping that and subsequent locations with the following code:

0162: 3E 03 32 B0 FB AF C9

Then exit the Modify Mode by entering the usual full stop.

Now type W010002000000 <Enter>

When the machine is now switched on or the reset button pressed, the DOS will put 03H into FBE0 immediately after the Einstein logo has appeared on the screen, and the FD50A disk will work normally.

In order to keep track of my modified DOS's I also changed the byte at 0137H from 31H to 41H, so that the logo comes up with DOS v.1.3A. This

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modification will only work at its present location on DOS v.1.31. Maybe you can find a suitable place to put the mod. if you are using an earlier version.

Another disk drive I have used is the Shuggart 444. This drive has a track-to-track time of 40 milliseconds, and to accomodate that it is necessary to load byte FBB0H with 06H. On my mod. that means changing 0163H from 03H to 06H.

Don't forget that it is necessary to correctly configure the Teac external drive. There is a bank of 6 small switches inside the case, and it is necessary to switch ON the MX switch and one switch controlling the drive number you want. All other switches should be OFF.

Tom Crossfield  
For Dos 2.01 type R 0100 1E00 0000  
start modifying at 1A79  
ed

Here are three short conversion routines from Robin Durant.

```
10 REM MILES TO KILOMETERS
20 PRINT"Enter No of Miles"
30 INPUT M
40 LET K= M*1.6
50 PRINT" The No. of Kilometers is"
60 PRINT
70 PRINT
80 PRINT K
90 END
```

```
10 REM KILOMETERS to MILES
20 CLS
30 A$="Enter the No. of Kliometers"
40 GOSUB 130
50 INPUT K
60 LET M=K*.625
70 M$=STR$(M)
80 A$=" The No. of Miles is":GOSUB 130
90 PRINT
100 PRINT
110 A$=M$:GOSUB 130
120 END
130 X=LEN (A$)
140 PRINT TAB(20-X/2)A$:RETURN
```

```
10 CLS
20 REM DEGREES F TO C
30 PRINT"Enter the lowest Temp."
40 INPUT L
50 CLS
60 PRINT"Enter the highest Temp."
70 INPUT H
80 CLS
90 FOR X=L TO H
100 LET F=X*9/5 +32
110 PRINTX;" In Cent. is "F" in Fah."
120 NEXT X
130 END
```

TO CONVERT C TO F SUBSTITUTE THE FOLLOWING LINES

```
100 LET C= (X-32)*5/9
110 PRINTX;" In Fah. is "C" in Cent."
```



Here is another short routine but I have lost the authors name, credit will be given when I find out who it is.

```

100 RST: CLEAR
120 TCOL6: PRINT "CKEY"
140 BCOL1: TCOL3
160 FOR I=1 TO 15
180 TCOL (I): PRINT "      SET COLOURS"
200 NEXT I
220 PRINT "      "
240 PRINT "SPACE BAR TO CONTINUE": C$=INCH$
260 KEY0, "RUN"
280 KEY1, "LIST"
300 KEY2, "LOAD"
320 KEY3, "INPUT"
340 KEY4, "GOTO"
360 KEY5, "GOSUB"
380 KEY6, "INCH$"
400 KEY7, "TCOL"
420 KEY8, "DRIVE 0"
440 KEY9, "DRIVE 1"
460 KEY10, "SAVE"
480 KEY11, "TCOL2,0:BCOL1"
500 KEY12, "PRINT@"
520 KEY13, "RETURN"
540 KEY14, "DRAW"
560 KEY15, " TO "
580 TCOL3: PRINT "FUNCTION KEYS NOW SET TO INDEX 'C'"
600 PRINT
620 PRINT "TYPE ";: TCOL2: PRINT "> > > NEW < < <"

```

```

5 REM INSERT$ BY DAVE WEST
10 REM EVER COME ACROSS..
20 REM LET A$(3,25 TO )="      0.00"
30 REM ON A SINCLAIR MACHINE AND WONDERED HOW TO CONVERT IT..
40 REM TO MICROSOFT TYPE STRING HANDLING WELL...
50 REM DIMENSION STRINGS IF NECESSARY
60 REM IF MAINSTRING IS EMPTY FILL IT eg ?$=MUL$(" ",n)
70 REM MAKE X$=MAINSTRING
80 REM MAKE Z$=SUBSTRING
90 REM MAKE X=POSITION TO START INSERTION
100 REM GOSUB 1000
110 REM MAKE MAINSTRING=X$
200 DIM A$(39): A$=MUL$("+",39): REM INITIALIZE MAIN$
210 X$=A$: X=25: Z$="0.00": GOSUB 1000: A$=X$
215 REM ADD 4*CHRS TO MAIN$ FROM POS 25
220 PRINT "1234567890123456789012345678901234567890": PRINT A$; "*": REM SCALE
230 STOP
1000 REM INSERT SUB$ INTO MAIN$
1010 Y=LEN(Z$): REM LENGTH OF SUB$
1020 Y$=MID$(X$,X+Y,LEN(X$)): REM Y$:=RIGHT HAND BIT OF MAIN$
1030 X$=LEFT$(X$,X-1): REM LEFT HAND BIT OF MAIN$
1040 X$=X$+Z$+Y$: REM LEFT+SUB$+RIGHT
1050 RETURN

```



Here is a Basic Program from Martin Page called CERTX.

CERTX

```

10 REM *****
20 REM *NAUGHTY BUT NICE....
30 REM *
40 REM * Copy right ..Martin Page
50 REM * 021 749 5583 6/11/85
60 REM * Free to all Einstein user
70 REM * group members
80 REM *****
90 BCOL1:MAG2:CLS
180 GOTO1000:REM print sprites
200 READA,B:GCOL7
210 FORJ=1TO67:READA1,B1:DRAWA,B TO A1,B1:A=A1:B=B1:NEXTJ
211 GCOL15:
212 FORJ=68TO76:READA1,B1:DRAWA,B TO A1,B1:A=A1:B=B1:NEXTJ
220 DRAW125,80 TO 111,88
230 GCOL9:DRAW122,73 TO 109,85
300 READQ$,A,B:GCOL15
320 FORJ=1TO88:READA1,B1:DRAWA,B TO A1,B1:A=A1:B=B1:NEXTJ
325 GCOL10:ELLIPSE128,158,11:GCOL15
330 READA,B
340 FORJ=1TO21:READA1,B1:DRAWA,B TO A1,B1:A=A1:B=B1:NEXTJ
350 READA,B:GCOL9
360 FORJ=1TO62:READA1,B1:DRAWA,B TO A1,B1:A=A1:B=B1:NEXTJ
430 FILL124,83,15
435 FILL125,150,10
440 FILL125,1,9
445 FILL81,5,9
450 FILL130,160,10
470 GCOL8:DRAW121,96TO125,95
480 GCOL1:PLOT120,155
482 PLOT120,156
486 GCOL6:PLOT120,147:PLOT120,148:PLOT120,149
999 GOTO2000
1000 GOSUB3000:REM define shapes
1010 E=220:C=208:D=228:E=5:GOSUB1040
1020 GOTO200
1030 REM sprite subroutine
1040 SPRITE9,104,100,8,216:
1050 SPRITE7,104,100,E,B:
1060 SPRITE8,128,108,8,224:
1070 SPRITE11,120,92,8,200:
1080 SPRITE10,104,84,8,204:
1090 SPRITE6,120,92,E,C:
1100 SPRITE20,120,76,8,212:
1110 SPRITE17,128,108,E,D:
1120 SPRITE22,136,84,8,232:
1130 SPRITE3,118,160,15,236:REM face
1240 SPRITE23,124,128,14,240:
1250 SPRITE24,124,126,13,244:
1260 SPRITE25,109,134,14,248:
1270 SPRITE26,104,130,13,244:
1280 SPRITE27,123,116,14,252:
1290 SPRITE28,123,103,6,196:REM button
1310 SPRITE30,124,139,14,188:REM neck
1350 RETURN
2000 TCOL9: PRINT@0,0;"WOULD YOU ?";:A=INCH:IFA=121 OR A=89 THENGOTO2020
2010 PRINT@0,0;"THATS A PITY...";:A=INCH:RST:TCOL2:END
2020 B=172:C=172:D=172:E=15:GOSUB1040
2030 SPRITE6,120,92,14,184:
2040 SPRITE7,120,92,10,180:

```

```

2050 TCOL2: PRINT@0,0;"SHOULD YOU ?";:A=INCH:IFA=121 OR A=89
      THENGOTO2060 ELSE2200
2060 B=172:C=172:D=172:E=15:GOSUB1040
2065 PRINT@0,0;"YOU NAUGHTY SOD !";
2070 SPRITE6,120,92,14,184:
2080 SPRITE7,120,92,13,176:
2090 REM whistle
2100 PSG6,1:PSG7,110:PSG9,9:PSG1,0:PSG8,15
2110 FORI=64TO32STEP-.35:PSG0,I:NEXT
2120 FORI=0TO150:NEXT
2130 FORI=64TO48STEP-.17:PSG0,I:NEXT
2140 FORI=48TO104STEP.5:PSG0,I:NEXT
2150 PSG8,0:PSG9,0
2160 GOTO2210
2200 PRINT@0,0;"GOOD FOR YOU !";:A=INCH:RST:TCOL2:END
2210 A=INCH:RST:TCOL2:END
3000 REM DEFINE SHAPES
3010 SHAPE200,"00000000000000000000C0F0F8FCFDF9FB04020202020101010101010
      181C3FF"
3020 SHAPE204,"07010000000000000000000000000000FFFF3F1F070301000000000000
      0000000"
3030 SHAPE208,"FCFF7F3F1F0F0703030100000000000003FFEF8F0F0E0C080800000000
      0000000"
3040 SHAPE212,"F343230300000000000000000000000000000000000000000000000
      0000000"
3050 SHAPE216,"0000000000000000000000000000000000000000000000000000000
      0F8FCFF"
3060 SHAPE220,"0000000000000000000000000000000000000000000000000000000
      0000000"
3070 SHAPE224,"0000000000000000000000000000000000000000000000000000000
      0000000"
3080 SHAPE228,"0000000000000000000000000000000000000000000000000000000
      40830C0"
3090 SHAPE232,"00000040C0CECF8F8F0C080000000000000000000000000000000000
      0000000"
3100 SHAPE236,"7C873AC7EF7B777A7F7F3930390F0F07F81EEE1EECF8FCF8E0F0F8F0E
      0C0E0E0"
4010 SHAPE240,"0000000000000000000000000808060100000402020101010101010202040
      8F00000"
4020 SHAPE244,"0000000000000000000000000000000000000000000000000000000
      0000000"
4030 SHAPE248,"01060810204040808080808040601807000000000000000000000000
      01020C0"
4040 SHAPE252,"8080808040404000000000000000000000000000000000000000000
      0000000"
4050 SHAPE196,"1008100000000000000000000000000000000000000000000000000
      0000000"
4060 SHAPE192,"0C3040B048E04CE44808100000000000000000000000000000000000
      0000000"
4070 SHAPE188,"0204080830000000000000000000000000000000000000000000000
      0000000"
4080 SHAPE184,"0000004020180402020101010101000000000020C1020204080800000000
      0000000"
4090 SHAPE180,"0000000003070301010000000000000000000000000000000000000
      0000000"
4100 SHAPE176,"0000002020201010100000000000000000000000000000000000000
      0000000"
4110 SHAPE172,"0000000000000000000000000000000000000000000000000000000
      0000000"
4999 RETURN
12000 DATA111,88,110,87,110,86,109,85,109,84,108,83,108,81,107,80,107
12010 DATA79,106,78,106,76,105,75,105,73,104,73,104,67,103,66,103,59
12020 DATA102,58,102,56,101,55,101,54,99,52,99,46,98,45,86,20,80,8
12030 DATA80,2,83,2,84,3,85,3,86,4,86,6,87,7,87,8,88,9,89,10

```