

Einstein Magazine

& ALL MICRO NEWS

No.110

THIS BOOK IS PRODUCED
IN COMPLETE CONFORMITY WITH
THE AUTHORISED ECONOMY STANDARDS

To
ALL ALLIED PRISONERS OF WAR
especially those
repatriated on the T.S. "DRÖTTNINGHOLM"
SEPTEMBER 1944
more especially to
LIEUT. COMMANDER AL PALMER, D.S.C., R.A.N.R.
otherwise "SKIPPER" (*The Pirate of Tobruk*)
and
MAJOR BROOK MOORE, Australian Infantry
"BROOKIE"
this book is
affectionately dedicated.

This edition 1946

Printed in Great Britain by Collins: Clear-Type Press London and Glasgow

As this issue was being assembled, reports were coming in of a fatal collision between a Romney Hythe and Dymchurch Railway steam train and a car containing a young child and her mother at the Burmarsh Road level crossing, on the eastern outskirts of Dymchurch. The steam locomotive on this 15" gauge light railway weigh over 7 tons, and normally a collision leaves the car a total wreck and the engine somewhat dented, but in this case it resulted in derailment of the train, the death of the train driver, and varying degrees of injury to about 20 train passengers.

Further reports indicate that the standard pattern highway level crossing lights (which are automatically triggered by the train's axles completing track circuits as it approaches) were in good working order, and that no other train was involved. This appears to rule out the possibility that either the warning lights had failed to operate and the train driver was then unable to pull his train up short of the level crossing when he realised that the flashing white light which he should have received as a "Safe To Proceed" signal had failed to illuminate, or that another train had triggered the crossing lights, which then remained at red after it had cleared the crossing because this second train was approaching from the opposite direction.

The steam locomotive on this 15" gauge railway are arranged so that the driver sits on a seat squab in the front part of the tender and operates the controls in the cab of the loco. As a result, the locomotive driver is just as vulnerable if the two derail, overturn or become dislocated from each other as a passenger would be in a long-distance train if it was so crowded that he had to travel in the corridor connection between carriages, and it suffered a crash or major derailment.

A retired Romney Hythe & Dymchurch Railway driver with many years' experience has pointed out that - just as was the case in an almost identical crash and death of a steam train driver at the St Mary's Road level crossing on the western outskirts of Dymchurch, almost exactly 30 years earlier - the steam locomotive involved in this crash was working with one of the two short locomotive tenders in use on the line, which he considered to be a very significant factor.

A full investigation into the circumstances of the accident is no doubt currently being conducted by the police and the Health & Safety Executive, but it is clear from local TV news pictures that the collision resulted in the engine and front coaches being derailed, the engine and tender overturning and being slewed round, and coming to rest at right angles to the track. It seems that the train driver became trapped and fatally injured as this happened. The view expressed by several current and retired drivers is that if a standard tender had been attached, and not one of the line's two short ones, the train driver would have escaped relatively unscathed. Had the car driver stopped at the red lights, however, the accident would have never happened.

From "RAILNEWS" Letters Page, July 2003 issue:-

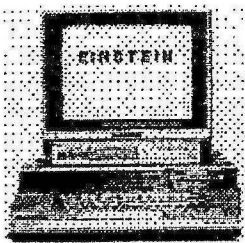
"I am involved in rebuilding two ships built in England before 1846, which were once owned by the former London & Dover Railway and by the South Eastern Railway.

"The 'Queen of the French' and the 'John Penn' were sold in 1864 to the Belgian railways to operate between Ostende and Dover, and were renamed 'Saphir' and 'Perle'.

I live in Vietnam, where the boats have ended their careers, and would like to find out more about these boats and the railway companies which once owned them."

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"If your readers find Vietnam too far for a fax, phone call, or letter, they can be sent to me instead via my home address in France:- Eric Merlin, Exottravel, 40 bis Rue du Faubourg Poissonniere, 75010 Paris, France. Phone 33 (0)1 49 49 03 60 Fax 33 (0)1 49 49 03 69



Einstein Magazine

and ALL MICRO NEWS Number 110

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Proportionally up yours?

John Marriott - August 2003

Hopefully this will reach our hard-pressed Editor before my previous version of this finds itself into EM110 - hopefully? Like all programs, no sooner have you finished your "Masterpiece" before you realise that the old School Report comment of "...could try better..." shuffles up out of one's Past Memories - so, Yes! Many Moons ago the idea of "Proportional printer outputs" flitted into, and out of EM. Whilst I'd toyed with the idea of converting a Commercial Program <PROPORT> I'd done for the 48K SPECTRUM, as that program was designed for a screen dump to the thermal foil LPRINT printer (the intention to gain 60% improvement text-to-foil paper due to its cost), it did not readily present itself for conversion to a "proper" computer - the EINSTEIN TC01.

However, with EM109 "Hitting the Stands" and some resulting phone calls re. "...how are characters constructed..." I thought I'd have another look at <PROPORT>. We all know that a character is built up on an 8*8 matrix - WRONG! In fact the ASCII character on the TC01 is built on a 5*6 matrix WITHIN an 8*8 matrix, being a FUDGE to allow the TC01 to use the same ASCII font for both 32 and 40 column modes - and to those who've tried various background colours when in 40 column mode, and wonder why the characters and background colours don't line up - just about every home computer in the 1980 era only had - yes, a 32 column display!

Ever onwards and upwards, <PROPORT> as developed at present for the TC01 comprises of a new ASCII font, a program to "slice" a text file from TASWORD, a program to plot the derived text file to screen and save it, then a program to load it back to the screen for you to do a <GDUMP> or a <ctrl> if in SYSTEM5 DOS/BASIC - alas, to an EPSON 9-pin/compatible printer - more, later.

Hopefully Tony will find space to include the 4 listings at the end, but I'll try to make some comments on them, starting with <SLICE.XBS>. On a "reset" the TC01's RAM is filled with the value &FF, which causes problems by printing up "white square blocks" at the bottom of the screen - so L20 clears from &8000 to &9900 with &00. L60 strips off the rear end of "your" filename

and L220 adds a new "family" portion which effectively creates a new file. L70 is the "character width table" (which is also included in the <PROCHAR.OBJ> new ASCII font). L75 "adds up" this table to see if you've inputted it correctly in L70 - so if you don't get an error message after running it, you can delete L75 and L230 and save off again. L90/100 are only there to let you know how slow BASIC is, so you can reduce them to just "A=PEEK(T)". L110 looks for the "end of text file" marker - which should be "@" (the <shift><0> on the TC01) at the end of your TASWORD text file. Miss that out and you confuse <SLICE> and yourself! L120 gets the "character width" from the "table" W\$ and creates a running total - go over 255 (256 in Human terms...) and "it" looks backward for a <space>, juggling what it's getting from &8000 onwards into &8800 upwards! Once it's done that &8000 to &87FF becomes redundant, so the new ASCII font (with its "width table") is loaded into there, and the whole lot, file and all, is saved off - then a portion of that file which could be directly printed out to your printer set "proportional mode" and "LF=LF+CR", but I've not been able to ascertain that as I haven't a suitable printer.

There's not too much to say about <CHARPLOT.XBS> other than it gets a character value from RAM, if it's a <space> it suitably increments the "x-axis", or gets the character's "width" then plots it (slowly!) with some short cuts - or if it's that "end of file" marker "@" then Machine Code uploads it from VRAM to yes, that area from &8000 onwards which is yet again redundant, then saves it with a "family" file name.

The <PROCHAR.OBJ> file is your new font - load XBAS.COM and do "CLEAR &8000<e>MOS<e> M8000<e>" and enter the values, finishing off with "<.><e><Y><e>" then "SAVE "PROCHAR.OBJ", &8000,&8300<e>".

Again, <SCNLOAD.XBS> loads back into that RAM area and Machine Code downloads from RAM to VRAM and gives you a chance to load another screen file or reset. The "normal" <shift><break> will bring you into XBAS if you want - and that's about it, I think?

One thing I nearly forgot to clarify (clearly?) re. "printer proportional width tables" - if you have your printer manual this may be in it, most likely not. If you enter the following line (in XBAS!) "FOR C=33 TO 127:C\$ =CHR\$(C) : PRINT MUL\$(C\$,10):NEXT<e>" it'll naturally "show" on the VDU in

vertical columns - even on your printer, but set your printer to "proportional" mode - either by its DIL switches (switch off then on for the printer to recognise a change!) or software command, then print it out to your printer where it WON'T come out in nice vertical columns. You should be able to roughly work out the "proportional character widths" for your printer, and if need be change the values in <SLICE> LINE 70 and in <PROCHAR.OBJ> (i.e. &8000, &8008 & etc.). DON'T omit the leading "0" in W\$!

To those who have SYSTEM5's <XC.COM> and <XR.COM>, compiling <SLICE.XBS> into <SLICE.XBI> and at the DOS prompt <XR SLICE.XBI> doesn't appear much quicker - however, <XR CHARPLOT.XBI> certainly does. Where the real "speed" appears is in <SCNLOAD.XBS>, for the simple reason all the time consuming work's been done - so with that file (and any "<file>+SCN.OBJ" files you've created) on your "disk to a friend" - MAGIC! Naturally, he'll provide XBAS.COM?

Nearly forgot - in TASWORD set the margins to <0> and <64>, with <W/W><R/J><Ins> set to <off> and at this stage "of experience" just don't put in any padding <spaces> or attempt <paragraphs> & etc., although choosing a "little used" character (# < >) as a "marker" and adjusting the "x and y" values accordingly - something for you to develop? If you type in but don't include the "width table" in "PROCHAR.OBJ" file (save it with a different .OBJ filename!) and load it, then "PEEK-VPOKE" you've got a new (but strangely not so strange in 40 column mode) font, and of course - L250-270 of <CHARPLOT.XBS> can be made into a simple "within a BASIC program" screen saver, but change the "270 SAVE A\$..." to say "270 SAVE "MYSCN.OBJ", remembering then to rename that file on the disk -or overwrite it!

As you will, or won't appreciate, this "suite" has had some rapid changes from those I sent to Bob Deeley and Stan Gibbs (mainly because Stan hates "unfriendly" programs!). One of the things I tend to forget when inputting filenames is including their "extensions", so the simple way of overcoming that in these programs was to check if the "rightmost" character was a "J", as in ".OBJ" - and if it wasn't, rather than have the program crash/stop as the <.OBJ> isn't there, "splice" on the missing extension <.OBJ>. So simple, so obvious.

Going back to printers - the "value" for a "carriage return" is <&D> (which the TC01 "sees"), but the printer DIL switch for

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"LF=LF+CR" might only function if it "sees" <&A>, so any program to print out a "<file>+PRN.OBJ" file will need to "trap" the <&D> such as "IF A=&D THEN A=&A...send to printer". No doubt some of you will have your own ideas, solutions ... suggestions - then write in!

```
10 CLS: REM CHARPLOT3 John Marriott
6/2003
20 CLEAR &8000:DIR
30 PRINT:PRINT "WHAT <SLI.> FILE TO
LOAD? E.G. MYSLI.OBJ":INPUT A$
35 IF RIGHT$(A$,1)<>"J" THEN A$=A$+"
.OBJ"
40 LOAD A$
50 A$=LEFT$(A$, (LEN(A$))-7):CLS
60 X=0:Y=191:K=&8800
70 C=PEEK(K)
80 IF C=&40 THEN 250
90 IF C=&D THEN X=0
100 IF C=&D THEN Y=Y-8:GOTO 240
110 IF C=&20 THEN X=X+3:GOTO240
120 M=&8000+((C-32)*8)
130 W=PEEK(M):Q=1
140 N=PEEK(M+Q)
150 Q=Q+1:IF Q>8 THEN 230
160 B$=BIN$(N,8)
170 IF B$="00000000" THEN 220
180 FOR L=1 TO W
190 A=VAL(MID$(B$,L,1)): IF A=1 THEN
PLOT X,Y
200 X=X+1:NEXT L
210 X=X-W
220 Y=Y-1:GOTO 140
230 Y=Y+7:X=X+W+1
240 K=K+1:GOTO 70
250 POKE&A000,33,0,128,34,0,208,62,0,
211,9,62,0,230,63,211,9,6,24,197,6,0,219
,8,42,0,208,119,35,34,0,208,16,244,193,1
6,238,201
260 CALL &A000
270 SAVE A$+"SCN.OBJ",&8000,&9700
```

8000	02	00	00	00	00	00	00	00	01	80	80	80	80	00	80	00	03	A0
8012	A0	00	00	00	00	05	50	F8	50	50	F8	50	00	05	10	F8	90	
8024	F8	48	F8	40	05	00	C8	D0	20	58	98	00	04	A0	40	D0	A0	
8036	50	00	02	40	80	00	00	00	00	00	02	40	80	80	80	40	00	
8048	02	80	40	40	40	80	00	04	00	00	00	90	60	90	00	05	00	
805A	20	20	F8	20	20	00	02	00	00	00	00	40	40	80	04	00	00	
806C	F0	00	00	00	02	00	00	00	00	C0	C0	00	04	00	10	20	40	80
807E	00	00	04	60	90	D0	B0	90	60	00	03	40	C0	40	40	E0	00	
8090	04	60	90	10	60	80	F0	00	04	60	90	20	10	90	60	00	04	10
80A2	30	50	90	F8	10	00	04	F0	80	E0	10	90	60	00	04	60	80	E0
80B4	90	90	60	00	04	F0	10	20	40	40	40	00	04	60	90	60	90	90
80C6	60	00	04	60	90	90	70	10	60	00	01	00	00	00	80	00	80	00
80D8	02	00	00	00	40	00	40	80	03	00	20	40	80	40	20	00	04	00
80EA	00	F0	00	F0	00	00	03	00	80	40	20	40	80	00	03	40	A0	20
80FC	40	00	40	00	06	78	94	AC	9C	80	78	00	04	60	90	90	F0	90
810E	90	00	04	E0	90	E0	90	90	E0	00	04	60	90	80	80	90	60	00
8120	04	E0	90	90	90	90	E0	00	03	E0	80	C0	80	80	E0	00	03	E0
8132	80	C0	80	80	80	00	04	60	90	80	B0	90	70	00	04	90	90	F0
8144	90	90	90	00	03	E0	40	40	40	40	E0	00	04	10	10	10	10	90
8156	60	00	04	90	A0	C0	C0	A0	90	00	03	80	80	80	80	80	E0	00
8168	05	88	D8	A8	88	88	88	00	04	90	D0	D0	B0	B0	90	00	04	60

[illegible]

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```
10 REM SLICE3 reconfigures TASWORD t
ext files (.OBJ extent) for prportional
printing John Marriott 6/2003
20 CLS: CLEAR &8000: POKE&8000,0: POKE&
A000,&21,&00,&80,&11,&01,&80,&01,&00,&19
,&ED,&B0,&C9
30 CALL &A000
40 DIR: PRINT: PRINT "WHAT <TXT.> FILE
TO LOAD? E.G. MYTXT.OBJ": INPUT A$
45 IF RIGHT$(A$,1)<>"J" THEN A$=A$+"
.OBJ"
50 LOAD A$
60 A$=LEFT$(A$, (LEN(A$))-7): N=0
70 W$="0213555422245242443444444412
34336444433443443544444443445334342344444
4434413315344434333534441"
75 T=0: FOR L=1 TO LEN(W$): Q=VAL(MID$(
W$,L,1)): T=T+Q: NEXT: IF T<>328 THEN CLS:
PRINT "W$ TOTAL ERROR!": STOP
80 T=&8000: M=&8800
90 CLS: PRINT@5,5;"SLICING TEXTFILE A
T
WAIT!"
100 A=PEEK(T): PRINT@25,5; HEX$(T,4)
110 IF A=&40 THEN POKE M,A: GOTO 210
120 B=VAL(MID$(W$, (A-30),1)): N=N+B
130 IF N>255 THEN 170
140 N=N+1: IF N>255 THEN 170
150 POKE M,A
160 T=T+1: M=M+1: GOTO 100
170 T=T-1: M=M-1
180 A=PEEK(T): IF A<>32 THEN 170
190 POKE M,&D: N=0: GOTO 160
200 GOTO 160
210 LOAD "PROCHAR.OBJ"
220 SAVE A$+"SLI.OBJ",&8000,M: SAVE A$
+"PRN.OBJ",&8800,M: REM end of <SLICE>
230 REM lines 75 & 230 can be deleted
if line 70 W$ has run without error
```



```

10 CLS:REM SCNLOAD3 John Marriot
20 CLEAR &8000:DIR:PRINT
30 PRINT "WHAT SCREEN FILE TO LOAD E
.G. MYSCN.OBJ":INPUT A$

```

```

35 IF RIGHT$(A$,1)<>"J" THEN A$=A$+
.OBJ"

```

```

40 POKE&8000,0:POKE&A000,33,0,128,17
,1,128,1,0,25,237,176,201

```

```

50 CALL &A000:LOAD A$

```

```

60 POKE&A000,62,0,211,9,62,64,211,9,
33,255,127,1,255,255,35,3,120,31,31,31,2
54,3,200,126,211,8,195,14,160

```

```

70 CALL &A000

```

```

80 PRINT@9,22;"<Q> TO QUIT <R> TO RU

```

N"

```

90 A$=INCH$:IF A$="" THEN 90

```

```

100 IF A$="R" THEN RUN

```

```

110 IF A$<>"Q" THEN 90

```

```

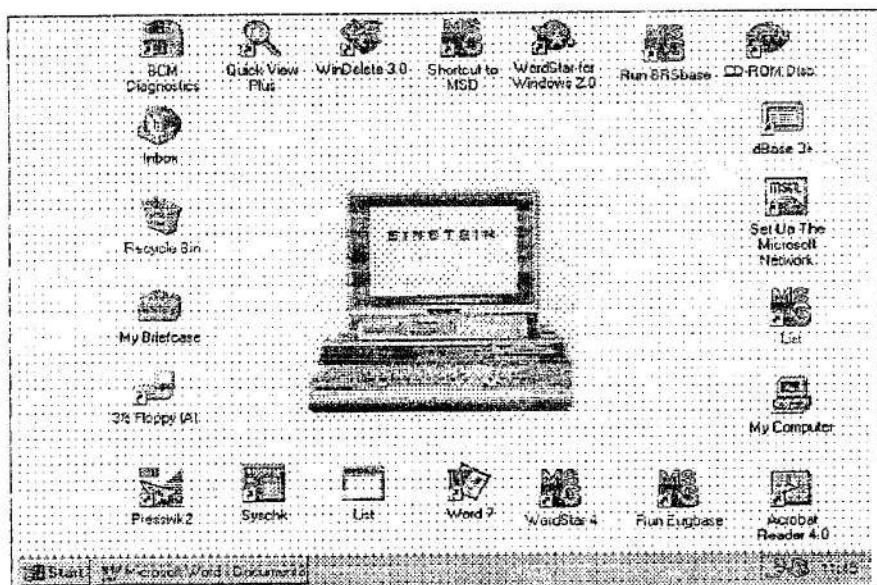
120 CALL 0:REM end of SCNLOAD.XBS

```

```

35 IF RIGHT$(A$,1)<>"J" THEN A$=A$+".OBJ"

```



So you thought it couldn't be done? Well, that's an Einstein running the EM Windows 95 desktop!



Letter to Tony Adams



Is this a person you recognise?.

Reported seen in the Romney Marsh Area July 20th. 2003

Private publication

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Letter to Tony Adams



Re: Our visit to St. Mary's Bay 20/07/03

Hello Tony. It was good to see you in person after just reading your work printed in so many Einstein Magazines and on correspondence for so long.

I wish I had more time. It seemed no time at all before I was being called upon to be carried off back home to Erith. For most of the time I was anxious that the kit I had scrimped together and brought down was still in working order. There wasn't enough time to reflect and chat about the future of EM or for general "cabbages and kings" conversation.

I trust I was able to cover the essential basics of the PCs and peripherals brought and you can put them to use.

As you see I'm using the booklet format of Serif Page Plus 5 to correspond with. With most of my Einy related work having been Web based for so long I need to return to using the hard copy techniques I seem to have forgotten. "CutePDF Printer" and its ability to create files that can be downloaded and printed out as a hard copy booklet means the "Tatung Einstein Site" can have techy type manuals for download (i.e: all those machine code calls sent to me by John Marriott). There is also the "EM" for download consideration.

On Monday 21st. July I arose out of my bed to find my studio flat strangely spacious. I also found that there was nothing I had to do as of then. Assembling and installing the PC kit for EM had been structuring my life for some time. Feels a little uncomfortable now. I'll have to start all over. Well something to keep the screw driver working as well as the PC keyboard.

This booklet. I'm using the rest of the pages to jot down some of the things that I missed saying to you when at St. Mary's Bay and of things we may of discussed had I more time.



Re: Einstein Magazine for Download.

I intentionally suppress my enthusiasm for this. PDF files are available for download and for printing out but these are mainly instructional manual type information probably intended primarily for a CD-ROM. A few sites for different kinds of associations have A5 information booklets in PDF format available.

I haven't come across any site having a hard copy magazine for download. As far as I can see the concept for this has not entered the popular conscience. In doing this we would be making statement "That there is text and pictorial content not suited to the monitor screen and which is meant to be read from the paper page". The assumption for most is that the electronic media will master all. For others that the electronic media can't but there is no notion with these sceptics that the electronic media can be there as the paper boy.

The booklet format created in a ".pdf" file does not make easy reading from the screen. The double page spread displayed requires scanning through the physical pages of Acrobat Reader to see the logical pages of the publication in numerical order. This forces the end user to print out the hard copy for printing. A 24 page A5 booklet requires only 6 sheets of A4 paper and 12 printouts. This should be no great hardship.

A separate single page copy and/or a double page spread with pages in numerical order could be provided for those who want to read from the monitor screen, but should we do this? If a hard copy magazine is made available for download then shouldn't we let it be as a hard copy that the end user has to print out?

With the present hard copy circulation of EM you know who the readers are by the subscriber list. For a propriety magazine sold at news agents some idea of the readership can be found by a geographic sales breakdown. I believe there is a download counter that can be used on a web site that would give a number for downloads but there would be no idea of who the readers were.

Looking at things from a different angle with "CutePDF Printer", "Acrobat Reader" and e-mailed attachment ".pdf" files. Does this mean you could use the church copy printer for publishing other peoples magazines? Could this create a revival for the small community printer?

The resignation of Bob Deeley as Editor after assembling EM.107 created rather a problem. For me. As well as there being nothing on hand for EM108, I had no way of creating a typographically acceptable master copy. These problems were resolved by using the scanner in the public library to put hardcopy correspondence between John Marriott and myself - about his offer to provide a modern Windows computer to replace the ancient Amstrad PC that won't run in cold weather - onto 3½" disks as plain text files, and then Word for Windows on John's "new" computer to format this text in 8-point Arial as a series of A5 master pages for EM 108.

John and a few others then provided a lot of very useful hardcopy input, which was processed in the same way to produce the master copy for EM 109, and which will form some of the pages of this issue. Others will be reproduced directly from A5 ink-on-paper hardcopy input - for this issue only - to reduce time, effort, delay and unrectified scanning/OCR-ing errors.

Meanwhile, as noted in the last issue, Chris Coxall is running an Einey website and is very keen for EM/EUG to get online and not be stuck in the stone age of computing, and offered to supply a good Pentium computer, plus a 486 equipped to read and write Einstein disks. As you will have seen in the last few pages, Chris brought this all down from Erith (on the south bank of the Thames, not far from Gravesend), before he was really quite ready, so we actually got three modern computers instead of two. One is ready and raring to go straight away, but a fair bit of setting up and fine tuning will be needed before they are all systems go. Hopefully all this "new" kit will form the basis of two geographically separate systems running in parallel, so I will have online access at all times whether I'm working onsite in Sussex during the week, or back at base in Kent at weekends, thus avoiding the fatal problems which can all too easily occur if the data on your only system is irretrievably lost by reason of fire, theft, flood or mechanical failure.

Once it is all up and running smoothly, EM should be available to read/download online as well as in traditional format. Chris thinks that an online subscriber list is needed, and I've suggested that this might be done by limiting downloads to those who key in a password, which is freely available to online people who register as Einey Online Supporters by giving their email address. This will enable us to send them an email advice when a new issue is on the website, ready to download. Without the password they'd be limited to an interactive contents page, with links to a brief synopsis of each article, but with no access to the full text file to download it.

What has only just occurred to me - **ARE YOU PAYING ATTENTION, CHRIS?** - is that a significant number of people who access the site may be public library or other computer users who have internet access, but who do not have an email address. The interactive EM contents page would thus need to give clear instructions on the procedure for unlocking the password to the download file and receiving advice of further issues as they are put online by registering an email address, together with advice to those without an email address on how to get a sample printed copy in return for an unused 2nd class stamp and their address to HQ

Chris has found a utility program which prints the output from a desktop publishing program to a disk file in *.pdf (Adobe portable document file) format - which internet files are usually stored in - and Adobe Acrobat reader is free to download to read or print them. As a check that this is working OK, Chris has sorted out how to use it to print the master copy of EM through Adobe, so we'll know that there shouldn't be any problem for Einey Online Supporters. This additional publishing facility for EM will combine electronic publishing of the contents page with electronic distribution of the full magazine text, thus avoiding the high cost of producing/distributing EM as hardcopy, which make it necessary to ask non-internet readers for a membership subscription.

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One problem which faces me in putting this issue of EM together ready to print, is that as a result of two generations of younger females coming from Manchester to play beside the seaside - or in it, as the case may be - in the hot weather that we tend to get in August, and the fact that my motor van is playing up in just about every way it can think of and generally getting more and more unreliable and bloody-minded, I am now stuck on Rumbly Marsh for the next two weeks. While it makes a nice change to have some free time to play in the sun at the seaside, and while it enables me to put your favourite magazine together - at the cost of getting the end of my right middle finger worn down to a stump - I'm The Fastest One-Finger Typist In The West! - it delays the setting up of the new computer kit by a fortnight, as it's all now onsite at the cottage which I'm trying to get rebuilt and habitable again before the onset of Winter.

Another onsite problem is that even in August the water in the foundation trench rises up to ground level and gushes out of the water meter box in a raging torrent every time we get a shower of rain, because the ground is clay with an impervious thick layer of hard rock not far below it. This has necessitated a very expensive visit to the nearest branch of The World of Water to buy a giant pond pump - the smallest one they have which is fitted with an autoswitch, so that it doesn't burn out its bearings by keeping on running when it's pumped all the water out.

I must also decide whether to print out the master copy of EM110 on a 24-pin dot-matrix printer with a worn-out ribbon, or wait a month or more until I can trek the master file on disk to the next county, get the new kit fine-tuned, & print it out on one of the two lazer printers which Chris has provided. Like photocopiers, these are slower and more expensive to run - due to the cost of the toner and the fact that lazer printers melt and fuse the toner onto the paper - than the printing machine which we normally use - this is a space-age automated version of the stencil duplicator and scanner/cutter - but they will provide a back-up printing system in case of need.

An unexpected but very welcome recent surprise response to Chris Coxall's website has been an e-mail from Trevor Brownen. "From who", you ask? Well, as you know, Xtal Research provided the native operating system and BASIC (and various other bits of software) for the Einstein, plus later upgrades, on the basis of experience which they'd gained in porting CP/M 2.2 and their own version of BASIC onto earlier Z80 8-bit machines. So far as I know these were all bolt-on extras for other Z80 machines, and only came as standard on the Einstein.

Xtal had difficulties with Tatung, who apparently thought they'd bought the rights to the Einstein version of XtalDos outright, and they then became understandably sensitive on the subject of their intellectual property rights. Unfortunately they vanished without trace from their old trading address and B&H Computers managed to lose the services of the only employee who knew how to find any of their Einstein stock or how to make good working copies of Einey software, so for a very long time it's been virtually impossible to obtain any legitimate Xtal Dos or BASIC upgrades. What has now happened is that Trevor Brownen found Chris' Einstein website and e-mailed him, saying "Hi!, I'm the retired Managing Director of Xtal Research, and co-designer of the Einstein computer." Apparently he had to retire due to ill health and mobility problems. As I understand it, he lives upstairs and the Xtal Research lab is in his cellar, just as it was left on the day that he gave up and retired due to ill health, but he's offered to get all the old Einstein disks and data up to his living quarters and check them out, & put all the useful stuff up on his website so that anyone who can access it will be able to download it and use it to make their Einsteins hum happily - and presumably other computers that Xtal supplied software for too.

Einsteins can't access internet websites directly - unless you know better? - but Chris has now established a simple and easy way of downloading to a PC and then onto Einey disk, so once Trevor has got some software and data ready to download we'll check with him that it's OK to distribute it to those of you with no internet access, and keep you informed of what's available.

Well, it's really more to do with Tony's "Ramblings and Rumbblings" page in EM105, and a little bit of pontificating - which I'm very good at! - on my part regarding EM's contents. Editors can only select material for publication from what is submitted to them, and while they try to provide an unbiased spread they will almost inevitably tend to be biased towards their own leaning.

Our late (and great) Ted Cawkwell was a Technophile, whether in programming or hardware - and it was the contents of EM during his editorship which helped hold my interest to the Einstein User Group, the quality of its publication (thanks to Tony), and for a "fanzine" - its reasonably regular publication... ..and if you want to give a hollow laugh there, go right back to the beginnings of the EUG, when Tatung were publishing The Einstein User, then B&H, with masses of user input, yet despite good financial backing, advertising revenue, bags of staff, they failed miserably, repeatedly miserably, to publish on time - hence the rapid proliferation of local User Groups with their own monthly Roneo'd A4 newsletters, which focused the Einstein users away from the core point - and no Commercial undertaking does "owt for nowt" - the rest is History.

Now, when the sad need for a replacement Editor for Bob Deeley came up I tentatively put my name forward, but in my heart because of the workload I was under, pending retirement, personal Family bereavements in the offing, hoped that Tony would find somebody else (I guess that Tony read between the lines and made what I felt was a good choice, I still do). Bob, like umpteen Editors through History suffered a dearth of feedback, material, "Hello there, Bob...", so he had to spread rather thinly the material he inherited, what little (in ANY format) EM Readers have sent in - and most importantly (ignoring any Editorial learning curve), he had to go out to work - of a type which ain't a 9 'til 5 job, as well as maintain a Family Relationship.

Nearly finished with my pontificating - some of you who have (or have had) a "travelling job" will understand that "Family Relationship" comment, but if you haven't experienced the difficulties it causes for yourself, it won't ring a bell with you in a Thousand Years. So I won't try to expound on it any further, other than to say that if I had to make the choice between my Family and EM there'd be no contest - so why should Bob feel any different? Come to that, why should Tony?

ED: Cos I'm totally selfish and self-centred, and I never do anything at all unless I get pleasure out of it, that's why. Also cos I'm cursed awkward and I never take any notice of any advice that anyone else ever gives me - I always think that I know better than everyone else!

And now for something different - but yes - Bekonscot revisited, in the sense that like most boys I idolised Steam Trains, their raw energy, their smell, their grit, their grime - and like most boys I had my own "0" gauge wind-up clockwork Hornby train set - designed by Adults, for Adults - but under the pretence that the toy was for the child! It didn't take me long to cast envious eyes on the Hornby Dublo electric train sets - but I just hated their ghastly pressed tinplate 3-rail track, for wasn't it obvious to "Them" that steam trains didn't run on that type of track? Trix trains twigged on and produced their TRIX-TWIN trains - but their engines and rolling stock weren't nearly as good as the Hornby ones - well not to my youthful eyes, anyway.

Yes, living in London (North One, just off the City) I quite naturally became a "train anorak" but I quickly progressed to "enginemen spotting". This quickly got me invited onto the footplate, and to being allowed to stay on the footplate during minor shunting operations - and I quickly realised that my basic electric train sets (still "sets", just plain oval loops of track - with no points, not yet!) had one really major fault - inertia, or rather the complete lack of it!

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The simplest way to describe the action of "mechanical" steam is to think of blowing up a balloon. You have to put a lot of energy in before anything happens - but having done so you can easily control the release of that energy. But if you crank the steam valve fully open and set the cut-off valve wrongly on the cylinder, the piston will get to the end of the cylinder and try to go out the end! What amazes me is how the running gear manages to survive with so much mechanical hammering.

ED: *You're certainly likely to bust something if you set off in full gear with cold cylinders when you've not got the cylinder cocks open to let the condensed steam escape - or automatic valves to do the same thing on a very few engines - because steam is compressible, but water isn't - but the cut-off valve only controls the point in the cylinder stroke where the live steam is cut off and additional power is then generated by expansion of the steam that's already in the cylinder. That's why you start off under load in full cut-off, and then gradually ease it back towards mid-gear as you get running well and approach line speed. Some engines have valve settings which give better results by staying in full cut-off and easing back on the regulator instead (John refers to the regulator as the steam valve.) The mechanical hammering is mainly due to other causes entirely - usually bad design or poor maintenance - and is often most pronounced when the motion is running slack rather than under load.*

Sorry, I've drifted away from my point... ...you've got 100 tons of mass to move - it takes time to overcome inertia and get it rolling, just as it takes time to absorb the kinetic energy you've put into it and get it stopped again. Scale that 100 tons down to "00" gauge, and there were no "controls" around then which could mimic that "inertia" - and I "knew" that the thing spoiling my enjoyment of my train set was that. By now it was becoming a "train layout" as Hornby had converted to 2-rail operation and plastic instead of printed tinplate, with more detailed parts - but still Trix beat them, while "the British Empire on which the sun never sets" attitudes ensured that companies like Hornby and Meccano inevitably lost their share of the world's Marketplace.

I can't remember when a Company called Peco came on the scene, but their "trackside" models added yet more authenticity to my layout, with me using Art Classes at School to make my own trackside buildings, stations, bridges and tunnels, plus my Art Master showing me how to make trees and bushes out of sponges - it was so simple and obvious, now that I'd been shown! The same with "ballast", using silver sand - even more obvious - and some dirty sump oil to "colour" the coaling area - and all for pence, instead of paying pounds for commercial kit.

But still that inertia problem - if you tried to mimic it by keeping the speed controller at a low setting (and not knowing Ohm's Law!) you were rewarded with damaged motors and the smell of what in later employment I came to understand as "the smell of overtime.... got to keep the factory production line rolling!". Even manual "pulsing" of the speed controller caused problems, as I was still not aware of $P=I.V$ being derived from $V=I.R$ with its attendant problems.

It may look fun, and initially it is, but accidental or induced crashes - even in "00" gauge - cause serious damage. By now my layout was 2 large oval loops interlaced with a third, plus level crossings, sidings, junctions, crossovers and what have you - so crashes became much more frequent as I ran 2 expresses, 3 local "coffee pot" steamers and a saddle tank shunter - and whilst I didn't realise it, I was learning "Truth Tables" the hard way - utilising more and more government-surplus Post Office relays and a wiring harness which I swear glowed in the dark!

By now I was living out of London, just past Loughton on the Central Line. Now, whilst this was an Underground Tube Train service in London, out in Essex it ran above ground. The electrification finished at Loughton and the service onward was served by a "coffee pot"

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steamer - but it was at Bethnal Green where my usual "curiosity" found me watching an Engineer carrying out a logbook check of their automatic signalling room - and my Good Fortune that he was also a "00" gauge Fanatic - except that his layout was of the London Tramway System (yes, and my bike wheels did have a fatal fascination for dropping into the grooved rails - usually as we were going in different directions - so that I nose-dived onto the granite-cum tar block/grit roads, which were well covered in those days with horse dung - more yuk!) and of course there was the unique Kingsway tunnel which led down to the Thames Embankment - with its odd underground stops where you had to get on and off through the driver's end of the tram, as they had a central island "platform". And the fat inspector flagging trams in at the Embankment end when the previous tram had cleared the first track section.

Like most Quango Employees he'd found a "vacant" store on - or should I say "down in"? - the Station, and had his model fully operational and up and running - so I started picking his brains - and yes, why is everything so obvious AFTER you've been told? Whilst I'd read about "block signalling" in my Uncle John's Railway Books when I stayed at my Grandad's in Sutton-in-Ashfield, I'd not done that "sideways" thinking in relation to using it on my layout, of electrically isolating the "serial" rails as was now normal in the "parallel" rails - so bloody obvious!

Time passed, and I was now training at an Engineering Conglomerate cum Manufacturers. While I was aware of the Jacquard Loom control system of punch cards on a loop, I was rather surprised to see a similar system in the Lathe Shop during my "week in every department" induction. Yes, and in retrospect it was hardly surprising - for the "train sets" of those days were the equivalent of today's "home computers" - that one of the "machine minders" had a train layout across the road in the Works Canteen, courtesy of The Management - they used it as a training aid - with what today we know as "Logic Gates", so both sides benefited. The "time table" he was running with a punch card system had a "designed in" random factor (to overcome the boring effect of watching a clockwork train going dementedly round and round an oval! loop) which every so often would create a crash of some major magnitude - big time.

By now I was beginning to rely more and more on this "sideways thinking", when during a quiet period in my "costing and accountancy" training I was "asked" to have a look at his punch card program (that last word is used in hindsight!). If I try to explain/describe his "pick up" signal system, think of a computer printer which is normally set to take fanfold paper, say a 50 sheet length joined as a loop, with punch holes/slots in "columns", a series of safety pins on an insulated bar fixed in such a way that the rounded end of the safety pin is rubbing against the paper, when it "meets" a hole/slot it can then "drop through" onto the platen (roller) which was of turned brass with a spring tab linked to a rather heavy 12VDC supply - those who've seen the Piano-roll players, Jacquard cards and later Hollerith punch card readers will instantly comprehend what'll happen - but in essence he'd created a multitude of simple switches so as to create his "Truth Table" Gates for onward transmission of "electronic signals" ...

...and to this day I am at a loss to understand how an illiterate East End London lad who'd had less schooling than me (you could and did leave school at 14 then!) could have created such an elaborate switch centre which only crashed, say, on one day in ten's running!

I've already given a clue, that of fan-fold - for part of his "random factor" was for an eccentric cam system to move the paper guides sideways. This meant his "loop" wasn't, say, a 50 sheet length - but almost infinity! I can only reiterate my previous paragraph regarding his skill - I can only think it must have contained a lot of trial and error coupled with great intuitive knowledge. I know I should take this moment to crow, proudly boast of how I "debugged his program" - but in truth, all I suggested was for the "paper loop" to be shellacked and a compression roller to "pinch" that loop adjacent to the safety pin "pick ups" - purely a mechanical/ material problem.

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Naturally I tried to incorporate some of his ideas into my layout too, and realised that of the two of us, I was the illiterate, the thick-o ... and contrary to what you might think, I had a word with the Managing Director (now, that's another long story about a 17 year old trainee and his habit of pinching the MD's cigarettes, but...) the upshot was that the Company financed this lad to Technical College, and on to where I know not, as not long after that I went into the R A F.

Now, there ain't much chance of keeping train layouts going under such circumstances and somehow in the Family's move to Devon my layout went "walk about" - but like all "unfortunate" incidents the clouds did have a silver lining, for the Council House swap Mum had done had a magnificent open roof space - you know, one of those roofs with a 60 degree pitch, not like today's 40 or 35 degree pitch filled with the modern truss design. My "train spotting" days never came to anything from then on, as I thought the Southern Region "Merchant Navy" Class engines rather pathetic and the "Great Western" Region engines and livery were going to pot - even some soulless diesels coming in - and I suppose it was also the memories I had of lying in bed when I stayed with my Nan at Hucknall, listening to the really heavy LMS engines, the more greyhound LNER ones, the local colliery shunters and the constant buffer clanging in the marshalling yards - what heaven for a young lad drifting off to sleep with two adjacent, competitive main lines literally by my Nan's front door - wow!

So - why not build a fully automated marshalling yard, program run by punch card operation? Over the next 2 years I struggled - and how. By luck, just "down the road" at Seaton was an "00" gauge manufacturer, so points, signals, relays, even really good helpful advice saved a lot of money, time and pain - but I still struggled, until I realised "...what the hell, what's the point of having something which'll run on its own, doesn't matter if you're there - and once you've seen it do the same thing, 100% the same thing, over and over again - let's go and watch paint dry?

In a way I wonder where that young, illiterate lad with an intuitive capability landed up - early programming of aircraft systems, banking, commerce - all I know is the simple fact that I never managed to completely "debug" my 3'X6' junction shunting yard, mainly through self-anger as I punched a wrong hole - usually on a near completed card - and Mum didn't take very kindly to her small brass safety pins vanishing into thin air...

...and of course, I bought a motorbike and started as a trainee wireman with Redifusion in Exeter, part of their system if you wanted to become one of their field/workshop TV Engineers. And yes, I'd already discovered the "femme fatal", but now, as then, they still scare me witless!

Well, glossing over the intermediate years and with "Dame Fortune" smiling in a rather cynical way, I found myself employed as a Chargehand Grade Industrial Civil Servant (not Industrious!) and as an Engineering Plant Operator would/could "look after" a steam boiler! How the Wheel of Life turns, where one misfortune can suddenly become good fortune. Now, to those that walk by steam engines gently idling, breathing, pulsating vibrant energy and think of dirt, noise, useless, archaic - you will never understand in a thousand years - for here I had an old, rivet-plated vertical steam boiler which had been "Insurance" down-rated to 50 psi, taken from a decommissioned tug used by the Navy at Plymouth - somewhere in the region of 15% efficient.

...it was designed for raising steam quickly - you could "boot" it full flame from cold - and that means the coldness of metal and cold water-cold, and whilst it would creak and protest, "boot" it full flame. Naturally, it was lagged in asbestos, as was the rest of the pipework it fed - regularly damaged in the storage shed areas by careless forklift truck drivers - my Tech Officer had an "asbestos safety log" from which he regularly blew asbestos dust off when he did his periodic "all okay, signed" ritual - probably the same as they did in the Railway Engine sheds and workshops? ED: "asbestos safety logs in engine sheds? You must be joking!

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A bit more digression - but being introduced" to this "Magnificent Lady", I walked all round her, climbed her gantry - smelled her, that strange "off flame" simmering sound that steam boilers have. ...magic, 100% plus magic ...and I went through the "blow down" procedure as though I'd been doing it forever, my "so called" fellow Chargehand/trainer mouth and eyes open wide. ...

...yes, some old engine driver had passed on some of his knowledge, the why, what and the wherefore - and it had stuck, it had made sense to me, because when you thought of it, it was logical. I could fill many more pages on how this Lovely Lady touched me, how she talked to me - and how she called out to me when she was troubled and in need of tender loving care.

Your modern tilt-trains, TVG's - just crap - metal tubes to carry people soullessly from A to B. Sample the North Somerset Railway, or closer to my home the Dart Valley Railway - they run commercially when the summer (and the Grockles and Gricers) are long gone - run mainly by volunteers, enthusiasts, retired Bank Managers acting as train cleaners, soot rakers, platform sweepers - just so long as they can feel, touch, remember the power and the days of steam.

Should you feel that the word "Einstein" can be substituted here and there - even "early 8-bit computers", then who am I to disagree. At this point I must say "...alas..." for the simple reason that I am a dyed-in-the-wool Technophile - even when I'm trying not to be! - for the simple reason that I was raised in an Industrial Society, encapsulated by an Industrial System, and in order to stay to the forefront of an earning capacity, I kept abreast - and in quite a few cases ahead of - where Technology was taking us, I kept on learning and gaining more knowledge, and best of all - by passing on my own knowledge and experience to others - I taught myself.

Perhaps at this point I should "do" the Ritual Thing of grovelling apologies and what have you - but why? Genetically Mother Nature has provided me with other qualities which I've played upon and enhanced - and in case any of you think that's been an easy path, then think again. ...

...and how many of you out there find those words can fit you exactly, but could yours be in music, art (as compared to my mechanical art), fictional writing with a twist - isn't the list endless, yet you don't seem to acknowledge the value of that worth. How about "Rejection"? If you knew how many of my "writings" (fiction, fact, technical) have been rejected, edited beyond recognition, asked for a re-write you'd wonder why I bother - yet that's how I learn.

If Bob does decide to chuck it - and I don't much fancy that hot seat myself - the next Editor may not "appreciate" my form of offerings - so all I'll do is change my format until I find the chink in his (her?) armour and once again my fingers will be flying across my IBM keyboard... ..and if that isn't a hint for some of you out there to do the same, I don't know what is!

The Paperless Office

Tony Adams

Seen any sign of it yet? Computers seem to generate a sight more paper than ever before, not less. Think about the problems. Are you an author? Did you save your masterpieces onto a computer disk? How on earth are you ever going to retrieve them off the hard-sectored single-sided single-density 5 1/4" disks that your old computer used at that time? Or off those single-sided single-density 8" IBM-format disks? Even early CDs are now disintegrating. I found the answer - for the future anyway - in an article while I was looking through some back numbers of ComputerActive magazine the other day. "Back everything up onto your new QUILL PEN ON PARCHMENT drive", the article said. "You're very nearly right", I thought. The real answer is to go back to using keyboards with proper paper tape punches and readers, but using spools of parchment, not fragile short-life paper. Stored properly, parchment will last over 1000 years.

I am an ancient mariner. I long ago retired from the sea at a ripe old age, and I have only a few more years to go before I meet my maker, but I am hale, hearty, and still in good health. As I sit at my window this dark and stormy night, looking out over the ocean, I find myself reflecting that it was on just such a night as this that I first began my long career as a seafaring man.

The little ship left the safety of the harbour mouth on such a dark and stormy night, headed out across the heavy breakers of the bay, and faced into the mountainous seas of the open ocean as it rounded the headland. It was my first trip to sea as a new and green young cabin boy, and already I was beginning to regret my choice of career as the breaking seas pounded the deck.

The captain looked at me with understanding. "Take heart, lad," he said, "Tis no more than a gentle blow out at sea tonight, but you are not used to the sea yet, and you need something to take your mind off it. Just brew up a mug of cocoa for the three of us, and I'll get the mate to tell us a yarn while you begin to get your bearings and settle into your sea legs a bit."

Soon enough we were sat side by side on the bridge, the captain, the mate and me, and the mate began his yarn. "It was a dark and stormy night just like tonight", said the mate, "when I made my first trip as a seafaring man. I was a new and green young cabin boy, and even now I remember that as the little ship left the safety of the harbour mouth, headed out across the heavy breakers of the bay, it rounded the headland and faced into the mountainous seas of the open ocean as they pounded the deck. Already I was beginning to regret my choice of career.

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ED: If you know a better story, why isn't it printed here instead of this one?

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Einstein Magazine No.110 - Extra

via 12 Dunstall Close, St Mary's Bay, Romney Marsh, Kent. TN29 0QY

This insert is for late info which arrived as Einstein Magazine No.110 was about to be mailed out and far too late to include in it. However, we can't any longer rely on our local Post Office being open during normal opening hours since the postmaster retired last year and a new chap took over. He seems to think he's doing us a favour by being open. It is not unusual to find it closed instead of open, with a "Gone fishing - we'll be back later if we happen to feel like it", sort of notice posted up on the entrance door. As we couldn't post your favourite magazine out to you anyway, we've held it back while we printed this sheet. Now we have to open all the envelopes, insert this notice, then seal them all up again and post yours out to you.

STEVE POTTS has a copy of the Einstein software library on 3½" disks, which he takes round the computer shows with his TC01. He is still actively supporting Einstein users and can supply leads, disks, bits, odds and ends, etc., but has had little contact with other Einey users since Ted Cawkwell died. Well, Steve, we stopped advertising you as a source in EM because after you started with such enthusiasm and promises of sorting out and updating the software library and reviewing the content of it for EM, we got a few show reports from you, then a deathly hush - the same lack of contact from you that you complain of from others - so we didn't know if you were still active or if you'd had given up and dumped all your Einey kit in the wheelie bin! Your input to EM tailed off, the 3" software library master disk set you borrowed never came back, & we wondered if you had donated the whole lot to Rip Van Winkle! Anyway, it's good to know that you are still at 85 Thorold Ave, Cranwell Village, Sleaford, Lincs, NG34 8DS, phone 01400-261839, e-mail s.p.potts@worldonline.co.uk

Can you be more specific for EM.111 on what you can do for us, Steve? It would be nice to have an update report from you too, on what fascinating things you've been up to with your Einstein (and any other computers?) since we last heard from you. I think this must have been in EM.102.

Former Einstein User Group member ALAN TURNBULL has two Einstein colour monitors plus a lot of other computer stuff to clear, though most of it is Amstrad stuff. He's in the NE22 postcode area. Drop us a line to our HQ address - at the top of this sheet - if you're at all interested, and we'll try to find out more for you and let you know exactly what's available.

**As this is the Einstein Magazine,
how about writing an article on
unified string theory for EM 112?**