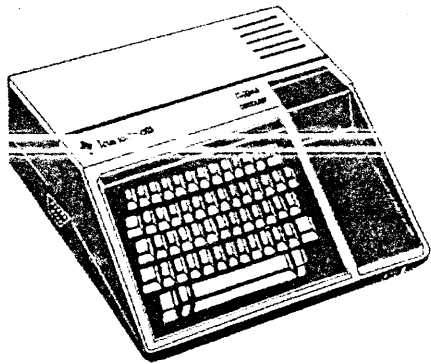


TI*MES

The 13th TI-Tref

U.K. 1998
International
TI-99/4A
Convention

Special Edition Issue



TI*MES Issue 61
Summer 1998

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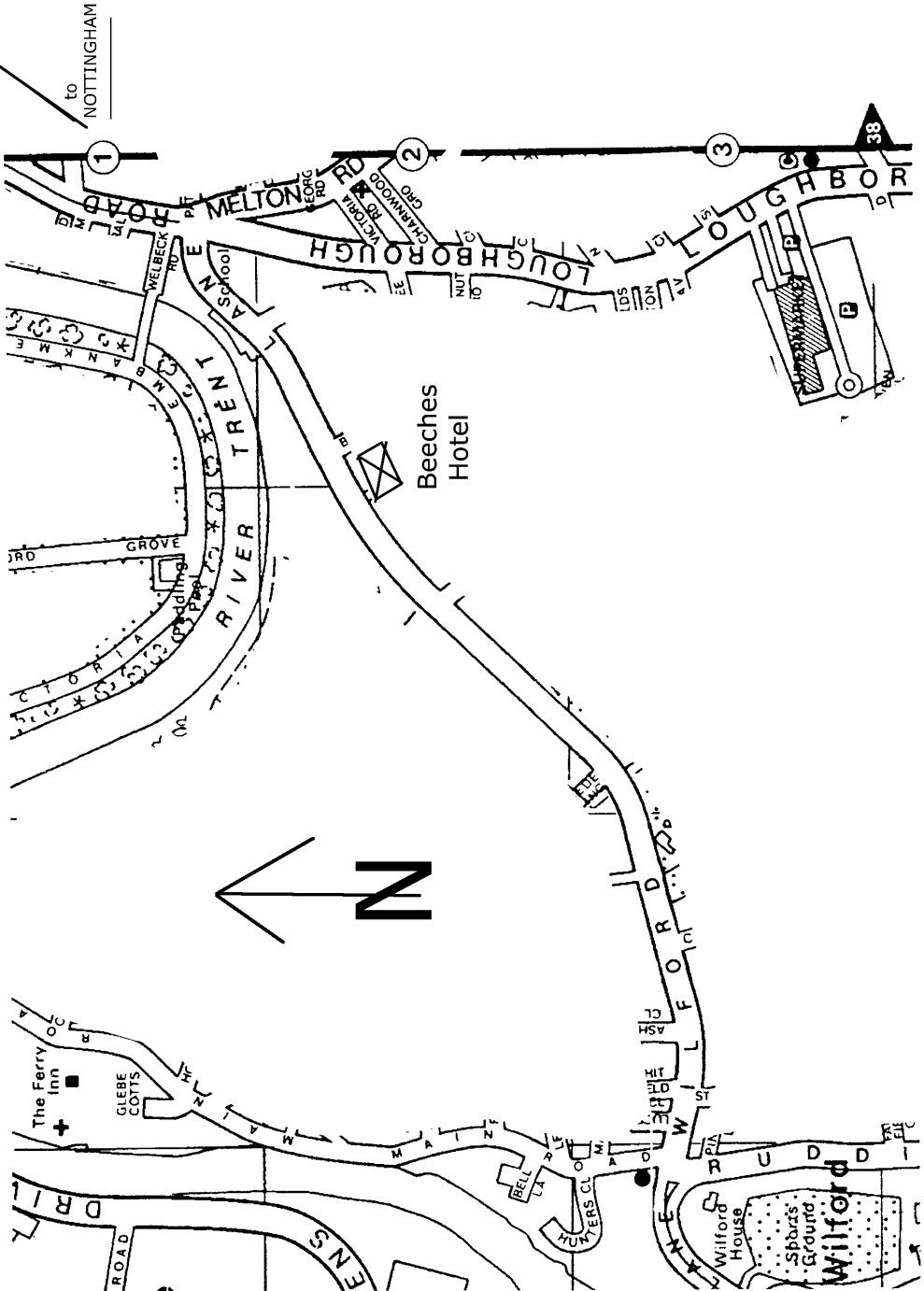
DISCLAIMER

The views expressed in this magazine are those of the individual authors, and not necessarily those of the editor or the group.

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to NOTTINGHAM





Dear Member!,

Well I hope you thought my efforts in producing the Spring newsletter were O.K. It was the first time I've used Microsoft Publisher so the results weren't 100%.

Richard Speed was right, publisher is a bit "Mickey Mouse" (to use his exact phrase) in how it works.

I did receive criticism for the long content of the issue, so this time, I'm going to virtually write bugger all!, as was agreed at the AGM, just to show up how little input we get for TI*MES from a majority of members.

I was VERY pleased with the turnout to the AGM, although Ian said it was better last year, but I'm sure there were more people there this year.

It would be nice if we can encourage more members to try and attend events, since we have around 70 members. We could show an excellent turnout then for the Tref in October. If you never ever attend another event in the history of TI User Group UK, then PLEASE attend this Autumn's Tref. Someone said that at the AGM, but I can't remember who, until I listen to the tape again when I start writing up the minutes.

Dave Scriver called me to apologize for not attending, but his father fell in the street whilst out shopping and broke his arm, so Dave needed to be there to help look after his mother.

My mum's also fell and broke her arm whilst on one of her rare

excursions out of the house and whilst visiting a garden center.

I'm sure I promised to write some sort of program to include in this issue, but I don't have time, since the deadline for the summer issue is officially the 1st of June, and we are going to start being more strict with these dates.

If we have little response from members, then there will be equally little for you to read in TI*MES! Good news is though that Mark Wills has promised another series of articles and will hopefully make a regular return to the magazine.

Well, here's the minutes of the meeting!

TI-99/4A User Group UK
Annual General Meeting 1998

Opening comments from Mr. Chairman.

Trevor thanked all those who attended the meeting, the turnout which I think was an improvement on last years AGM.

Trevor has been mainly dealing with the Bulletin Board, and keeping information on the board updated, such as the bulletin screen and the on-line newsletter.

He has given feedback to people who have made enquiries about the group, and also to people who want to sell their equipment. Trevor has put these people in contact with Ross Bennett.

The Bulletin Board has had to be changed from a Windows 95 version because it seemed to be hanging up for no reason and not responding to people when they dialled in, so now it is on a more stable DOS version. The board is on 24 hours a day, 365 days a year. Where Trevor is located in Rainworth, he's susceptible to

power cuts, and now that the BBS is a DOS version, it is run by a batch file, so that the PC boots straight into the BBS program. This means that it will automatically recover from a power cut. All the file areas are now sorted, and it's now just a matter of expansion and getting more files onto it.

Callers to the BBS on the day of the AGM would have been disappointed, because Trevor brought it with him so people at the meeting could sit down and access it directly from the PC keyboard.

Trevor is hoping that by the time you are reading this, that there is a 40-column mode introduction screen, and a set of full-user screens that are 40-columns wide, but he did say that he is very busy at the moment, and there could be delays in completing this, because it does take quite a lot of work. More work than people realize, and I know because I have helped Trevor to design screens for the BBS and designed the main menu that we used to use on S&T BBS and also the protocol screen.

Vice Chairman

It's also been a quiet year for Mark, but he has planned articles on machine code that you should be able to read in the next issue of TI*MES hopefully.

General Secretary.

Quiet year apart from helping out with the BBS and helping to organize the '98 Tref.

I've also been co-editing the magazine with Ian. At this point, Trevor asked Ian if he wanted to make any comments about the magazine...

Ian Pare, co-editor.

Regarding the magazine, we do need more feedback from members. It's the same people every quarter providing input to the magazine. Whether it's good or bad, whatever you've got to say about the magazine, we want to know what you think about it. He's heard people say "it's too big, it's too long", and the other point is the state of the membership. This surely should dictate the amount of effort that's put into the magazine. It does take a lot of effort to put together TI*MES, and it's disappointing some quarters to have no feedback on the magazine, and we're left wondering how many people actually read the newsletter, and wondering how many people the newsletter

goes out to.

We sit in an office typing it up and getting it all formatted, with all the best will in the world trying to get it out on time, and then two months goes by and it's time for the next issue to be produced with very little input from other people. The only way things are going to go is that TI*MES is going to get smaller, because people just don't want to hear about our views any more. You can only write so much from month to month yourself, or try and put in old magazine articles because people might be interested in them. We still need to make people try and help us by supplying articles for the magazine. At the end of the day we should be editors, not publishers.

I must thank Ian for saying that I'm not given enough credit for what I do in trying to pad out the magazine with big articles. Some people like to read it, and some people don't, but if they weren't in there every quarter, then TI*MES would only be around 20 pages long!!! We've got try and stimulate other people into writing for the magazine, and if nothing else, just telling us what they'd like to read in the magazine.

Ian did a very good job in producing the Christmas issue, and it was very well balanced.

Trevor then said that the strange thing is that the situation of feedback has always been very sparse. Things would be put into the magazine saying such as "Is anybody out there?!?!?", but there would be no response.

Ian said then that we were hoping for an article from John Murphy on his visit to Fest West '98 in Lubbock, Texas, and he asked John if he went to the States, to which John replied, "Yes!"

Ian said it would be nice to read what John's experiences of the show were like and what he thought of it.

John says he's halfway through writing the article, but he said that Richard Speed did a very nice printout in his interim newsletter on the subject of Fest West, but Trevor said that it would be nice to have an article from John so that we've got two different views of the event at Fest West.

Mr. Treasurer, much the same as everyone else, fairly quiet, things are ticking over. The decline in group funds has halted, but we are slowly moving downwards. The main cost last year was the PC for the BBS. He said we have got things just about settled now. The membership has settled now, and we have around 70 members, but Alan couldn't give an idea of the new membership figures now that everyone renews their membership in June.

Trevor wanted to push V9T9 to allow them to keep an interest in the group, whilst being able to run their TI software on a PC.

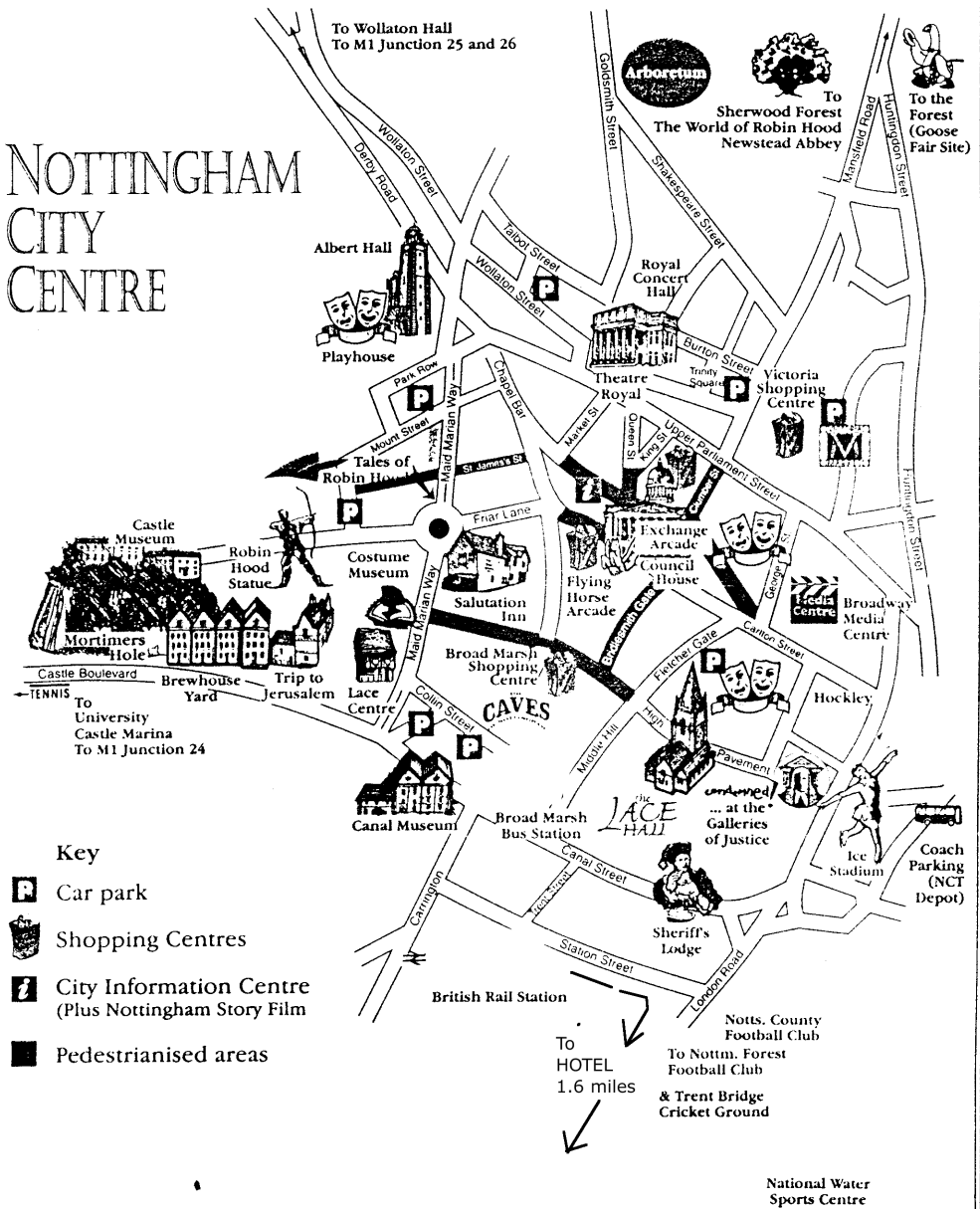
Trevor announced then that a member called David Griffiths in Wales has died, and Trevor has got to contact his wife about his equipment. The sympathy of all the group goes to Mr. Griffiths wife.

Francesco L. Lama, module librarian

Not really very much to report, although he has a very comprehensive list of the modules that he has available. He has had a request though from the same person for various types of modules, but very few other enquiries, but he has made some sales, but he has not made any major purchases.

Trevor then said that some cartridges has been donated to the group, along with other TI equipment, from a lady in Bedford who used to work for TI on their sales team actually selling the 4A, and she has some very rare cartridges that were intended never to be sold and were for demonstration purposes. There is also a very large collection of books, and Trevor is hoping to put some of these things on sale at the Tref, along with other things of Trevor's that he's hoping to clear out.

NOTTINGHAM CITY CENTRE



Re-elections.

After the group re-elections, the Chairman, Vice Chairman, General Secretary, Treasurer, Module & Cassette Librarian, etc. All stay the same.

Ian Pare is now relieved of editorship but he has agreed to produce the official web page for the group, and Mark Wills has agreed to produce some bogus adverts for MicroMart to help publicize the group.

Group Discussion

Ian Pare was the first person who wished to raise a point for discussion. He stated that last year we talked about someone being appointed for publicity, and that we used to have an advert in MicroMart.

However, since last year, Ian hasn't seen a single advert for the group in MicroMart, despite buying it every other week, and is opinion is that nothing is being done to advertise the group.

He doesn't know whether he's wrong or right, but he's certainly not seen any ads for the group anywhere.

If you buy Computer & Video Games magazine, or any other magazine that's been going years, they usually all have a "retro" computing section where people advertise their groups.

Ian said that he thought someone was elected last year to coordinate the groups publicity.

Trevor said it was John Murphy who was going to do it, but John said he'd been hijacked!

Trevor then asked if anyone would like to take on the responsibility of group publicity. Christine said "Ian" and then Ian said "well would anyone like to take on responsibility of editorship of the magazine then?"

Ross said that you need somebody who's buying all of these publications so that they can judge the best one to advertise in. Trevor said

that he does buy MicroMart now and again.

Ian said that he didn't mind at all handling publicity if he was relieved of co-editorship. Christine asked if it was necessary that the co-editors lived near each other, and I said it was because we can share the responsibility of producing the magazine, because I take over for the issues when Ian finds he is too busy with his business. I also need to print out the magazine at Ian's on his laser printer.

Trevor said that the job of publicity is not particularly demanding because the biggest task is actually composing the advert, and then it's just a matter of sending it to the relevant publications. Trevor then said that he's actually faxed Micromart with our advert, and they've not put it in. Ian then said that he's faxed them a couple of times, and they've sent a letter back saying that we are a non-profit making organization.

Trevor sent two faxes a couple of months ago, and he's never seen an advert actually printed. He said "they just don't want to play! They're after £120 at a time to print anything!"

Trevor asked if it would be better to advertise on the net, but I made the point of saying that on the net, you would only reach our page if you were searching for it. I then tried arguing that Internet Service Providers do provide completely free web space, but you have to include advertising for other companies on the page in order for it to pay for itself. You would then only have to pay for the price of the phone call when updating the page.

Ian said he didn't mind taking over the job of publicity if he was relieved from the responsibility of co-editorship. He's got plenty of server space on his internet accounts, and one of the things his company does is professionally design web pages!

Back to the point of people only accessing our page if they were searching for it, and Mark made the point that when he had a quick browse round the internet recently he instinctively typed TI-99/4A and it came back with loads of internet sites.

He said that when people who owned or might still own a 4A first get internet access, they might get the urge to do a search for TI-99/4A, and we might get quite a few people finding us that way.

Ian found the group via and advert in MicroMart, but no one can explain why they suddenly don't want to publish our advert. Ian had no idea that the group existed, despite living in Mansfield, ten minutes away from me, and ten minutes away from Trevor!

THEN, suddenly, a brilliant idea came from Derek Hayward. He said that we should put a bogus advert for TI hardware in MicroMart every week. That way we can get around paying because it's a private advert. Then Ross & Christine said they'd got an attic full of TI gear, and Mark said, just advertise anything for a ridiculous price in order to just get an advert printed, and then when they phone up ask them if they are interested in joining the user group. Ross then suggested that it might work the other way round by placing an advert for TI equipment wanted.

We did suggest during the meeting that Mark could handle the advertising in MicroMart, but thinking about it, it's probably easier if Ian handles this, because he does buy all the necessary publications, and he is also producing the web site.

I will speak to both Ian and Mark about it.

Mark said though that it is very worthwhile getting ourselves on the net, because it makes us easier to contact, and it makes it very easy for us to put our articles onto the net if we wanted to.

Mark also asked me if I wouldn't have to write so much for the magazine every month if I had more material, and I said yes, so Mark then tried to encourage more people to submit stuff for inclusion in TI*MES.

If more people submitted articles, and submitted them on time, then it would make editing a lot easier and would mean I could take sole responsibility for editing the magazine and leave Ian completely free to handle the web site.

It's down to everyone to help to make a contribution to TI*MES, and it's Mark's suggestion that I become sole editor.

This however means I won't be writing as much, and if the magazine gets thinner and thinner, then I'm not the one to come running too! It will be the fault of those who have submitted nothing to TI*MES.

If everyone only wrote half a page, it would fill the magazine every

quarter, and I'm sure everyone can write two sides of A4 a year!!!

Mark says it doesn't matter how trivial their submissions are, everything that they will write will be of interest to other members. After all we've got around 70 members and I personally have only seen around 15 or 20 of them.

Mark made the suggestion of a section in every issue of TI*MES devoted to information we've gathered from other TI Web sites. Not every member has got web access because they've only got TIs, and Trevor said that's why we set up the bulletin board.

Without too much effort it's easy to gather very worthwhile information from the net for inclusion in the magazine, and this should be of a lot of interest to our member who reads it.

There are web sites all over the world, but it's very difficult at the moment to access them with a standard TI, and this is why we set up the Bulletin Board.

Ross then suggested that we direct people to the bulletin board by having the details of it listed on the web page. Ross said the best person to handle each job is the person who's capable of doing it, so Ian is in an ideal position to create and maintain the web page.

Berry Harmsen said that it's quite easy to put internet information onto the BBS because the basis of the internet are just text files anyway. They do contain some graphics instructions to change fonts and colours and load pictures etc., but these can be easily edited out before putting the files on the BBS.

Trevor said he'd already got a load of files already down loaded to go in the next issue. These included an up-to-date list of every known TI cartridge, similar to the ones you will have seen in TI*MES a few issues ago.

Trevor said that we could also make use of articles out of MICROPENDIUM, because we have a newsletter exchange with them, but currently we don't know who is receiving them. I thought Trevor was still receiving them, but he said he passed it on to the editor, so it's very likely that Richard Speed still receives them. If so Richard, could you get MICROPENDIUM to direct 'em to us???

Ross made the point that if we send them our magazine, do we get a

mention in their magazine, and Derek Hayward who gets it regularly said that we always get a mention, and he made the point that in the latest issue there is a good write-up about the Tref which he let Trevor and I read when we visited his place on the 8th of June. Derek also said that my car registration N99 TEX also got a mention in there too! In fact, someone in the states had also sent in a picture of their number plate which was better than mine, because all it said was TI 99, with just the name of the state (which I think was Ohio) in small writing at the bottom of the plate. I'll have to take a photo of mine now that I've had some posh plates made up!

So after that little discussion, it was voted that Mark produce some bogus adverts for TI gear and submit them to magazines to publicize the group, Ian is in charge of the web page, and I'm sole editor of the magazine. Also, it's the responsibility of every member to submit some sort of written material to the magazine, because otherwise you will find a front cover, a back cover, and two very nice, but wasted staples!

Before Trevor moved on to the next subject that I announced that I'd been chatting with several people of the TI list server on the internet, and that I'd set up a newsletter exchange with the Huggers users group run by Dan Eicher in Indianapolis. I then showed two copies of their newsletter that Dan had kindly sent me. Luckily they arrived on the morning of the AGM which was perfect timing.

The next point was membership fees, but it was decided that the price if membership was currently OK, but Ross raised the point that he doesn't know which overseas members should be on surface mail, and which should be on air mail.

Christine said that there are 6 members in Europe, 4 in America, and 2 New Zealand. It was also decided that the current system of handling the membership is working OK.

Then there was a small discussion about the interim newsletters that Richard Speed produces, and Ross and Christine says Richard is still willing to produce them and all those attending said they liked the format of them and wanted them to continue.

Trevor however said that there was a duplication of information between the interim newsletter and TI*MES, but he's thinking about the last issue when I created an interim newsletter when TI*MES was delayed, and I included TI-Tref and AGM stuff which I then included in TI*MES, but it doesn't hurt to give people two reminders so they'll remember!!!

Ross says Richard is willing to carry on with the interim newsletter, but he would appreciate some feedback on what to include in them. Trevor said that listings were still a good idea to include in the interim newsletters. Derek suggested that Richard extracts information from the net and includes it in the interim newsletter.

Trevor said he was going to call Richard and discuss with him the interim newsletters, and I suggested that he asks him whether he does receive the groups copy of MICROPENDIUM or not. It was also suggested that money be given to Richard so that he could even contact other groups to gain information that he can then use in the interim newsletter, and also in the main TI*MES.

Ross suggested changing the format that a member receives information in, i.e., send them a disk rather than a magazine, and then he asked, do we know who in the group has got disks or hasn't got disks. Trevor said we used to know, until some kind person decided to trash all the information.

Alan Rutherford said he has still got all the information somewhere on what equipment each member has.

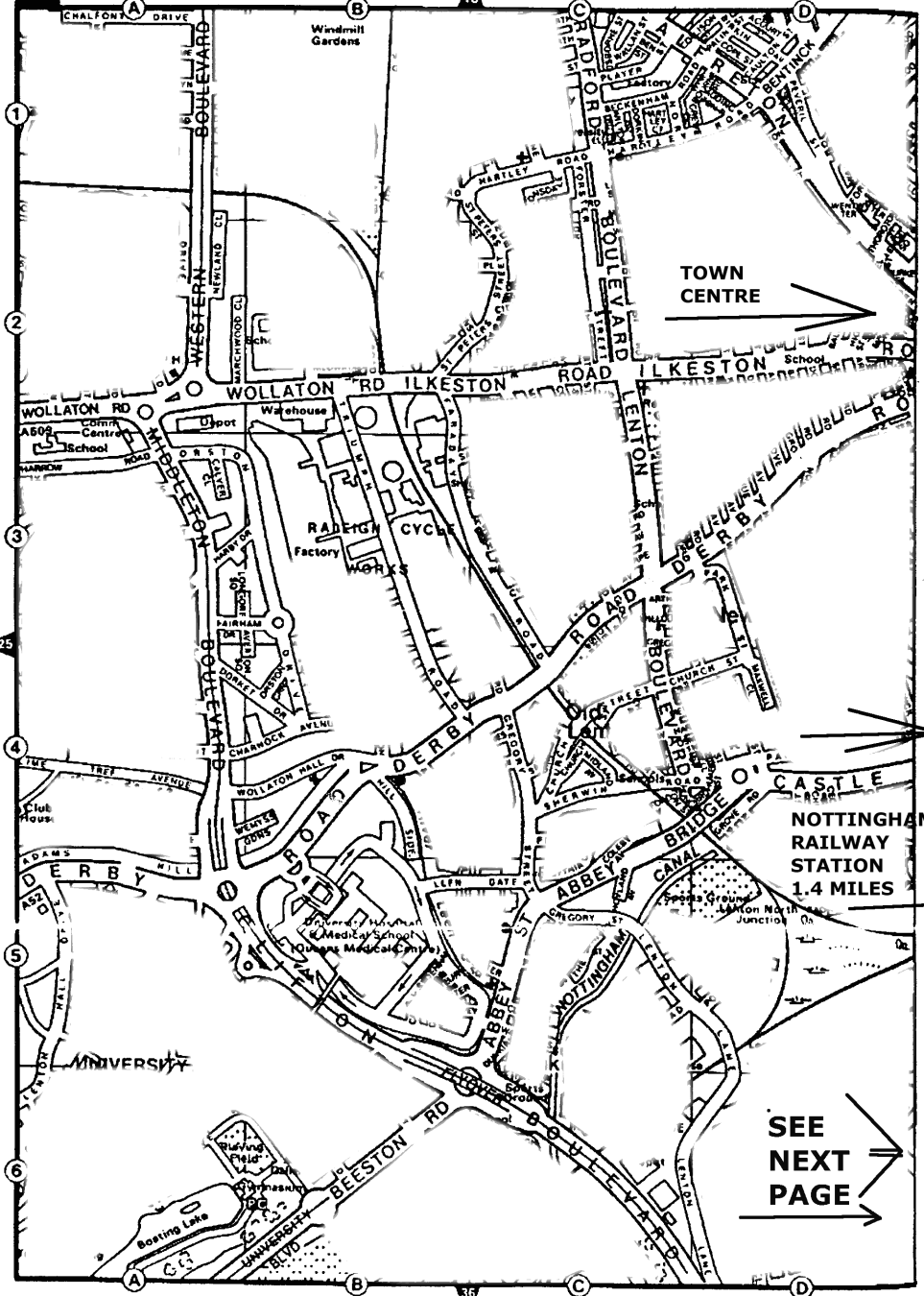
Ross made the original suggestion about what hardware people owned because he thought we could aim the content of the newsletter more closely at our readership.

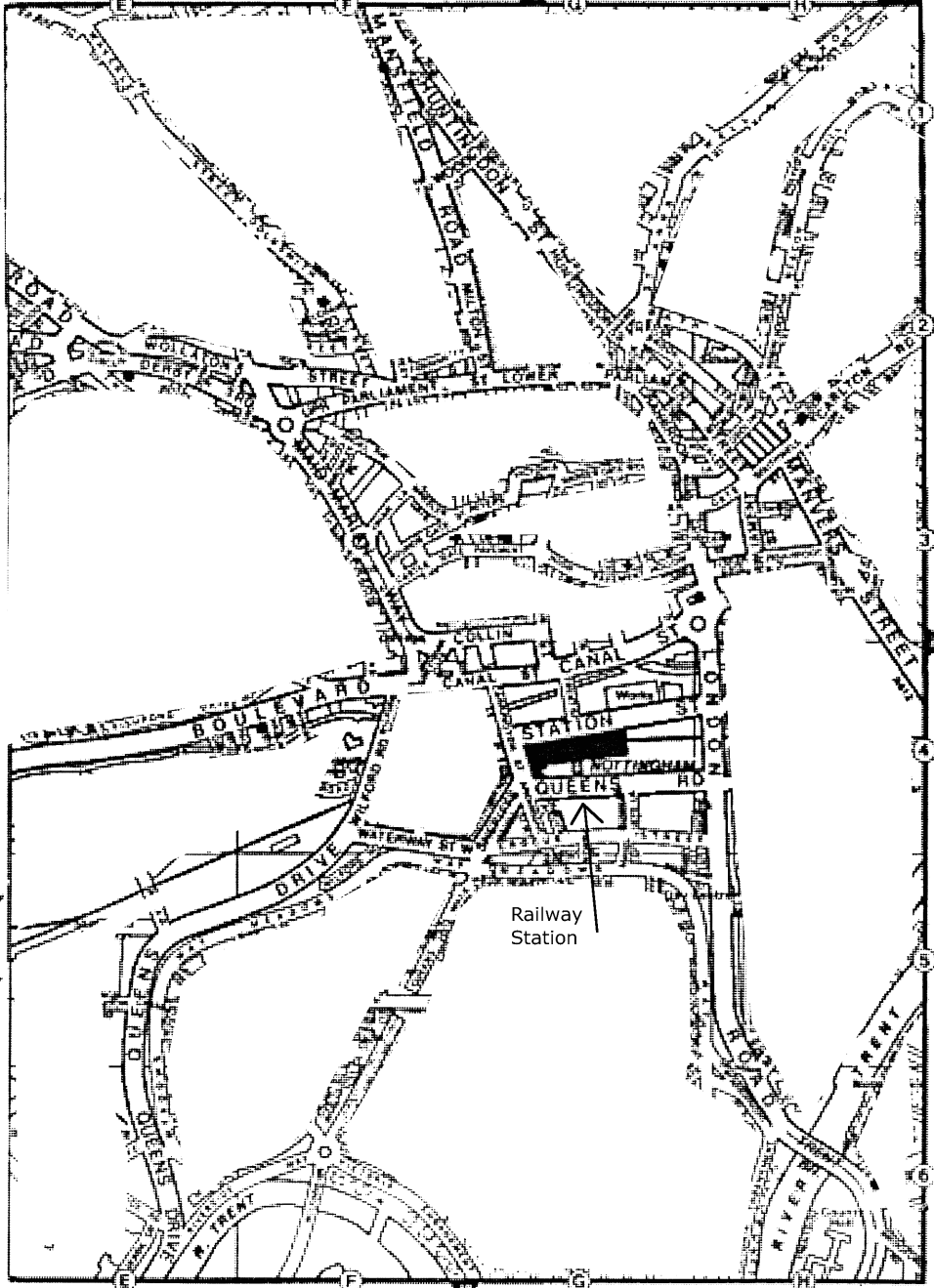
Trevor said that most of the feedback he used to get was in response to program listings. Listings are good because it actually gives people something to do and gets them involved with the newsletter more.

Mark says that if a user's not happy with the newsletter then they

MAP CONTINUED ON
NEXT PAGE →

26 NOTTINGHAM





Railway Station

HOTEL 0.7 MILES FROM HERE



should write something themselves for it!!!

Ross suggested asking individual users in the magazine if they are happy with its content or not. Also if they see their own name in the magazine it might give them the encouragement to produce something themselves.

Trevor said he can remember when TI*MES used to contain acknowledgements in the front that mentioned who had done what, and he said that we could possibly revive that idea.

The next point of discussion was a new MODEM for the BBS, because the existing MODEM is quite old now and really will only handle up to 14400bps and will only communicate at 19200bps when connected to an identical MODEM.

I made the point that there are a lot of us now with MODEMS that are faster than the BBS MODEM and that having a faster MODEM on the BBS would give us encouragement to upload more files to the BBS for the benefit of others.

Ross says that we should calculate its cost effectiveness by the number of people who take advantage of it. He says that for those people who have slower MODEMS it won't help them to run any faster.

Mark asked how much an internal MODEM for the BBS PC would cost and Trevor said that he could probably get one for £30, and the old MODEM would of course be up for sale.

Mark also made the point that the usual TI user won't notice any difference with a faster BBS MODEM, because their MODEM would have to be equally fast.

I made the point then that I've got 100 modules in V9T9 format that Dave Scriver kindly gave me, and I could upload these using Y-MODEM Batch and it would be a lot quicker and cheaper. I also haven't yet put any TI Tref stuff onto the BBS, and this is around 5Megs of stuff. It will take half an hour at 33600bps, and I'd hate to start calculating the time it would take at 14400bps!

Ross agreed that if it can be justified then there is no reason not to upgrade it, and especially if a customer can be found for the old MODEM. Trevor said there would be no problem finding a customer for the old MODEM.

Trevor then said that if we are going to have a web page and advertise the BBS on the web page, then a lot of web people will already be using 33600bps MODEMs anyway, and since they are calling from overseas, then I'm sure they would appreciate the maximum speed possible, which would also be a benefit to other members because it will encourage more files to be uploaded.

Therefore it was decided that we get an internal 33600bps MODEM for the group PC, and Trevor said he was going to sort it out.

Then we were on to the final main point of discussion, the October TI Tref in Nottingham. I made the point that the hotel has been selected and the conference room has been booked, so now it is up to interested members to contact the hotel and book their rooms for the event, or you can just visit the event on Saturday which will be probably the best day of the show, but of course you will miss out on the evening fun unless you stay for it, which will be when we all sit down together and possibly listen to a couple of speeches.

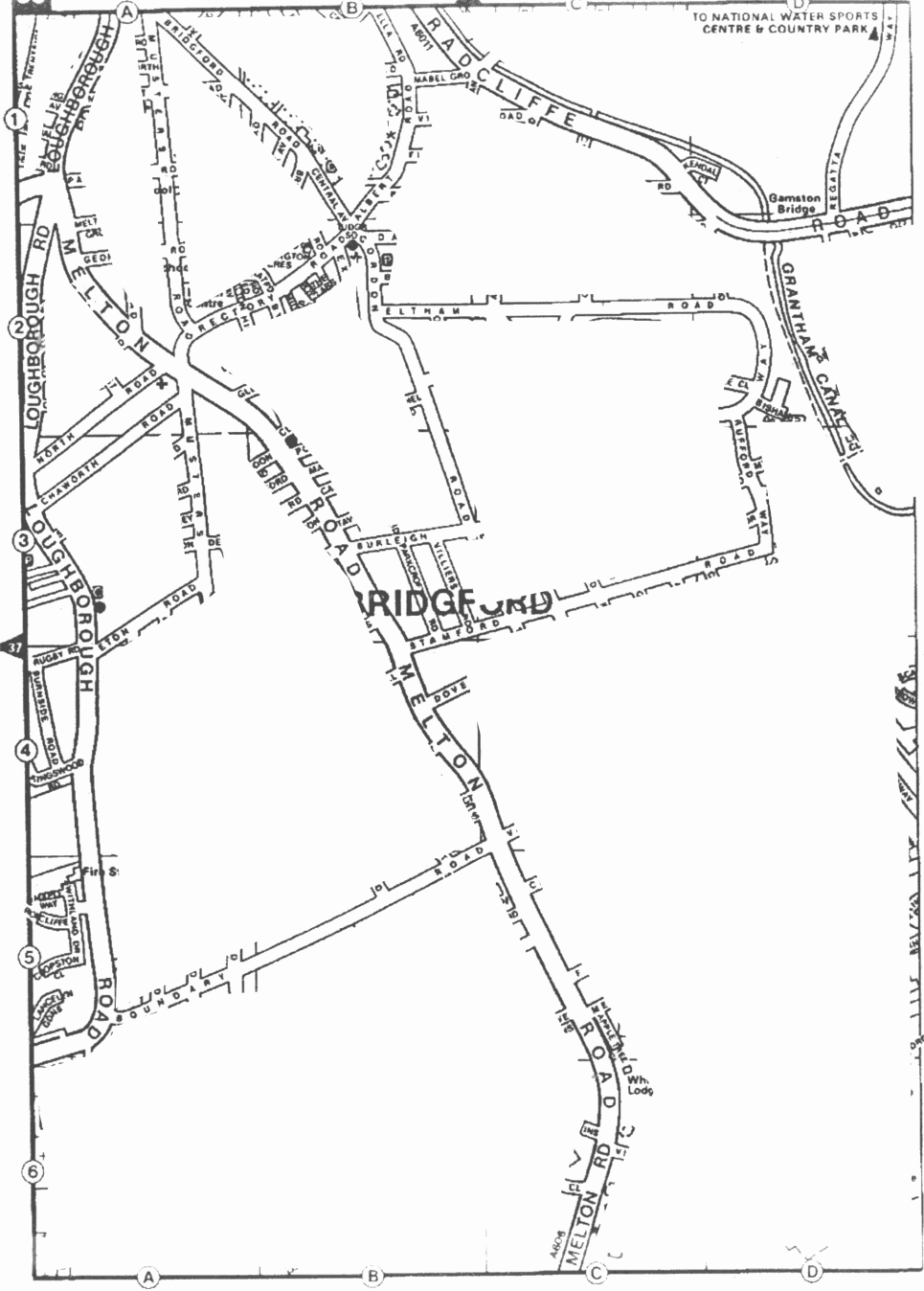
Ross mentioned the point of hardware, because it was brought to our attention after the 12th Tref in Utrecht last October that the European hardware is slightly different in that they have regulated boxes and unregulated cards. It was decided that the old style boxes that say 99/4 expansion system on them are no good because the grill at the back is too high and there is a risk that cards could be short circuited, but Ross said that he doesn't mind cutting these down in any boxes that he supplies for European visitors to use at the show.

Ross is going to convert two boxes for European standards at the show, but Berry Harmsen was going to ask what his members required at a meeting that was due to take place the week after the AGM.

There was also the point about monitors or TVs and where they would come from. If any one can bring a spare portable TV to the show, it would be very welcome.

We will know more though when we have the information back from Berry Harmsen.

With the problem of hardware out of the way, Trevor then asked what



people would like to see at the Tref.

What sort of demonstrations etc. Ross made a very valid point that he would like to see the entire software collection of the group, i.e., the group's disk library, and Trevor was put in charge of the task of breaking the news to Stephen Shaw!

Trevor said that he has not been to Stephen's house, but the legend is that there is a room just full of shelves that are full of disks!

Ross said that we need something to show for what the group has been doing for the past 15 years, so it would be nice for this reason to show the library off to members from other groups. Ross has a van and is willing to bring the collection down with him if Stephen agrees to it.

Trevor is also hoping to have a bit of a sale of surplus hardware etc., and I think I'll do the same because I've still got a box of disk drives.

Trevor stated that there should be set hours when there would be regular demonstrations on various things that people would be interested in seeing.

Ross said that there should be a good TI Artist demonstration to show what can be done with it on the 4A, and I'll volunteer myself for that.

There will of course be the BBS and Trevor will give demonstrations of that.

It was also suggested that we actually contact Texas Instruments and see if they are willing to send someone to demonstrate any new hardware that they might have, and it is my task to contact them.

Mike Wright is also coming over from the States to demonstrate the latest version of PC99.

Then I made the suggestion of having a dinner on the Saturday night, where we could all have chance to socialize.

There is a bus stop right outside the hotel so transport is not a problem.

Christine is going to get information from Nottingham's tourist information and submit it in TI*MES, so you should see it elsewhere in this issue.

Trevor suggested that the dinner on the Saturday night could be organized early so that people could also go out on the town in Nottingham afterwards.

After this Trevor asked if there were any other points, and Ross raised the final point that Richard Speed sent a letter that he requests be read out at the AGM.

Here's Richard's statement....

*"I'm sorry I could not be here due to work commitments. Two issues of the interim TI*MES leaflet have now been produced. The interim leaflet publishes only TI news and listings and is kept deliberately small to minimize costs. All materials are sourced externally, so apart from my input, contributions to TI*MES should not be affected. As yet there has been absolutely no feedback from members, so I am assuming that the level of content is correct.*

*I would like to raise the issue of frequency and content of TI*MES. There now seems to be no set timetable for the arrival of each issue*

I want to know if I am alone in wanting the following things to happen...

The magazine to be published to a definite timetable, if there is not a lot of material, then the magazine should be shorter, it should not be padded out with epic personal ramblings by one contributor."

Back to Richard's statement...

"The editor should exercise more control over the content of the articles. For example, if an article extends for too long, e.g. over five pages, or rambles on onto non-TI related subjects, then the editor should give careful thought as to whether the contribution should be edited.

I hope these comments will be taken in the spirit they are intended, once being editor I completely understand the difficulty in getting the issues out on time and also having to deal with the lack of contributions. If anyone wants to discuss these points with me, my address is in the interim newsletter. I'm probably over the Atlantic right now, so I'll take this moment to drink a beer in your honour. See you at the Tref.

Cheers, Richard Speed"

Trevor didn't want to drag out the proceedings any more so that we could get back to the business of playing with the 4A's, and he closed the meeting there.

Well, that was it for another year! I'm not going to waffle. I'm sure the content of my next article will be controversial though!

What I will say is a thank you to Kirsty Brogden in Bedford, whose name I think is now familiar to me when I used to write to TI at Manton Lane for information. She contacted Trevor to donate all of her TI equipment to the group so she knew it would go to a good home and also raise funds for the group.

Ian and I took Little Nellie down to Bedford to collect all the gear, which includes standalone 32K, Disk Controller, and RS232, a 99/4 style expansion box with the standard set of TI cards, loads of cartridges, and manuals, and a few magazines, oh, and a TI tape recorder.

She told us a few of her experiences in the early days of the TI because she used to be actually leading the sales team and was responsible for selling the 99/4A to retail chains, and supplying various chains of stores with demonstration cartridges and demonstration people. She remembered Fine Fare when Ian mentioned that's where his console and TI Invaders cartridge came from.

The good this is that the whole operation was organized using a database running on Personal Record Keeping!

After we collected the gear, she took us on a quick guided tour of TI's old headquarters, because now they've completely closed down and moved to other places, including Northampton.

It was a massive place with several large buildings making up the site, including the building once used by Geophysical Service Incorporated, which was TI's original parent company. The Bedford site is now all individual business units.

Just before we left, we drove round the entire perimeter of the warehouse that just about every piece of 99/4A equipment in the country once resided in.

In return for donating the equipment she asked for a copy of TI*MES, but Ian and I were discussing it in the car on the way back and decided that she should be made an honorary member.

I would therefore like to welcome Kirsty to the group, and thank her for her donation. If you are interested in the items, they will be on sale at the Tref.

Well, that's it. I'll say a bit about the official deadline dates for the magazine. They've been published before, but here they are again.

Spring issue - 1st March
Summer Issue - 1st June
Autumn Issue - 1st September
Winter Issue - 1st December

I checked the BBS the other day and got Christine's article, but I couldn't find Trevor's article.

I remember making a request before, to Trevor that he wrote a report for each issue which showed how much the BBS was being used and listed all the current users, and if possible show a graph of how many uploads and downloads each person has made, but so far, nothing has happened on this, and I think it might be a year since I wrote it.

I'll find the original request, which might have been in last Summer's TI*MES, and I'll re-include it in my next article!

That's almost it now, but I'll just explain the two lines of asterisks! Everything after the first line of asterisks has been typed on my mobile phone, including this!! Everything up to the second line of the asterisks I typed in an afternoon at work!!!

My fruit machine I'm working was completed and waiting for a new cabinet and I had been helping to test other machines for two days, but my manager requested I played games on it up until dinner time on Friday, which I did, which made a total of around 11800 games, but in the afternoon I decided that I had to sit down and finish the minutes, so I sat in my office and shut the door. I suppose even though all my work is up-to-date, it wouldn't have looked very good if my manager had come to find me, but that's how dedicated to the group, but if people don't like my articles, then I'll have to change 'em.

DIRECT TRIGONOMETRIC FUNCTIONS (continued) (By Francesco Lama)

In an attempt to make this function library for C99 a little more compact, I have condensed all three main trigonometric functions (SIN(X), COS(X), and TAN(X)) into one function with an index which selects which particular function is to be evaluated.

The name of the new function is ditr(x,j,res) in which x is the argument of the function, j can have value 1, 2, or 3 to select

SIN(X), COS(X), or TAN(X) respectively, and res is the floating point variable in which the result is returned to the calling program.

Besides the above three variables the function contains two character variables (the pointer c and the 16 element array s), and three floating point variables.

The next few lines of program are devoted to the assigning of the value of $\pi/2$ to the fp variable pid2 by means of the character array s and the floating point library function stof.

Then the value of x is copied into the provisional variable xp to prevent x being treated as a global variable by the compiler (this seems to happen every time a variable is passed from main() to a subroutine and the subroutine passes it on to a second subroutine).

The switch statement that follows calls the subroutine sin(xp,res) if j=1, adds $\pi/2$ to xp and then calls sin(xp,res) (effectively it calls sin(xp+ $\pi/2$,res)) and therefore calculates COS(XP) (see trigonometric identity in Spring 98 article) if j=2, performs both of the above calls and divides the first result by the second to obtain TAN(X) if j=3. The default issues an error message if an invalid value of j has been selected.

Finally the return statement returns the value of res to the calling program.

Of course, whenever this function is used, the function sin(a,b), given in the last issue, must also form part of the program. There follows a listing of the subroutine ditr(x,j,res).

```
/* The function ditr(a,j,b) enables the determination of all the direct */
/* trigonometric functions SIN (j=1), COS (j=2), TAN (j=3) to the maximum*/
/* precision available in C99 version 4. */
/* NOTE: this function requires the presence of sin(a,b), and include */
/* statements for FLOATI (FLOAT;O) and stdio to work. When loading & run- */
/* ning the program the object files FLOAT;O and CSUP must be loaded first */
```

```
ditr(x,j,res)
int j;
float x[8],res[8];
{
char *c,s[16];
float pid2[8],r[8],xp[8];

s[0]='+'; /* Plover2 is defined */
s[1]='1';
s[2]='.';
s[3]='5';
s[4]='7';
s[5]='0';
```

```

s[6]='7';
s[7]='9';
s[8]='6';
s[9]='3';
s[10]='2';
s[11]='7';
s[12]='';
s[13]='';
s[14]='';
s[15]='';
c=stoff(s,pid2);

c=fcpy(x,xp); /* x is copied into xp because when xp is passed on */
/* to sin() it can be modified in returning; GLOBAL? */
switch(j) /* here a selection is made of which function is */
{ /* needed by the calling programme */
case 1:
sin(xp,res);
break;
case 2:
c=fexp(xp,"+",pid2,xp); /* by adding Plover2 to xp before calling */
sin(xp,res); /* sin() COS(X) is evaluated */
break;
case 3:
sin(xp,r); /* an evaluation of SIN(X) first and COS(X) */
c=fcpy(x,xp); /* afterwards (using the same method as */
c=fexp(xp,"+",pid2,xp); /* above, and subsequent division of SIN(X) */
sin(xp,res); /* by COS(X) yields TAN(X) in res */
c=fexp(r,"/",res,res);
break;
default: /* default necessary in case */
puts("ERROR! function not selected!"); /* no valid number is given */
break;
}

return res; /* the result is returned to the calling routine */
}

```

I would also recommend that the values of the fp constants c0, c1, c2, c3, and c4 should be changed from the values given in the Spring 98 issue to the following:

```

c0=+1.570796300
c1=-6.45963555E-1
c2=+7.96892525E-2
c3=-4.67334282E-3
c4=+1.51351054E-4

```

These values are to be found near the beginning of the function sin(a,b), in the long assignment statements, and are therefore to be read vertically in the program. I do not think you will any problems in locating them. The reason for changing the above values is that the new ones calculate SIN(X) much more

accurately.

THE NATURAL LOGARITHM IN C99

(By Francesco Lama)

In the Spring 98 issue I said that I would be talking about the inverse trigonometric functions in C99 in the present one, but I had overlooked the fact that the square root function is needed for a proper implementation of those functions. I have therefore decided to change the order in which I am going to present this function library.

Before I start talking about logarithms let me present a function that any textbook I have seen teaching the C language tends to introduce close to the beginning. It is extremely useful in a variety of applications and it is the INTEGER POWER function. It enables one to raise any number, called the base, to an integer power or exponent (multiplying the base by itself as many times as specified by an integer number). If the exponent is 0 or 1 it is understood that the result of this function is 1 or the base itself respectively.

The name I have given to this function is `pow(base,m,res)`, therefore the variables `m` (the integer exponent), `base` (the floating point base), and `res` (the floating point result) are declared before the curly bracket in the definition.

Two more variables are defined within the function: the integer `i`, and the character pointer `p`.

`i` is subsequently set equal to 1 and `res` is also given that value by means of the floating point library function `itof`, which turns an integer into a fp number with the same value. If `m=0` the subsequent while loop is skipped, and the result 1 is returned to the calling program by the fp variable `res`. Otherwise the while loop, which multiplies `res` (now equal to 1) by `base` is carried out as many times as it takes to make `i>m` (`++i` i.e. the incrementation of `i` by 1 is the last step within the while loop). The return statement subsequently returns `res` to the calling program. Here is the brief listing of `pow(base,m,res)`.

```
/* This subroutine can be tagged onto a program to calculate integer powers */
```

```
pow(base,m,res)      /* It calculates integer powers */int m;
float base[8],res[8];
{
int i;
char *p;

i=1;                /* res is given the value of 1 */p=itof(i,res);    /* so as to satisfy
res=1 for m=0 and res=base */
/* for m=1 */
while(i<=m)
{
/* the while loop continues to multiply
*/p=fexp(res,"*",base,res); /* res by base and feeding the result */++i;
/* i is incremented here */}

return res;        /* this returns res to the calling prog */}
```

The natural logarithm of a number is the power to which Nieper's number e ($e=2.718281828\dots$ etc.) must be raised to obtain the number itself. This operation

is normally written as $Y = \ln(X)$, where X is the number or argument of the logarithm and Y is its logarithm in base e (the word "base" has already been used in this context above).

There are a number of well known properties of logarithms, the main two of which I am listing below.

$$\ln(A*B) = \ln(A) + \ln(B)$$

$$\ln[A^z] = z * \ln(A)$$

It is thanks to these properties that it is enough for us to compute values of logarithm between 1 and 2 to be able to obtain any other values in the domain of the function (this is restricted to $X > 0$, because there is no meaning to a non-integral power of a negative number).

Here is a table containing 6 values of X and their corresponding Y s:

X	Y
1.0	0.0
1.2	0.1823215568
1.4	0.3364722366
1.6	0.4700036292
1.8	0.5877866649
2.0	0.6931471806

from these values I have designed an algorithm that calculates any values of $\ln(X)$ in the range $1.0 \leq X \leq 2.0$. The method I have used is generally known in mathematics as a Taylor series expansion. It relies on a starting value of the function being given for a precise value of X , called X_0 , (hence the above table), and uses the value of logarithm and that of all its derivatives (in practice only up n th order) to approximate the function ($\ln(X)$) in the neighbourhood of X_0 by means of a polynomial ($A_0 + A_1 * X + A_2 * X^2 + A_3 * X^3 + \dots$). The actual formula I have used is given below:

$$\ln(X) \sim \ln(X_0) + \sum_{n=1}^N \frac{(-1)^{n+1} * (X-X_0)^n}{n * X_0^n} =$$

$$\ln(X_0) + \frac{(X-X_0)}{X_0} - \frac{(X-X_0)^2}{2 * X_0^2} + \dots + (-1)^N * \frac{(X-X_0)^N}{N * X_0^N}$$

The program starts by defining the two floating point variables, x and l , which are used to pass values between the calling program and the logarithm function $\ln(x,l)$. Subsequently four integers are declared ($i, i1, i2$, and di), two characters (the pointer c and the array $s[16]$), and seven floating point variables ($xi, x0, r, r1, t, c0$, and $c5$). The next section of program sets $c5 = \ln(2)$, and the one following it sets $r = 0$ and then verifies if the argument of the logarithm is ≤ 0 . If this is the case an error message is issued and return is executed without calculation.

The following 6 lines set $xi = x, r = 2, di = 4$, and $t = 1$. A label is placed at this point which will be used by a `go to` statement later on. Next the `pow` subroutine

described above is invoked to calculate the d_i (initially 4) power of 2 and return the value in r_1 . The first while loop is only executed if $x_i < 1$ and until it becomes greater than 1; inside the loop x_i is multiplied by r_1 until the result is greater than 1. At the same time the power of two by which x_i has been multiplied is recorded in the variable i_2 . The second while loop becomes active in case $x_i > 2$, and divides x_i by r_1 until $x_i < 2$; again a record of the power of 2 by which x_i has been multiplied (or divided since in this case we are dividing) is kept in i_2 . Of course both loops can be active more than once during one computation of the logarithm, because the following statement sends the execution back to $lab0$ if, after first going through the loops, x_i is still outside the interval $[1, 2]$ (note that the upper limit has just been verified by the second while loop, hence the if statement only needs to check if $x_i < 1$). Within the if statement d_i , which is the power to which 2 is raised to obtain r_1 (the number by which x_i is multiplied or divided in the while loops) is also decremented by 1 (it starts at 4), and after the return to $lab0$, the power of 2 is recalculated by pow . In some cases it may be necessary to decrement d_i down to 1 in order to bring x_i to within the range $[1, 2]$ by means of the while loops. The 11 lines following the if statement are simply used to set $i_1 = \text{INTEGER PART OF}(5 * x_i - 4.5)$. The process takes up so many lines, because of the clumsy nature of floating point arithmetic in C99.

The next 5 lines compute $x_0 = 1 + i_1 * 0.2$ using the result obtained above. It must be remembered also that x is still equal to 10 from the previous section of program. The subsequent switch statement ensures that the right element in the table given above is selected as the starting point for the Taylor expansion. It calls one of five different subroutines depending on the value of i_1 (0, 1, 2, 3, or 4), each of which loads a different value into the fp variable c_0 . The default deals with the other possibility of i_1 being 5, in which case $c_5 = \text{LN}(2)$ is copied into c_0 .

The next three lines calculate the sum of the first two terms in the Taylor Expansion (see above) setting l equal to this sum, and also $r_1 = (x - x_0) / x_0$.

Then, after setting $r = -1$ and $i = 2$, we enter a while loop which calculates the next seven terms in the Taylor Expansion (N is set equal to 8). In the loop i_1 is set equal to $i + 1$ and the i_1 th power of -1 (r) and i th power of $(x - x_0) / x_0$ (r_1) are computed by pow and stored in x_0 and t respectively. After the value of i is transformed into the fp number x_i , the correct sign is given to t , and the appropriate division by x_i (equal to the exponent) is carried out. Finally an extra term is added to l , gradually improving the approximation of $\text{LN}(X)$ (contained in l), and the index i is incremented by 1. The seven iterations are sufficient to supply $\text{LN}(X)$ to the maximum precision available in C99.

It must be remembered that the value of logarithm obtained by the Taylor Expansion is only calculated for the number between 1 and 2. We now need to add to this result the logarithm in base e of the number we had to multiply/divide x by in order to bring it within this range (obvious if one makes use of the two properties of logarithms described earlier in this article). The value of the exponent of 2, i_2 , is therefore transformed into the fp number r , and

$\text{LN}(2)$ is expressed as $r * \text{LN}(2)$.

Since the natural logarithm of 2 is contained in c_5 we can conclude that what must be added to l in order to get the value of $\text{LN}(x)$ is simply $r * c_5$. l is then returned to the calling program.

The subsequent five subroutines have already been referenced, and only supply the correct value from the table, from which to expand the Taylor Series.

The listing of ln(x,l) follows.

/* This program calculates LN(X) to the maximum precision available */

/* INSTRUCTIONS */

/* In order to calculate the natural logarithm of a *** positive number simply invoke ln(a,b) in which both *** a and b must be fp variables a being the argument and *** b the the value of LN(X) returned by the function. *** NOTE: the pow() function must form part of the program which uses ln() */ln(x,l)

```
float x[8],l[8];
{
int i,i1,i2,di;
char *c,s[16];
float xi[8],x0[8],r[8],r1[8],t[8];
float c0[8],c5[8];
```

2023: Rem lines above enclose
c coding: editorial error

```
s[0]='+'; /* This part of the code assigns ln(2) to c5 */s[1]='0';
```

```
s[2]='.';
```

```
s[3]='6';
```

```
s[4]='9';
```

```
s[5]='3';
```

```
s[6]='1';
```

```
s[7]='4';
```

```
s[8]='7';
```

```
s[9]='1';
```

```
s[10]='8';
```

```
s[11]='0';
```

```
s[12]='6';
```

```
s[13]='.';
```

```
s[14]='.';
```

```
s[15]='.';
```

```
c=stof(s,c5);
```

2023 note: Sadly the editor of the magazine has reformatted the text without appreciating the c norms and some code has been enveloped inside rem lines. The editor insisted on using Windows software he did not know how to use. Hopefully c aficionados can dig out the underlying code which is quite clever.

```
i2=0; /* checks whether x is > 0; if not returns to calling */c=itof(i2,r);
```

```
/* program after printing error message */if(fcom(x,"<=",r))
```

```
{
printf("\n illegal argument of logarithm \n");
return;
}
```

2023: Rem lines above enclose
c coding: editorial error

```
c=fcpy(x,xi); /* make a copy of the argument */
```

```
i1=2; /* set r=2 */
```

```
c=itof(i1,r);
```

```
di=4; /* set power of 2 equal to 4 (i2 already = 0) */i=1;
```

```
c=itof(i,t); /* prepare to check if 1<xi<2 */
```

```
lab0:
```

```
pow(r,di,r1); /* calculate 2 to the power di */while(fcom(xi,"<",t)) /*
```

```
loop until xi > 1 */
```

```
{
c=fexp(xi,"*",r1,xi); /* multiply xi by 2 to the power di and */i2=i2-di; /*
```

```
each time decrement i2 by di */}
```

```
while(fcom(xi,">",r)) /* loop until xi <2 */
```



```

{
c=fexp(xi,"/",r1,xi); /* divide xi by 2 to the power di and */i2=i2+di; /*
each time increment i2 by di */

if(fcom(xi,"<",t)) /* if xi<1 decrement di by 1 goto lab0 */{
di--;
goto lab0;
}

i=5; /* i1=idint(5timesxi-4.5) */c=itof(i,r1);
c=fexp(xi,"*",r1,r1);
i=45;
c=itof(i,l);
i=10;
c=itof(i,x);
c=fexp(l,"/",x,l); /* setting l=4.5 */
c=fexp(r1,"-",l,r1);
c=fint(r1,r1);
i1=ftoi(r1); /* turning the result r1 into an integer i1 */

i=2; /* x0=1+i1times0.2 */
c=itof(i,l);
c=fexp(l,"/",x,l); /* x still = 10 from previous calculation */c=fexp(r1,"*",l,l);
c=fexp(t,"+",l,x0);

switch(i1) { /* choose one of 5 appropriate values for c0 */case 0: /*
this makes sure that we only load into */chy0(c0);
break;
case 1: /* a fp number c0 the value on which we are */chy1(c0);
break;
case 2: /* going to base the Taylor expansion */chy2(c0);
break;
case 3:
chy3(c0);
break;
case 4:
chy4(c0);
break;
default:
c=fcpy(c5,c0);
break;
}

c=fexp(xi,"-",x0,t); /* first two terms of Taylor expansion */c=fexp(t,"/",x0,r1);
c=fexp(c0,"+",r1,l); /* l=ln(x0)+(xi-x0)/x0 */

i1=-1; /* set r=-1 for general term of expansion */c=itof(i1,r);
i=2;
while(i<9) /* terms 2 to 8 of expansion */{
i1=i+1;
pow(r,i1,x0); /* call power routine; r=-1; result in x0 */pow(r1,i,t); /*

```

```

r1=(xi-x0)over x0 */
c=itof(i,xi);
c=fexp(x0,"*",t,t);
c=fexp(t,"/",xi,t);
c=fexp(1,"+",t,t); /* l contains the cumulative result */i++;
}
c=fexp(r,"*",c5,r); /* the value of i2 is turned into the fp r */
c=itof(i2,r);
is multiplied by LN(2) */
c=fexp(1,"+",r,1);
/* and added to the result of the expansion */
return l; /* l=ln(x) is returned to the calling program */
}
/* END OF COMPUTATION */
chy0(c0) /* The following 5 subroutines contain the data */
/* which are used in the Taylor expansion */
float c0[8]; /* Since only one of them is used for each */
/* evaluation of EXP(X) 0<X<1, only one of these */
/* will be called each time. */
{
char *c,s[16];
s[0]='+';
s[1]='0';
s[2]='.';
s[3]='0';
s[4]='';
s[5]='';
s[6]='';
s[7]='';
s[8]='';
s[9]='';
s[10]='';
s[11]='';
s[12]='';
s[13]='';
s[14]='';
s[15]='';
c=stof(s,c0);

return c0;
}

chy1(c0)

float c0[8];
{
char *c,s[16];

s[0]='+';
s[1]='0';
s[2]='.';
s[3]='1';
s[4]='8';

```

```
s[5]='2';
s[6]='3';
s[7]='2';
s[8]='1';
s[9]='5';
s[10]='5';
s[11]='6';
s[12]='8';
s[13]="";
s[14]="";
s[15]="";
c=stof(s,c0);
```

```
return c0;
}
```

chy2(c0)

```
float c0[8];
{
char *c,s[16];
```

```
s[0]='+';
s[1]='0';
s[2]='.';
s[3]='3';
s[4]='3';
s[5]='6';
s[6]='4';
s[7]='7';
s[8]='2';
s[9]='2';
s[10]='3';
s[11]='6';
s[12]='6';
s[13]="";
s[14]="";
s[15]="";
c=stof(s,c0);
```

```
return c0;
}
```

chy3(c0)

```
float c0[8];
{
char *c,s[16];
```

```
s[0]='+';
s[1]='0';
```

```

s[2]='.';
s[3]='4';
s[4]='7';
s[5]='0';
s[6]='0';
s[7]='0';
s[8]='3';
s[9]='6';
s[10]='2';
s[11]='9';
s[12]='2';
s[13]="";
s[14]="";
s[15]="";
c=stof(s,c0);

return c0;
}

chy4(c0)

float c0[8];
{
char *c,s[16];

s[0]='+';
s[1]='0';
s[2]='.';
s[3]='5';
s[4]='8';
s[5]='7';
s[6]='7';
s[7]='8';
s[8]='6';
s[9]='6';
s[10]='6';
s[11]='4';
s[12]='9';
s[13]="";
s[14]="";
s[15]="";
c=stof(s,c0);

return c0;
}

```

Let me remind you that, as in the case of my previous article, any program calling this function must have include statements for `stdio` and `floati`. Moreover `FLOAT;O` and `CSUP` must always be loaded when running the compiled object file from Editor Assembler Option3.

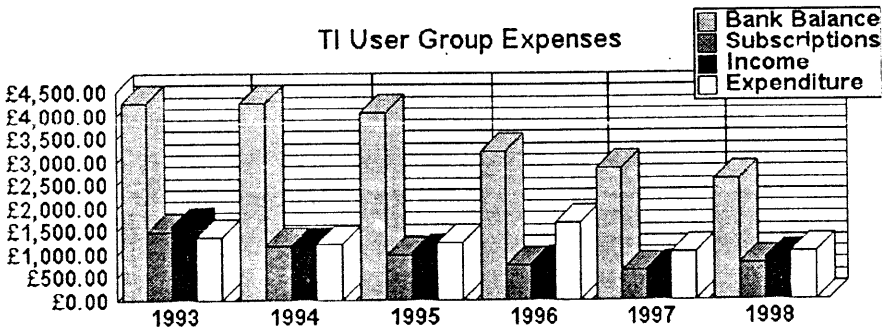
I hope somebody finds this sort of enhancement of C99 handy in facilitating the use of the language. Please let me know if you discover any bugs or if you have any suggestions on how to improve my programs. I look forward to hearing from you (my home address and E-mail are given in the Spring issue of TI*MES).

MODULE LIBRARY

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MUNCH MOBILE	6.00
MUSIC MAKER	4.50
NUMBER MAGIC	3.50
NUMERATION 2	4.50
PAC MAN	3.50
PARSEC	4.00
PERSONAL RECORD KEEPING	3.50

PERSONAL REPORT GENERATOR	5.50
PHYSICAL FITNESS	4.00
PICNIC PARANOIA	3.50
PROTECTOR	5.00
PRO TYPER	20.00
RED BARON (FLIGHT SIMULATOR)	30.00
SHAMUS	3.50
SPACE PATROL	18.00
SPEECH EDITOR	3.50
SPY'S DEMISE	4.50
STATISTICS	4.00
SUPER DEMON ATTACK	4.50
SUPER EXTENDED BASIC + MANUALS	30.00
TAX/INVESTMENT RECORD KEEPING	5.00
TERMINAL EMULATOR II	5.00
THE ATTACK	4.00
TI INVADERS	4.00
TI LOGO + ORIGINAL FOLDER WITH MANUAL	15.00
TI LOGO II + ORIGINAL FOLDER WITH MANUAL	25.00
TOMBSTONE CITY	4.00
TUNNELS OF DOOM + MANUAL + CASSETTE	3.50
VIDEO GAMES 1	3.50
YAHTZEE	3.00

G6							2601.37	TI UG Expe
	A	B	C	D	E	F	G	H
		1993	1994	1995	1996	1997	1998	
1								
2	Subscriptions	£1,465.80	£1,164.50	£967.50	£763.98	£625.50	£770.50	
3	Income	£1,638.41	£1,180.11	£1,028.83	£791.70	£674.74	£898.31	
4	Expenses	£1,350.18	£1,183.61	£1,233.03	£1,047.89	£1,023.09	£1,024.62	
5								
6	Balance	£4,267.48	£4,253.98	£4,049.18	£3,192.99	£2,844.64	£2,601.37	
7								
8								
9								
10								
11								



Sorry about the little bits of blank space, but Ross wanted two blank pages leaving for Christine's information that she's obtained from Nottingham's tourist information.

I'd also forgot to include the above group's expenses info!

Nottingham City Attractions

Brewhouse Yard Museum

Castle Boulevard, Nottingham NG1 1FB
Open: Daily all year 10am - 5pm except
Fridays

November to February 1pm - 5pm
Closed: Christmas Day, Boxing Day
Admission: Weekdays: Free. Weekends
and Bank Holidays: Charge payable
Disabled Access: Limited
Disabled Toilets: Yes
Tel: 0115 9153600

The Caves of Nottingham

Drury Walk, Broad Marsh Shopping
Centre, Nottingham NG1 7LS
Open: Monday to Saturday 10am - 4.15pm
Sunday 11am - 4pm
Admission: £2.95 Adults £1.95
Concessions
Disabled Access: No
Disabled Toilets: No
Tel: 0115 9241424

Galleries of Justice

Shire Hall, High Pavement, Lace
Market, Nottingham NG1 1HN
Open: Tuesday to Sunday and
Bank Holidays, 10am - 5pm
Closed: 24th-26th December
and Mondays
Admission: Charge payable
Disabled Access: Limited
Disabled Toilets: Yes
Tel: 0115 9520555

The Lace Centre

Severns Building, Castle Road,
Nottingham NG1 6AA
Open: January and February: Daily
10am - 4pm
March to December: 10am - 5pm
All Sundays 11am - 4pm
Closed: 25 and 26 December
Admission: Free
Disabled Access: Limited
Disabled Toilets: No
Tel: 0115 9413539

Nottingham Castle, Museum & Art Gallery

Castle Road, Nottingham NG1 6EL
Open: Daily all year 10am - 5pm, except
Fridays during Nov to Feb: 1pm - 5pm
Closed: Christmas Day & Boxing Day
Admission: Weekdays: Free Weekends
and Bank Holidays: Charge payable
Disabled Access: Yes
Disabled Toilets: Yes
Tel: 0115 9153700

The Tales of Robin Hood (and Banqueting Centre)

30-38 Maid Marian Way, Nottingham
Open: Winter: 10am-5pm Summer:
10am-6pm
Closed: Christmas Day & Boxing Day
Admission: Charge payable
Disabled Access: Yes
Disabled Toilets: Yes
Tel: 0115 9483284

Well, that's it for another issue! Time for another reminder about the Tref! The 13th TI-Tref, International TI-99/4A Convention will take place from the evening of Friday the 9th of October, to the evening of Sunday the 11th of October 1998.

The venue for the event is: The Beeches Hotel and Leisure Club, Wilford Lane, West Bridgford, Nottingham. NG2 7RN

Their room rates are as follows:

Single Room	£35	Double/Twin	£52
Executive Single	£42	Executive Twin/Double	£62

There will also be an entrance charge to the show itself of £5 per person which is required to cover the cost of the conference facilities.

Please be aware that the prices above include FULL ENGLISH BREAKFAST, and COMPLETELY FREE ACCESS to Swimming Pool, Fully air-conditioned Gymnasium, Jacuzzi, Steam Room, and Saunas, so if you need a break from computing you do not need to worry about how to relax!

I would like to apologize for the late arrival of this issue.

Back to the maps. If you turn page four the correct way round, then Wilford Lane is in the middle of the page, and the Beeches Hotel is then somewhere on the lower side of the road. On your right as you enter Nottingham, or on your left as you leave Nottingham, and as another guide, there's a bus stop sign on the opposite side of the road.

THE END, but Richard Twynning will return in.... THE NEXT ISSUE

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