TI*MES

ISSUE 73   Winter 2001
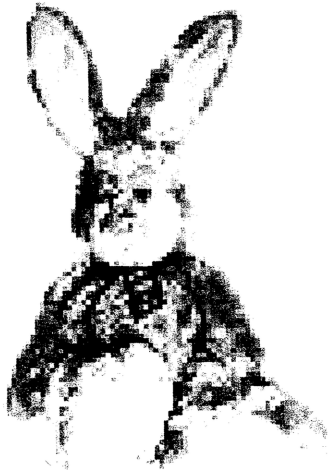
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Any item which is submitted may be edited
to fit the magazine, however we do try to insure
the author's message is transposed.

The EDITOR cannot be held responsible or
financial loss from any article produced.

In line with the new policy, the TI*MES will now
be mostly of a text nature, which gives you a
more compressed format.

Contents

Members on the Internet

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Welcome to another issue of TI*MES magazine. Christmas has now come and gone and I hope that Santa bought you all the things you wanted. In the good ol days Santa use to bring lots of TI stuff. Nowadays Santa brings clothes and lots of nick nacks.

Its now a new year and I would like to wish you all a happy and prosperous 2002.

On the TI front I still have not yet managed to set one up. I have been looking into emulators for the PC. Although this would never replace a real TI I now think that these should also be considered. I know of 3 emulators, these are: V9T9 Texas Instruments Emulator, AMI99 Texas Instruments Emulator and MESS the Multi System Emulator.

On the PC front my trusty old Pentium PRO is still dead. Although I now have most of the files I need copied off.

For this magazine I have received no articles or e-mails. Therefore this issue is made up of world e-mails. I have not had time recently to write any articles as I have been very busy. This is because lots off tax returns were due and people always leave it late. I have also, surprisingly, picked up lots of new business. Although my bigger clients are cutting back on my fees, I have picked up lots of new small business. It seems at the moment lots of people are starting out in business and small business is booming. However larger companys' are suffering.

I have heard that it has been dispatched late due to the fact that it was not received. However I expect lots of articles for the next issue.

Dear TI'ers,

Firstly I must apologize for the eratic nature of the magazine recently.
I don't know what this is attributable to. From what Trevor tells me it's was the inability to obtain the latest database of group members, although this seems like a simple task to me.

I won't go into the details of this, as I don't know them all myself, but Trevor asked me if I was willing to become membership secretary and now possibly treasurer.
I of course offered as it is not much of a task on top of being General Secretary.

I am always attached to my PDA (Personal Digital Assistant), and now it's the 9210 for which I use for just about everything. I've created a separate contacts database which contains the new official group membership list.

It makes more sense as I can update it instantly and can synchronise it with my PC so I can output the membership list as a text file.

Recently I had to perform the unfortunate task of removing Stanley J Phillips from the database as he passed away on the 3rd of February.
I had sent him an e-mail informing him of the AGM and the Treff and fortunately his wife (Maureem) re-

plied to me via Stan's e-mail address.

She says that Stan had a lot of TI equipment, including some that he made himself (as he was an electronic engineer). If any of our group want to take this equipment then she would be very grateful, as otherwise it would end up being thrown away!

She added that Stan would have hated this as he was not a lover of unnecessary waste.

Please contact her if you're interested in collecting any of the hardware...

Phone 01727 862425

56 Windmill Avenue,
Marshalswick,
St.Albans,
Herfordshire.
AL4 9TF

Right, so now what have I got to report on?

Firstly, I'm trying to type this as quickly as I can since it's very late and I've left my article writing until the last minute again!

The AGM will take place on the 27th of April 2002 at Sunrise Software.

50 Barwell Business Park
Leatherhead Road
Chessington
Surrey
KT9 2NY
United Kingdom

Derek Buchanan has very kindly donated the use of his board room for the AGM so we thought we would accept the offer and hold the AGM in the south for a change.

I'm e-mailing Paul Saunders (our editor) some maps showing where the event is, and a route to the event. The route is from Rainworth, but if you follow it from the M1 it will give you an idea of how to reach the event from the north. I suppose that members in the south can just follow it from their nearest junction of the M25. I've e-mailed Paul some maps which he'll hopefully find space for in the magazine.

Also I must give you another date for your diaries....

Friday the 13th!!!

Hopefully this date will be lucky for us as this will be the first evening of our UK Treff. It will be the 17th International TI-Treff
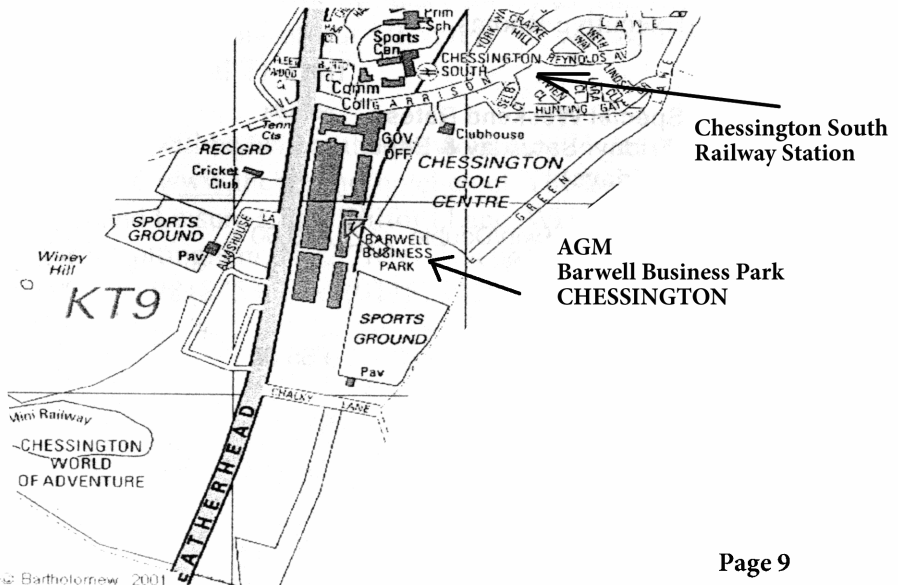
The event will be held at the previous location of the UK Treff, www.thebeecheshotel.co.uk The Beeches hotel and Leisure Club, Wilford Lane, West Bridgford, Nottingham, NG2 7RN. Telephone: (0115) 9818753 Fax: (0115) 9455838.

UK TREFF - WILFORD LANE, WEST BRIDGFORD

Handy for Batman
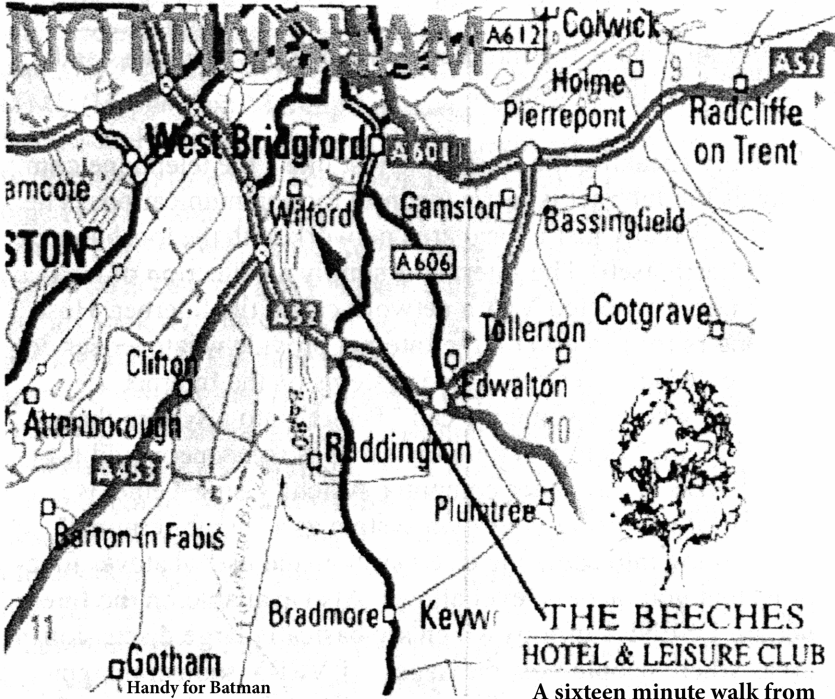
THE BEECHES
HOTEL & LEISURE CLUB
A sixteen minute walk from
Trent Bridge Cricket Ground

Chessington South
Railway Station

AGM
Barwell Business Park
CHESSINGTON

Recently I was asked, can the TI99/4a access the Internet? Here is the answer to that question!

First of all what is the Internet? Many people misunderstand exactly what the Internet is...

Basically speaking the Internet is just like a the telephone company as the Internet is just a medium for communications. The Internet is really just a local area network with the local area being Earth itself! The Internet is simply a collection of host computers connected VIA a network called the Internet. Host computers (or servers) on the Internet provide whatever service that the designer desires. Some systems on the Internet are available whereby someone can "Telnet" into a system therefore "logging" onto a system the same as someone would log onto a BBS or any other computer system. Using Telnet is somewhat like using your own system as a "dumb terminal" and you log into someone else's system and use whatever functions that your access level allows. Also available on the Internet are USENET groups which are basically large discussion areas where people post messages... EVERY subject imaginable is covered in USENET groups. EMAIL is a big part of the Internet as by logging into a host system such as Compuserve, Genie, Delphi etc... EMAIL can be sent and received to anyone anywhere on the Internet. FTP (File Transfer Protocol) is another service available where I can request a file from another system to mine. Telnet, USENET groups and EMAIL all can be obtained VIA a TI99/4a and 2400 baud modem VIA a "text only" interface. I haven't tested FTP access with the TI99/4a. However, the Internet provider used with the TI99/4a must provide a "text only" interface. A service such as America Online requires America Online software to access their service and thus can NOT be accessed using a terminal program (such as Fast Term, Telco, Mass- Transfer etc...) and therefore can not be used with a TI99/4a or Geneve computer. Compuserve provides a text interface to their service but on the Internet side Compuserve only provides for Telnet, USENET groups and

EMAIL.

What are WEB pages? WEB pages are where the bulk the activity on the Internet occurs. WEB pages are usually graphics oriented pages accessed through the use of a WEB browser such as Netscape (for Pc's and Apple's). A WEB browser simply translates HTML (Hyper Text Markup Language) codes into a mixture of graphics and text on the screen. WEB pages are the addresses that are often seen listed on Television in the format: HTTP://address. com. HTTP stands for Hyper Text Transfer Protocal relating back to the HTML codes. Most WEB pages are written with graphics in mind so accessing a WEB page with a "text only" interface will not only look terrible but will be missing the graphics. To actually view a graphic WEB page not only must a system have a display capable of 640 by 480 resolution (VGA) but a system capable of displaying 256 colors and the minimum modem speed necessary is 14,400 although a 9600 might work if you want to take a nap, a 2400 modem to view a WEB page in graphics mode is completely unusable! Note that a standard TI99/4a will only operate at a maximum modem speed of 2400 baud. So using a TI99/4a VIA a "text only" interface to view a WEB page is barely useable at best and is defiantly not recommended. This limitation extends also to IBM PC's, XT's, AT's, 286's, Commodore, Atari's and even a 386 system with VGA is barely capable of using Netscape as Netscape requires "Windows" and Windows requires a fast system, memory etc... Generally speaking a 486 with VGA is the minimum necessary to view WEB pages. So if you want to view these WEB pages you will need something a more powerful than a TI99/4a although you can view the non-graphics text located in those pages with a TI99/4a or Geneve 9640...

Therefore, in order to connect to the Internet a system must first connect to a host such as an Internet provider. Many businesses have their own Internet connections and host system but having your own direct connect to the Internet is expensive and impractical for home and small business users. Most people must go through an Internet provider to get onto the Internet.

Therefore, the TI99/4a can easily have Telnet access onto the Inter-

net as well as access to USENET groups, possibly FTP and defi-
antly EMAIL. Web Page access (sometimes referred to as the
World Wide WEB) is very messy with the TI99/4a and is just
about unusable. Many TI99/4a owners use their PC's to access the
Internet and view the wide range of material available not only for
the TI99/4a but just about anything else that you can think of!

Thus the TI99/4a can access the internet through a "text only" in-
terface in a very limited way.

Date: Thu, 8 Mar 2001 09:46:31 -0800
From: Ken.9640@juno.com
Subject: Re: HD 3.5 "FLOPPIES" not Floppys!

I should point something out... that applies to most - if not ALL -
1.44MB floppy drives: The high-density detection is done by a mi-
croswitch, not an LED! There are few (if any) 3.5" floppy drives
made (in the last 13 years, at least) that use an LED to detect if the
disk is 720K or 1.44MB. If you look inside the door of a 3.5"
floppy drive... on
the left side (assuming the drive is horizontal and not upside-
down), there are (usually) 2 switches: one detects whether a disk
has been removed since insertion, the other detects if the write-
enable/disable cover has been set. On the right side... there is a
similar looking switch, that detects if you have a 720K or 1.44MB
disk in there. If
there is no switch at all... then you have a 720K drive.

I seriously doubt there are any 1.44MB drives that use LED sensors
for HD/DD detection, as that is more complicated and expensive,
than having a simple, momentary contact switch (believe me... if
any company that makes tons of floppy drives can save a couple of
pennies per drive - THEY WILL)!

You "might" find LED sensors on a really "old" 3.5" drive... but I've not found any on drives that are IBM compatible, made in the past 13 years! I used to believe that all 3.5" drives used LED sensors... until (1990) I opened one up and looked inside and only saw microswitches. Trust me... if you use a piece of tape (or write-protect label) to cover the HD hole on a 1.44MB floppy - that doesn't pass light - pull it off and try using a piece of transparent tape. It should still work as before!

I do know that all 5.25" drives use LED sensors for write-enable/ disable detection (and sometimes, one to detect if the disk has been removed. Too bad no one ever made 1.2MB floppies with a high-density hole, and 1.2MB drives with a detection for HD/DD disks... then we wouldn't have the issue with what RPM the drive is spinning the
disk: It would automatically select it based on the media! We got robbed!!!

-   Ken

Date: Fri, 9 Mar 2001 18:24:26 -0800 (PST)
From: Dan Olson <dano@agora.rdrop.com>
Subject: Re: HD 3.5 "FLOPPIES" not Floppys!

Well, I hate to tell you this, but there are many 5.25" drives that use micro-switches for both write-protect as well as the disk-change switch. Also, yea, it'd be nice if there was some sort of physical notch on the disk that indicated density, but I guess when you think about it, the only way the controller knows the density is when it reads data from the disk, as there is no line sending the density data back to the controller. You'd still have to tell the software what kind of disk you are formatting, as well as reading before writing to determine the data rate. Guess they learned the hard way before making 3.5" high density drives.

Dan

Date: Sat, 10 Mar 2001 00:13:00 -0500

From: Jeff White <jhwhite@delphi.com>
Subject: Re: Re: 3.5" in place of 5.25" drive?

There is a solution to this problem of no DIP switch to select 40- or
80-track drive. Remember that the number of tracks is stored in
sector 0, the first logical sector of track 0/side 0, of the disk. Here
is the process:

(a) put disk in drive.

(b) reset drive to track 0.

(c) read sector 0, parse number of tracks.

(d) issue 2 steps inward.

(e) read track information.

(f) three possibilities:

case 1 -- track=2, single-step 40- or 80-track disk as recorded in (c)

case 2 -- track=1, double-step drive, better be 40-track disk in 80-
track
drive recorded in (c)

case 3 -- track=4, 80-track disk in 40-track drive, punt

This can be seen graphically if you consider that for each 1/48th
inch step starting at track 0, the tracks are normally numbered as
follows with "/" being the 1/48th inch boundary:

80-track: / 0 1 / 2 3 / 4 5 /
40-track: / 0 0 / 1 1 / 2 2 /

Note that I have shown that track pair (0,1), track pair (2,3), and
track pair (4,5) each occupy a 1/48th inch region for 80-track disks.
For 40-track disks, track 0, track 1, and track 2 each occupy a

1/48th inch region, which I indicate by showing each track in both halves (1/96th inch). [BTW, I am discussing 5.25" drives, which are either 48tpi for 40-track or 96tpi for 80-track. The same procedure will work for 3.5" drives, though they are typically 135tpi and case 3 should never happen.]

Lets test the pseudo-algorithm. Here are the disks we have: (A) 40-track disk formatted in 40-track drive; (B) 40-track disk single-step formatted in 80-track drive; (C) 40-track disk double-step formatted in 80-track drive;
(D) 80-track disk formatted in 80-track drive.

Put disk A in the 40-track drive. Number of sectors per track found on sector 0 is 40. Issue two step pulses and find that the head reads track 2. Single-step drive to read the 40-track disk.

Put disk A in the 80-track drive. Again, number of sectors per track is found to be 40. Issue two step pulses and find that the head reads track 1. Double-step drive to read the 40-track disk.

Put disk B in the 40-track drive. Number of sectors per track found to be 40. Issue two step pulses and find that the head reads track 4. Punt, the disk cannot be read in the drive.

Put disk B in the 80-track drive. Again, number of sectors per track is read as 40. Issue two step pulses and get to track 2. Single-step drive up to track 39 to read the 40-track disk.

Put disk C in the 40-track drive. Number of sectors per track is read as 40. Issue two step pulses and find track 2. Single-step drive to read the 40-track disk, hope for good alignment.

Put disk C in the 80-track drive. Number of sectors per track again is 40. Issue two step pulses and land on track 1. Double-step drive to read 40-track disk.

Put disk D in the 40-track drive. Hey, the number of tracks in found to be 80. Issue two step pulses and get to track 4. Punt, the

disk cannot be read completely.

Put disk D in the 80-track drive. Again, number of tracks is 80. Issue two step pulses and find track 2. Single-step drive to read 80-track disk.

I just gave you the READ disk workaround. It handles all common formats. It handles the use of 80-track drives on 40-track controllers to format half-capacity 40-track disks. It handles the 80-track drive, 40-track double-step disk (Myarc convention).

The FORMAT (INITIALIZE) disk software workaround is not as straightforward. A blank disk gives no information about the drive, so an intelligent format routine would be needed. Trying to format 80 tracks in a 40-track drive will possibly cause drive and/or disk damage, but unlikely. Deciding to double-step when formatting a 40-track disk in an 80-track drive is a portability issue -- must the disk ever be read in a 40-track drive?

The simplest thing for the format routine to do is to attempt what the use wants, then check the disk with read routine to see if it was accomplished. Attempting to format an 80-track disk or 40-track, double-step disk in a
40-track drive will result in less than 80-tracks formatted. If the drive intelligence will not step the heads beyond track 39 (40th track), then: (1) a head-to-head format will format and reformat the 40th track to be track 39 to 79 in sequence; (2) a side-to-side, step-in/step-out format will format and reformat the 40th track on side 0 to be track 39 to 79 in sequence, and the 40th track on side 1 to be track 79 to 39 in reverse sequence.

The simple check of the 80-track format would be to format to track 79, then step out. If track 78 is then read, all 80 tracks should be okay. If track 38 is read, then step in and format track 39 because it is a 40-track drive.

One would hope to know what drive types are on the system when formatting disks or better yet have a config file for the disk man-

ager software.

Jeff White
jhwhite@delphi.com

8
Date: Sat, 10 Mar 2001 14:22:03 -0500
From: Tony Knerr <knerr@erols.com>
Subject: Re: Re: Funnelweb problem

jlapo@factset.com wrote:
> ... when loading programs on the TI, all lowercase letters are missing!!
> I tried several different disks (a trivia program, a disk utilities program, etc.) and all showed the same problem. ... If anyone can even suggest a possible reason for this strange behavior I'm all ears. Why would lowercase letters (only) be missing from the program after being loaded from disk (and either run OR listed)??

I'll take a shot here, it could be one of several things:

1. Problem with the console, sounds like a bad grom or vdp ram chip. Try another console.

2. Problem with the XB cart, do TI Basic programs do the same thing?
If yes, go to #1. If no, probably a bad XB cart, try another XB cart. That pretty much oughta find the problem, unless there's a flakey connection somewhere in the system.

Tony

Date: Sat, 10 Mar 2001 20:29:50 -0000
From: jlapo@factset.com
Subject: Re: Funnelweb problem

> 1. Problem with the console, sounds like a bad grom or vdp ram chip. Try another console.

Don't think this is it - I've tried with 3 different computers, one of which is like new, and gotten the same problem on all.

> 2. Problem with the XB cart, do TI Basic programs do the same thing?
> If yes, go to #1. If no, probably a bad XB cart, try another XB cart.

This could very well be problem; however, I have no way of testing this theory. Does anyone have an extra XB cartridge that they know works that they'd be willing to sell to me? I already have an XB manual, so I don't need one. I've tested everything else, so unless this is a problem with the flex-cable interface card I've got to think it's the XB cartridge. (And since I don't see this problem with regular TI BASIC programs loaded from disk, I don't think it's the flex-cable card either.)

Date: Sat, 10 Mar 2001 23:22:22 -0500
From: "james fetzner" <ksarul@gcol.com>
Subject: Re: Re: Funnelweb problem

It might also be a corrrupt CHARA1 file.

Jim

Date: Sun, 11 Mar 2001 00:29:09 EST
From: David Chalfant <david.chalfant@juno.com>
Subject: NO LOWER CASE=

YOUR BIT BANGER IS PROBABLY DROPING A BIT SOME-
WHERE 8BITS = 7BITS = NO LOWER CASE & BEYOND
CHECK FOR BROKEN/LOOSE WIRES/ CONNECTIONS
CAREFULL DO NOT MAKE ANY.

Message: 22
Date: Sun, 11 Mar 2001 00:18:19 -0800 (PST)
From: Dan Olson <dano@agora.rdrop.com>
Subject: Re: NO LOWER CASE =#2

Um, he did say he tried 3 or 4 computers, right? Therefore you have a bunch of TI 99/4s and not TI99/4As :) I'd start with the cartridge first...

Dan

Message: 4
Date: Mon, 12 Mar 2001 17:27:07 -0000
From: computerclassics@hotmail.com
Subject: Re: Pilot 99

Eric,

PILOT is an acronym for Programmed Inquiry Learning Or Teaching. PILOT was and is a computer programming language unique to the TI-99/4A. Although it was never completed and thus never officially released by Texas Instruments, the rights to the language were acquired from TI by Thomas Weithofer, who did complete the language. Weithofer released the end product as PILOT 99 shortly before he died at age 22 of Cystic Fibrosis. According to Rick Felzien, writing in the December 1986 issue of the West JAX 99ers newsletter, PILOT is 3rd in speed of execution, with only to assembly language and TI Forth being faster.

One of the totally unique things that I like about PILOT is the ability to split the display screen. Hope this helps.

Bill Gaskill

Message: 5
Date: Mon, 12 Mar 2001 12:52:19 -0500
From: "Yates, Ben" <ben.yates@eds.com>
Subject: RE: Re: Pilot 99

You can't say it is unique to the TI. There were implementations
for the Apple II and other computers.
I have an Apple IIc that came with a Computer Assisted Instruction
program (CAI) written originally in PILOT.
BTW - TI PILOT DOES exist for the p-code card... PILOT99
gains the "split screen" from TI Forth, which it is written in. The
speed comparison probably did not include c99 (which would have
been new at the time), nor GPL (which wasn't yet publicly avail-
able). It's not a bad language, especially good for the teacher one
would assume...

Date: Tue, 13 Mar 2001 02:22:50 -0000
From: computerclassics@hotmail.com
Subject: Re: Pilot 99

Oops! Ben is absolutely correct about PILOT not being unique to
the TI. This link to the factmonster even bares witness to it.

http://www.factmonster.com/ce6/sci/A0860536.html

AND FINALLY....

Well it's the end of another issue of the TI*MES.

Please send lots of articles for the next issue as I will not have
much time to produce it.

It's the end of the tax year so I'll be really busy and more impor-
tantly we are expecting our first child, so lots of sleepless nights for
me!!

I hope to see some of you at the AGM and at the TREFF.

See you in the next issue.

Paul.