SHIFT838 Newsletter

This newsletter is dedicated to the ongoing support for the Texas Instruments 99/4a and Myarc Geneve 9640 user community and is published by SHIFT838.

In this addition I was able to talk with the inventor/designer of the CF7 and nanoPEB and I have published his response below for your enjoyment.

Thanks to all that have subscribed!

Interviews

[Custodio Malilong](#)

I reached out to Custodio Malilong to ask a couple of questions that I am sure most of us have often wondered.

1. How and why the idea of the CF7 and Nano-PEB was conceived?
2. What's new on the horizon for these devices?

I received the below quote from Mr. Malilong explaining this.

"*I had a TI-99/4a back in the 80's while I was a hardware/software developer. It was the typical console with Peripheral Expansion Box. That box had two floppy disk drives, 32K of RAM, Serial/Parallel ports and USCD pSystem.*

I later sold that system.

Around the 2000 I started back up with the TI-99/4a. However, when it came to the PEB and I remembered how bulky and noisy it was. So I decided to investigate what 21st century technology I could apply.

The IDE interface that is supported by Compact Flash seemed to an easy interface to the console's data bus. Also, EPROMs were readily available through eBay. So I used the Speech Synthesizer's signals to drive the compact flash. This was the original CF7: no memory, ran off the console's power, couldn't be used with a speech synthesizer and didn't work with Editor/Assembler.

To make CF7 more compatible with a real PEB I decided to use a CPLD to make all the "TTL glue" logic necessary to emulate the PEB and its boards. That was CF7+ with had 32K of RAM and a parallel port.

nanoPEB Version-1 came about because devices with parallel ports were becoming increasingly rare. So I modified the CF7+ to replace the parallel port with a TMS9902 serial port.

nanoPEB Version-2 came about because the TMS9902 is hard to find and is limited to 38400 bps. So I replaced the TMS9902 with an industry standard 16C550. Now 115200 bps is possible. In fact, even higher speeds are available but the TI-99/4a can't handle it!

What's on the horizon? Well, for starters the Compact Flash is becoming obsolete. Also, they (and SecureDigital) now come with 8gb or more. That is far more capacity than a TI-99/4a can handle. In addition, serial port devices are becoming rare too. Although I can't give any specifics at the moment, this is the problem I'm trying to solve today."

If you would like more information on the CF7+ and nanoPEB please visit the website at http://webpages.charter.net/nanopeb/

I can tell you, that I have both version 1 and version 2 of the nanoPEB and both are rock solid. The developer is extremely helpful if you experience any issues or just want to ask questions.

SysOp of Heatwave BBS (Kyle)

I also reached out to Kyle, SysOp of Heatwave BBS to ask a few questions about his BBS that I thought might be of interest to the TI/Geneve readers.

Q: Why did you choose a Geneve 9640 instead of a TI-99/4A?
A: **Partly due to a fascination with its concept, a "computer on a card". After I acquired one in late 2010 I decided that I would use it for the BBS mainly due to the increased speed and the PC keyboard.**

Q: What other BBS programs have you run before and why did you settle on S&T Software?
A: *This is my first "modern day" BBS. S&T is the Cadillac of BBS software for the TI/Geneve, plus Tim (the T in S&T) still supports it, so choosing it was a no-brainer for me.*
I ran a PC bulletin board from 1991-1995 which primarily ran using LSD BBS software, although I did also use Celerity for about 6 months initially. Summer vacation of 1988 I ran a small BBS with my TI, side-car disk controller, side-car RS-232, single floppy drive and a 300 baud Anchor Automation Mark III modem; do not recall which software. That particular modem did not have auto-answer, so whenever the line rang I would run into my bedroom and throw the answer switch. I was 13 at the time and was able to convince my dad to let me use his fax line for my summer BBS. Think I ran it til around Halloween, so it was up for about 5 months.

Q: Explain how you have your telnet and modem working on the Geneve.
A: *I use a Lantronix UDS-10 serial/Ethernet server to establish TCP/IP for the Geneve, just think of it as a serial-to-Ethernet converter. When properly configured, and with some basic port forwarding settings in my cable-modem/router combo, the BBS is accessible over the internet with the Telnet protocol. Heatwave also has dial-up access (yes, even in 2015!), and for that I use a program on an older XP laptop called SEXPOTS, along with an external USR 14.4k dual-standard modem. SEXPOTS basically just telnets a dialup call to whatever IP address you designate in the configuration file. The reason for answering the call with a PC is simply that the BBS software does not support multi-node, although Tim is looking into some software modifications which may allow this someday.*

Q: What was the slowest baud rate you remember surfing the BBS' with.
A: *300! Still have that old Anchor Automation modem I mentioned earlier, and every now and then if I have the patience I will use it with my TI and Telco to call Richard's board, The Hidden Reef.*

Q: What kind of system did you have when you first started BBSing.
A: *First time I called a BBS was in 1987, using my dad's brand new XT clone and a 1200 baud internal modem.*

Q: What does running Heatwave BBS involve?

A: *Running the board does not really require much attention, for the most part. About once a month I will back up the contents of the BBS from SCS1 to SCS2; I'm running two EZ-135 SCSI drives BTW. Until a month ago I also had an HFDC in the PEBox, so occasionally I would even back things up from SCSI to the Seagate ST-251 MFM hard disk. I also update the ANSI welcome and logoff screens about once a month. But for the most part the BBS is on autopilot and does not require much attention. The only thing I do on a daily basis is turn on the monitor just to see if everything looks like its running ok. I have found the board crashed a few times in the past, and I'm sure it will happen again in the future. I must say that none of the crashes were software related, Tim's S&T BBS seems to be bullet-proof in that regard. The crashes have all been due to some sort of equipment failure, like a dying MFM drive. So the last thing I want to see when I turn on the monitor is the blue Extended Basic screen.*

Software
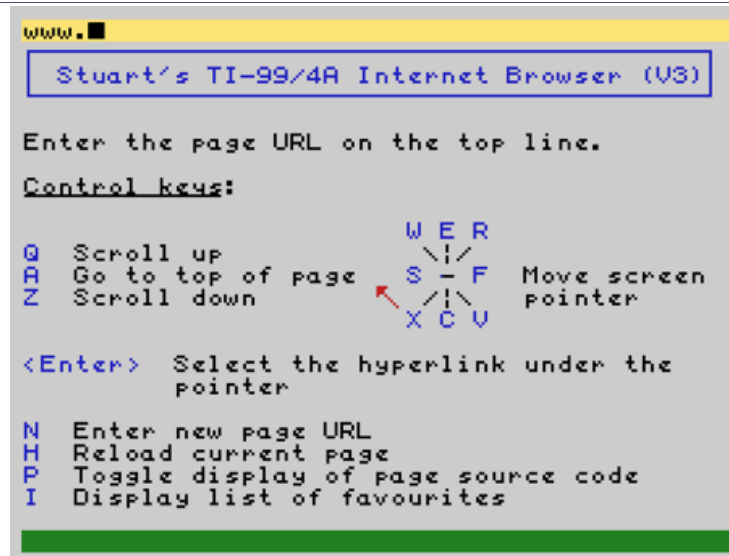
"Pie In The Sky" is REAL -- A TI-99/4A Internet Browser!

Partial Content and title of this review 'borrowed' with permission from Ω on AtariAge.

Communications between two computers have changed quite a bit over the last 30 years. Unlike how we all used to trade information by calling various BBS' and checking message bases and BBS email, we now have the Internet as a main source of information.

When the Lantronix devices were discovered to be compatible to be used on our little miracle machine many of us thought, 'It would be great to be able to access the internet from the TI-99/4A'. But we never thought it to be possible. But…

Sometimes miracles do happen. Just twelve short months ago the idea of having an Internet browser for the TI-99/4A was just another "pie in the sky" pipe dream, a "what if" or an "if only", well, no more! **Stuart Conner**, one of Atari Age's leading TI-99/4A "Uber-Programmers" finally made it a reality.

Stuart has developed the first Internet Browser for the TI-99/4A. Of course there are a few limitations. The browser is only compatible with a UDS-10 serial-to-Ethernet adapter. This adapter hooks up to the serial port of a RS232 card and accepts a Hayes AT modem character set. Stuart also made this to be the only communications program compatible with Nano-PEB.

```
www.■

  Stuart's TI-99/4A Internet Browser (V3)

Enter the page URL on the top line.

Control keys:

                         W E R
Q  Scroll up             \|/
A  Go to top of page  S - F  Move screen
Z  Scroll down           /|\  pointer
                         X C V

<Enter>  Select the hyperlink under the
         pointer

N  Enter new page URL
H  Reload current page
P  Toggle display of page source code
I  Display list of favourites
```

The browser does not work with any modern day web pages because the amount of HTML tags to be coded to be recognize by the browser is just too many. However, bespoke tags, which are the same for the display of the TI-99/4A are compatible.

Some areas that have been proven to work is checking local weather in your area and finding the IP address of a URL.

This browser is a huge step forward for communications and the TI. I am amazed of what other TI'ers think of and develop for our little gem.

For more information please read up at Stuarts website at:
http://www.avjd51.dsl.pipex.com/ti/ti.htm#internet_web_browser

And the AtariAge blog by Ω at:
http://atariage.com/forums/blog/567/entry-11693-pie-in-the-sky-is-real-a-ti-994a-internet-browser-updated-02032015/

TEXWARE Adventure Editor

I am sure there are many of you that spent countless hours playing the classic Scott Adams adventure series as I did. I always wanted to code an adventure game to be used with the Adventure Module and I finally did in 2014 and it only took me 30 years to get off my butt to do it!

My adventure game is a very short adventure riddle called '**The Locked Room**'. It can be found on the FTP site under my directory. It's a good game that will cause you to think outside of the box. No treasures to find, just figure out 3 simple tasks: eat, drink and escape the room.

Deciphering the manual to code this little adventure took a bit of reading but it can be done and when it clicks you can make some great adventures games for use with the Adventure module and a whole new world of coding opens up.

The adventure game is broke out into Messages, Locations, Objects, Counters and Flags. You can define logic statements using Nouns and Verbs that you assign in order to produce the response of the game.

If you have ever programmed in any language then the theories of the logic of the Adventure Programming Language will make sense.

Planning is key to this software, write it all down of what you want for the map, objects, locations, etc. before attempting to code it.

There are both long and short version of statements for the coding.

To give you an example of some of the coding, to check if you are at location 1 you would input :

?L1

?=Check if yes
L1 = Defined location #1

To check if you are NOT at location 1:

?NotL1 or ?NL1

To check if object #7 is visible in a room:

?Visible O1   or ?VO1   (These are 'O's not zeros)

I would suggest that anyone who wants a challenge or is bored and looking for something new to learn for the 99/4a then give this a shot! The TI world needs some new adventures.

Hardware

32k SuperCart PCB Board by Jim Fetzner

This is a 32k bank switched super cartridge and was designed so all of us do not have to cannibalize any more TI Invaders or Munchman cartridges (except for the EA GROM).

Bank switching and battery backed RAM. The PCB is very well done as usual and can be purchased at arcadeshopper.com

With this board no more jumping wires, cutting traces, etc. Just solder the components in and you are ready to go and start programming your own battery backed command module software.

Coding

I put together a small encryption program that runs in extended basic called 'CRYPTO' and allows you to save your passwords encrypted with the key you provide. A sample of the code is below

```
100 !++++++++++++++++++++
110 !+    Encryption Routine      +
120 !+    (C)opyright 2015         +
130 !+    BY CHRIS SCHNEIDER      +
140 !++++++++++++++++++++
150 CALL CLEAR
160 DIM CT$(50),DC$(50)
170 CPH=64
180 DISPLAY AT(2,1):"Encrypt >" :: ACCEPT AT(2,10)SIZE(13)BEEP:A$
190 B=LEN(A$)
200 FOR X=1 TO B
210 C=ASC(SEG$(A$,X,1))*CPH :: C$=STR$(C):: CT$(X)=C$
```

```
220 IF X=1 THEN NCT$=CT$(X)ELSE NCT$=NCT$&CT$(X)
230 NEXT X :: DISPLAY AT(6,1):"Your text has been encryptedto:" :: DISPLAY
AT(9,1):NCT$
240 DISPLAY AT(12,1):"Decrypt Text?[Y/N]>" :: ACCEPT
AT(12,20)SIZE(1)VALIDATE(DIGIT,"YN"):YN$ :: IF YN$="N" OR YN$="n" THEN END
250 Y=LEN(NCT$)
260 FOR Z=1 TO Y STEP 4
270 DC$(Z)=SEG$(NCT$,Z,4)
280 ZZ=VAL(DC$(Z))/CPH
290 DC$(Z)=CHR$(ZZ)
300 DCC$=DCC$&DC$(Z)
310 NEXT Z
320 DISPLAY AT(14,1):"Your Text was:" :: DISPLAY AT(16,1):DCC$
```

This program will take up to 13 characters, which is the max for the arrays I have
defined in line 160. The CPH variable is the value it will use to encrypt. It's fairly
straight forward and I am sure there are much better routines out there. I was just
experimenting with getting values of ASCII characters.

In short this program will take the ASCII value of each character in the string and
multiply it by 64 for a new value to be assigned and that is the encrypted text. To
decrypt the text and display it again the program will pull the full encrypted text into
a variable and step through it with the SEG$ command to obtain the encrypted
values. The program will then take the encrypted values and divide by 64 and
display the correct character in reference to the ASCII code.

I keyed the program to work for each new value to be a value of 1000 to 9999. It
could be modified to be more or less depending on what you want by modifying line
260 and 270.

In my actual program that stores the encrypted values, it stores them on disk and I
do not need an ARRAY setup, but I did the above for simplicity. The program will be
available on the FTP site under my directory soon.

Emulation

TI99 for Windows v4.4C by Fred Kaal

Fred Kaal has released a new version of his TI99 for Windows emulator which has
updated code for various areas including the RS232 and HDX DSR! Emulates quite a
few areas of hardware such as floppy drives, RS232, PIO,HDX, IDE, Joystick 1 and
2, TI Keyboard, 64k RAM, 64k GROM, Super AMS 1MB card and more.

I have not done a thorough test of the emulator as of yet, but I have tested parts of
the RS232 code with some Extended Basic programming for the serial port and it
works good. I want to test next to see if a BBS will run via his emulator with his
updated RS232 DSR routines. It will be interesting if it will and would open up more
opportunities for other TI'ers that always wanted to run a BBS.

I suggest if you have not checked it out give it a run through and see what you
think. It can be found at: http://www.ti99-geek.nl/

Resources

Contact information
To contact me please feel free to visit my website and click on the 'Contact' tab.

http://shift838.wix.com/shift838

A CHAT application has been added to the site for active live chat.

Newsletter Topics
If you would like to participate in the writing of this newsletter or provide any topics for this newsletter please contact me via my web site.

Sites
Below resources are just a handful of sites that support the TI-99/4A and/or Geneve 9640 computers. It is in no way a full list. This section will be included in all future newsletters. If there is a site that you think should be mentioned then please contact me.

Web sites / FTP Sites

http://www.99er.net

ftp://ftp.whtech.com

http://shift838.wix.com/shift838

http://www.ti99-geek.nl/

http://www.mainbyte.com

http://www.atariage.com

http://www.harmlesslion.com

http://www.ti99iuc.it

Yahoo List Groups:

https://groups.yahoo.com/neo/groups/TI99-4A/info

https://groups.yahoo.com/neo/groups/TI994A/info

https://groups.yahoo.com/neo/groups/Geneve9640/info

Active BBS'

HeatWave BBS

Access: Dial-Up and Telnet
System: Geneve 9640

Software: S&T BBS Software
Location: Arizona
Content: TI and Geneve file libraries, message bases, door games and e-mail.
Telnet to: www.heatwavebbs.com port 9640   Dialup : 602-955-4491 @ 8-N-1

The Hidden Reef

Access: Dial-Up
System: TI-99/4a Modified
Software: S&T BBS Software
Location: New York
Content: TI and Geneve file libraries, message bases, door games and e-mail.

The Keep

Access: HTTP and Telnet
System: Pentium 4 running Windows 2000
Software: Worldgroup BBS Software (up to 256 user connections)
Location: Tigard, Oregon
Content: TI and Geneve file libraries, message bases, door games, multi-user and multiplayer games and e-mail.
Telnet : www.thekeep.net port 23   Web browser to http://www.thekeep.net

The Keep has TI File libraries, Message bases, e-mail, door games, multi-user and multiplayer games. The keep also has a modem line connected for anyone that would like to contact The Hidden Reef BBS from the internet through The Keep.

Simply telnet to www.thekeep.net on port 23, login to The KEEP and then type /**GO DIALOUT** at the main menu, then D1 to dial out to The Hidden Reef. It's that simple.

Vendors

SHIFT838 – Provides used TI equipment as acquired. Check with me often. A lot of the items need rehoming from other TI Users.

Arcade Shopper – Provides old and new TI equipment, upgrades and new runs of PCBs at www.arcadeshopper.com

Repair Centers

Richard Bell
Repairs available on limited basis, please contact Richard at swim4home@verizon.net for wait-times before sending any repairs

Tim
Myarc-related hardware repairs on a limited, as-available basis. Contact Tim at insane_m@hotmail.com for wait times or to request service.