BITS, BYTESSPIKELS

LIMA 99/4A USERS GROUP



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AM INSIDER TALKS ADOUT THE 99/8 COMPUTER

The following appeared recently on the COMP.SYS.TI internet newsgroup.

From kmason@mack.rt66.com Mon Dec 19 11:18:04 EST 1994 Keywords: A heck of a lot more than a handfull.

There were over 300 (close to 350) 99/8 consoles produced in a pilot production just before upper management pulled the plue on the whole project. Units passing final testing were given (as was custom) to those involved in designing and managing the product. What was left over was given to other, less associated, people who either knew someone or themselves had enough political clout to obtain one.

The console was built around the TMS9980 (I think) processor. It had 64K of RAM on board with built in speach, basic, and p-code.

Primary expansion was intended to be via the 4-bit Nex-Bus (tm) through a flexible cable to peripherals such as the Hex-Bus (HB) floppy drive, the HB RS232/Parallel unit, The HB Streaming Tape unit (kind of a cross between a small cassette and an B-track), a HB 80 Column video controller, a HB 8.5in wide dot matrix printer, and the HB Plotter (a near-pocket sized pen plotter). The 99/4A console could be fitted with a Hex-Bus adapter to use the HB peripherals or to be slaved to the 99/8 (why I don't know).

Secondary expansion was to be out an expansion port similar to the one on the 99/4A and into the currently existing PEBox using a different adapter card. Some of the existing PEBox cards (RS232, 4-channel sound, E-PROM burner, Hard Disk Controller, to name a few) could be chipped (ROM change) to be compatible with the new console. The floppy controller was redesigned to operate double- sided, double density drives. RAM expansion cards were designed/produced in 256K and 1M capacities in anticipation of falling RAM prices. The 99/8 was designed to except up to 12MB of RAM (we shot for 16MB but there was a flaw in the mapper chip). The expansion port was designed around a right angle connector cable (the ones used in now older office phones) that would BOLT to the console and the PEBox. Most of the 300+ units prototyped had connectors similar to the 99/4A because some idiot in cost reduction made an unauthorized design change in order to save less than \$1 in production costs.

Since the 9980 was a member of the 99000 processor family, the 99/8 was fully backwards compatible with the

99/4A (and the 99/2) except that the 99/8 ran much faster. All of the 99/4A cartridges and programs would run on the 99/8.

One comment attributed to "upper" management (while considering the fate of the 99/8) was "12 Mega-bytes of RAM! My God, who would ever need that much RAM in a computer!" A more likely reason for killing the product was alleged that with it's speed and ample supply of existing business related software, the Data Systems Group (DSG) was concerned about how it would impact sales of their floundering Professonal Computer. The CIPC was a near IBM compatible PC that had to run modified MS-DOS, Lotus, D-Base, etc.

Well, this is running a bit longer than I entended so I better quit. Sorry for the ramblings.

Kirk

DONE

Extended BASIC Tips and Trix By: Andy Frueh, Lina UG

Some more interesting facts about the BASIC programming language.

You should be aware that the PRINT statement will print whatever follows it, whether it is a variable or something enclosed in quotes. However, did you know that if the PRINT statement is followed by a semicolon, the next PRINT statement will follow the first one on the same line? If the second line won't fit however, it prints as usual.

10 PRINT "This is a test"; 20 PRINT "TEST"

This is a testTEST

10 PRINT "This is a nifty test";
20 PRINT "This is a really nifty test"

XXUN

This is a nifty test This is a really nifty test

Numbers are printed with one trailing space. They are also printed with a lead space unless they are negative.

You may only have 31 items (30 commas) in any one DATA statement.

NEW 80 COLUMN CARD FOR THE P-BOX IS RELEASED AT THE FAIR IN G\TTINGEN

About 70 Tiers from Austria, Netherland, Belgium and Germany have attented the faire in G!ttingen from October 14. to 16. The most interesting part was the release of the 80 column card installation in the Peripheral Box. About 40 cards were made depending on orders and availability of the 9938 VDP chip. wires are connected between the console and the card. On picture 3 (Bild 3) you will find the component layout of the board which shows you the connection between the console and the card. the mainboard itself one wire has to be cut off which is shown on picture 2 (Rild 2). The console VDP U100 see picture 1 (Bild 1) must be removed for the 40 pin plug (Connection between console and card). The card is addressed on CRU base >1400 may not have any conflict with other cards. The card is delivered with a new GIF LOADER (later on the EPROM, U21) on disk handles the high sophisticated resolution of the card. I was impressed about the resolution between our EVPC (Enhanced Video Processor Card) and the Mechatronic card. The GIF pictures they were displayed on the Mechatronic card looks like "Picasso" on our EVP Card the same picture looks like a photography. The technical data of the EVP Card which is priced with 254, -- USD on the currency exchange base of 1,-- USD = 1,50 DM is shown below.

TECHNICAL DATA OF THE ENHANCED VIDEO PROCESSOR CARD

- linear RGB output for directional driver for terminate 75 Ohm wire
- digital sync. output for terminate 75 Ohm wire
- displays 256 colors of 512 simultaneousely in single mode
- 512 x 424 pixel with 16 colors maximal resolution
- 128 KByte Video RAM and additional 64 KByte V-RAM
- display of maximum of 8 sprites simultaneously
- 256×4 NOVRAM for SETUP etc.
- 64 KByte DSR-ROM (a modified version is in progress)

.... AND ADDITIONAL IN ENHANCED MODE:

- 256 colors of 256 000 (6-bit-Video-DAC) (expandable to 16 000 000 colors, 8-bit-Video-DAC)
- Pixel Mask to set separately
- Socket for Sound-Chip from the console and more features for software development

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This fine card have brought us:

Michael Becker (Designer)
J)rgen Stelter (Co-Designer)
Roland Meier (DSR, Software)
Harald Glaab (DSR, Software)
Sven Dyroff

If any VENDOR are interesting in for marketing this fine card in the U.S.A. they should send me an offer and suggestions of the contract to receive their COPYRIGHT. Please contact

> Gerd Weissmann Koenigstrasse 17-19 D-67655 KAISERSLAUTERN Tel./Fax 0631/12169 Germany

Here are an outlook for further projects. A SUPER GPL Card is in progress which can hold 16 desired modules on Flash Eproms—and Basic programs would run 10 times faster. But last not least, a new motherboard will be developed for P-Box—installatoion—to make the Flex Cable unnecessary. This new TI would have its 9900 processor.

NOTE: In a conference during the faire it is voted that the next faire in Europe would be held in Vienna, Austria in October 1995.

As far as the High Speed GPL Card concerning, I will give you some information about it. The schematics is finished and the layout must be done by the same person who has done the 80 column card, but he didn't know about it. He did a hard work to do the layout and assembling of this.

HIGH SPEED GPL CARD

The card is designed with 2 MB RAM/ROM and is 8 times faster in execution with the use of all modules. It has 16 banks (pages) with 64 KB each \pm 1 MB GPL ROM and contains GROM 0, 1 and 2; this 64 KB has additional $16\times4\times8$ KB ROM banks \pm 512 KB and 512 KB DSR ROM which can individual used; e.g. 192 KB of it can be used as GRAM/GROM.

Another hardware project is realized by Oliver Arnold that he has developed a Videotext interface which is now in production. With this unit you have the ability to dump the Videotext pages from your TV set onto the diskette. It is also compatible on IBM clones. You see, we are doing a lot.

GERMAN FAIR REPORT BY MARKUS KRAMER

I promised Dan Eicher of Delphi (at least I think he was it) to say some words about the German TI Fair in Goettingen this year (14.—16 Oct. 1994).

I'm sorry that you all had to wait so long and I apologize the shortness, but I'm still involved with dozens of non-TI related things;)

Here it comes:

It was a smaller meeting, surely:)
But all the important people (that are left:) joined! From
Hamburg and Berlin in the north of Germany to Munich in the south.
But not only Germans came, also people from the Netherlands, Belgium
and Austria.

And what was new? ... As you already read, the most important thing was the new 80 column card ...

Some new software ... I remember the RISC game of Oliver Arnold!

You also could buy some interesting stuff, like complete systems from Austria ... several boxes for only some bugs:)
[I bought a CorComp RS232 card, the interesting point with this one is that it has a jumper for using it as a RS232/3,4 and PIO/2 ...
I remember a discussing here on the point:
What to do to use a RS232 card as a second one?]

Also you could see some usual:) things like self-modified consoles "in all colors", so to speak!

Some people have self-build "PC-looking" TI's, means have build their own tower cases ...

We also could have a look at the (every year progressing) software of the Muys family from Belgium (perhaps you know Peter Muys with a very early MDOS editor and Bill Muys with his Tetris clone). Bill and his father (not Peter he is the brother of Bill and was absent this year) showed us the newest version of their stock broker program, which is really usable (Mr. Muys IS a stock broker), really impressive (graphics guys!:) and really unknown overseas ... at least to my knowledge!

I myself showed my own (more or less:) known software (like the XB series: "How to program efficiently scrolling graphics" and THE SpriteGen(erator), discussed some of my ideas (like an XB/AB compiler which is based on the idea to convert XB to Fortran instead of Assembler ...) and introduced FORTH+, which was really impressive for the people ... even to the Non-Genevers;)

Additionally I showed some 'new' toys like my Sharp printer/PLOTTER and the MBX Speech System, never seen working in Germany before!

Of course:) I had two of my systems with me. The first one is a 2MB Genny with two 1.44Meg, two 720KB drives and two HD's with lots of (legally bought software:) installed!

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The second one is a 'high armed';) TI system (f.e. with a 512KB Mechatronic GRAM Card) on the fair used as MIDI sequencer for my Roland Juno 106 analog synthy ... which was also played by my friend Joe ... he is the keyboarder of our Techno group NEUROPLEX (watch out for the first CD <big grin>:)

I'm really sure I forgot a lot of people and their great stuff ... sorry for that and this ad about myself :-)

Markus.

##DONE##

PARSEC

By Bob Gagle 1475 Evaile Drive Fairfield, OH 45014

Winning at Parsec requires more than just flying through a few asteroid belts, landing in the refueling tunnel and knocking off every alien fighter or cruiser you come across. To be a true Parsec master you need good eye-hand coordination, quick reflexes, and most important-a winning strategy. The following is a careful analysis of each of the Parsec enemies their individual habits and peculiarities and a collection of tips for nailing the little nasties before they destroy you.

First, let's take a look at the Swoopers. These enemy craft look like large-winged jets. They come in all colors and enter from the top of the screen, increasing their speed as the game progresses.

Never underestimate the power of these ships. Although they will not fire at your craft, they do have a tendency to ram into their enemies. When you encounter a Swooper try to stay in the far left hand corner of the screen. (Actually, it's a good idea to ALWAYS stay as far to the left side of the screen as possible.) When battling Swoopers you want to move fast, so it is best to use lift 3. In later levels, however, it might be necessary to use lift 2. for more precise aiming capabilities.

Shaped like tiny bullets, the Urbites are armed with two cannons each. When these ships are announced, fly immediately to the extreme top of the screen. Because they follow your vertical movements only very slowly, just move and fire. Stay away from the bottom of the screen, and you will be safe.

A sleeker version of the Swooper, the LTF will energe from the top of the screen and accelerate steadily. These multi-colored ships also resemble the Swooper in that they will not fire upon you. Their speed changes, however, are much more dynamic. They like to fly low forcing you to crash into the plane, so stay in the middle of the screen until they come up. The best lift for this level is 3, but be ready to change to 2 in dangerous situations.

Dramites look exactly the same as Urbites, but they track faster and have only one cannon. People say that these ships are the most deadly enemies in Parsec, but they can be easily destroyed by following these hints: 1) Always stay on lift 3 because Dramites are quite fast in tracking vertical movement. 2) Start as close to the surface of the planet as you can: 3) When the Dramite comes out, go up and down while firing occasionally, letting the ship follow you into your laser.

Tricky Saucers:

In my opinion, it is the Saucers who are the trickiest adversaries because they come from behind, seemingly out of nowhere. But never fear, they can be destroyed. If you have four or more ships in reserve, the Saucers will attack in random patterns. The best thing to do is stay on lift 2, and fly near the middle of the screen. If you notice a particular group is coming from the top or bottom, wait until they have been destroyed, then move your ship near their source. If too many Saucers are screen, switch to lift 3. And be careful! Sometimes when you fire your laser at Saucers on lift 3, it will go between the ship and the exhaust. It you have three or less ships in reserve, the Saucers will attack in a pattern starting at the top of the screen and moving down.

Bynites are very similar to Urbites, and can be easily destroyed. Begin as close to the planet as possible, using lift 3. When the Bynite comes out, move all the way to the top of the screen; fire at it when it gets there and then move. It works every time!!

Killer Satellites will appear after you complete the asteroid belt on level 4. Entering from all directions, moving erratically and firing frequently, these vicious foes are bent upon your destruction. They attack in random groups, at random speeds. The best strategy with these guys is to drop as far back as possible and use lift 3, because they are very unpredictable. There is no real sure way to destroy them.

Now that you are aware of your enemies' foibles and idiosyncrasies, here are a few pointers to improve your own performance. When you are in the asteroid belt. always use lift 2, stay at the bottom of the screen, and fire continually at the lowest asteroid. That way, if you miss your target, you can dodge it and retreat to the protection of the planet. Occasionally, you may get trapped; if you get into trouble, use lift 3. And be wary of firing too much, overheating is very easy. Also, you should always use lift 1 in the refueling tunnel.

I have found that in playing Parsec, joysticks do not respond as well as the keyboard; therefore I use the keyboard with the following finger placement; LEFT HAND: Middle finger on E key, pointer finger on X key, pinky and ring fingers control the lift. RIGHT HAND: Pointer finger on the period key, middle finger controls pause (p key). For horizontal movement, I interchange the fingers on my left hand (on the E and X keys) to the S and D keys whenever needed. Always anticipate where the enemy is going, and stay calm while pressing the buttons on the keyboard. Remember that until you get accustomed to the keyboard, it will be difficult to play, because all it takes is a split second to get killed if you remove your eyes from the screen!

5000 LUCK AND HAPPY AND HAPPY PARSEC-ING!!!!!!

EXPONESS

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Assembler Executing #11 By Bob Carmany

I'm back again for the last part of the DSR dump program. There isn't too much more to do. This is the part of the program that actually does all of the work. The next segment of code is commented and probably needs little explanation. Let's get started.

LDCR RO.8

LI R0,>0100 >0001 for 16 bit HRDs >0100 for 8
LDCR R0,8 <<<<<<<< 8 or 0 for 16
BLWP \$R9 VMBWD

DATA VDPBUF

DATA >4000, DSRLEN Assume no problems in reading memory mapped adr CLR RO

<<<<<<<<< > B or 0 for 16

NEXT PAGE

All we are doing here is setting up the type of DSR to be read. comments should be sufficient to figure out what is going on. Once the DSR type is set up, VMBW reads it into VDPBUF starting at >4000 (beginning of the DSR) for >2000 bytes. At this point, we have the DSR read into the VDP buffers and ready to dump to disk.

- Save file to disk
- # Error return to title screen

RO, DSRLEN

Load DSK length

MOV RO, @FILLEN BLWP *R9

Load PAB data to VDP

DATA VDPPAB

DATA PABDAT, PABLEN

RO, VDPPAB+9

Set SCNAME pointer

MOV RO.@>8356 BLWP @DSRLNK

FW DSRLNK (no data)

JEQ ERROR

Immediate error

MOV @CMSRFT,R11

RT

Fetch FW central menu return

ERROR BLWP @>0

The first order of business is to load the DSR length and file length in the VDPPAB. Both are in the last segment of code. The screen name pointer is obtained and the data is written to disk via the DSRLNK. If there is an error, the program returns to the title screen. Otherwise, F'WEB is re-entered via CMSRET which leaves Ril loaded with the F'WEB return address (another crafty trick from Tony).

* Various PAB data

PABDAT DATA >0600, VDPBUF, >0

FILLEN DATA >2000

DATA >OC

DNAME TEXT 'DSK5.DSRDMP1'

NXFILE EQU \$-1

PABLEN EQU \$-PABDAT

QUERY TEXT 'Which DSR CRU-base ?'

PRMLEN EQU \$-PROMPT

DSAVN TEXT 'Dump to file'

DSAVL EDU #-DEAVN

EVEN

END START

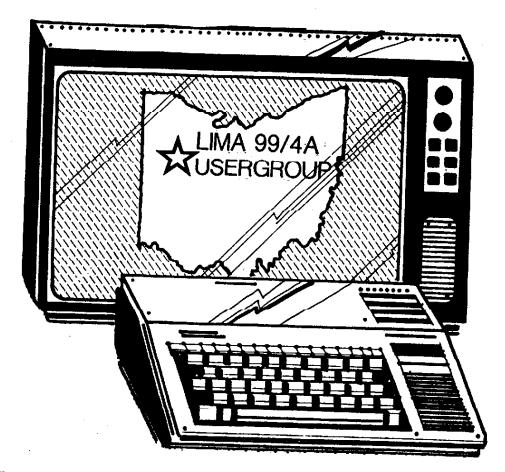
This last lot is simply the messages, PAB data and other bits and pieces used by the program.

The beauty of this bit of programming is that it makes full use of the F'WEB routines already in specific addresses in memory. Even using indirect addressing to access VMBW, F'WEB return, and fetching characters directly from the screen input. We will see where this all leads in yet another column ##DONE: LIMA MULTI USER GROUP CONFERENCE

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