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Gemini 80-Bus System

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#441

19th Oct 2020, 7:02 am

john newcombe

Pentode

Join Date: Apr 2019 Location: Skipton, North

Yorkshire, UK. Posts: 241





### Re: Gemini 80-Bus System

Yes it was an xbeaver screenshot. It was FORMAT.COM from CP/M (Bios 3.5).

https://glasstty.com/wiki/index.php/....28Bios 3.5.29

Also, once you have returned to the A> prompt every subsequent CR produces an extra linefeed.







#442



19th Oct 2020, 9:32 am

## JohnBHanson

Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK.

Posts: 564



#### Re: Gemini 80-Bus System

I tried that image and it does not have a format.com file downloaded from

https://glasstty.com/wiki/index.php/...5.QDDS.img.zip

and used the config line

board 0xe0 gm849 floppy -geometry 80.2.10.0.512 ~/beaver/disks/CPM BIOS 35.QDDS.img

but the directory does not contain a format program. Can you check I have the correct address and also send me the config. Thanks.









19th Oct 2020, 1:25 pm

#443

## iohn newcombe

Pentode

Join Date: Apr 2019 Location: Skipton, North

Yorkshire, UK. Posts: 241



#### Re: Gemini 80-Bus System

Really sorry, I am in the middle of moving house and have mixed up a few things on the website. All the CP/M Versions I have are now in the Software Library archive which is here. https://glasstty.com/wiki/index.php/...ry Disk Images

Once the archive is expanded, you will find the Bios 3.5 boot disk with Format.com in the folder called GM555 64K CPM.

Really sorry about the confusion. I have updated the website to make things clearer.











19th Oct 2020, 4:29 pm

## JohnBHanson

Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK.

Posts: 564



#### Re: Gemini 80-Bus System

Thanks - It got the program and the same effect as yours. Problem is it performs an unlisted escape sequence ESC 8. Why? I cannot find any documentation that mentions this code. On a real SVC card with version 4.1 software it appears to be ignored. The next 1a byte clears the screen - having already output the copyright message, again strange.

On the emulator this takes the next character and uses it as the font height for the screen mode. That is why you see a taller font which you said was double spacing. This is an extra escape code added by me.

I need to work on a option switch to sort out this incompatability.

– Attached Files –













#445

## 19th Oct 2020, 6:42 pm

## JohnBHanson

Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK. Posts: 564



#### Re: Gemini 80-Bus System

Good news - I have added more options to the gm832 svc card board line.

By default these are disabled, but extra functions and extra screen resolutions can be selectivly enabled.

Note that this now seems to run the format program correctly. However xbeaver.cfg need these extra features for the startup screen hence xbeaver.cfg has changed.

I still don't know what esc 8 does or why it is sent. Also the initial message is followed by esc 8 1a. 1a does a clear screen afterwards, very strange.

What version of SVCMON have you on your MFB system - I have checked against V4.1 and it appears to work.









19th Oct 2020, 9:38 pm

#446

### iohn newcombe Pentode

Join Date: Apr 2019 Location: Skipton, North

Yorkshire, UK. Posts: 241







#### Re: Gemini 80-Bus System

I have the MFB version of Simon 4.1 in the GM916 MFB Machine. There is a Simon 4.2 on the glasstty resources page but this is non-MFB.

I am sure you will have looked already but I have the SVC Manual here and I can see that 1a is the clear screen command, however, I cannot see any reference to ESC 8. I presume you mean 1B 08 rather than 1B 38 (esc "8") either way, there seems to be no documented reference.









## JohnBHanson

Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK. Posts: 564

### Re: Gemini 80-Bus System

No I really do me 1bh 38h or in ascii ESC 8

The SVC Card uses ESC 1 through ESC 4 for the 4 screen modes it supports.

The emulator has extended that for ESC 1 through ESC 9 to give higher resolutions. Because of the way cursor position is encoded the limit is 222 columns (Offset of 32, and cpm does not like outputing 0xff or 0xfe in some versions).

Why the format.com program does is I do not know. On a real SVC card it appears to do nothing. This code is followed by a 1ah which clears the screen. This is also strange as it has just output a copyright message before the ESC 8 ^Z sequence. So the program erases its own copyright message.

On the emulator before the patch the ESC 8 sequence swallowed the next character for the font height. which is why it looked like double line spaced.

Even worse - the format.com is coded so that the copyright message is not in plain text, but is generated by subtracting a sequence from each character in a string and outputing that.

Why a program would go to such lengths to hide its copyright message is strange - first hide it coded in the binary and then erase it from the screen as soon as it is output. The only thing I can think of is that this copyright is in a library and the author of format wanted to hide the use of the library.

Very strange indeed.

If you want to experiment vpm/m supports the vdu command which can take decimal or hex arguments eg

vdu 1ah

vdu 1bh 31h

etc

(There is also lpt which does the same for the printer).

Of course you can always use chr\$(27) etc in basic.

can you please run vidreset which will make the SVC card report its software version number. Thanks. (I have 4.1 which is also what my emulator reports).

Last edited by JohnBHanson; 19th Oct 2020 at 9:58 pm.











## 19th Oct 2020, 10:14 pm

## john newcombe

Pentode

Join Date: Apr 2019 Location: Skipton, North

Yorkshire, UK. Posts: 241







### Re: Gemini 80-Bus System

Will run vidreset in the morning but I am 99.9% sure it is SVC Version 4.01. (Note, 4.01 not 4.1).









#449

### john newcombe Pentode

Join Date: Apr 2019 Location: Skipton, North Yorkshire, UK.

Posts: 241

#### Re: Gemini 80-Bus System

The SVC on my machine is reported as V4.01 1984 when using vidreset.com. I hope that helps. It looks like I don't have a dump of this version only V4.1. At the moment the cards are innacessible as the house move leaves me with several machines stacked next to each other. If it was important I could drag it out and unpack my Dataman to get a dump of it.

I am still having difficulties with T-NET on the machine. I have communications i.e. I can send a char using GEMDEBUG to B4 and see it on Minicom on the server machine and I can see chars comming in on B4 from the server machine. However, a DIR returns a frozen cursor i.e. it stops flashing and a hard reset is then required.

I am wondering if I have the correct version of T-NET I vaguely remember that you re-compiled a version for me when I was experimenting with the Rack System, I am not sure why that was though. I may be mistaken, I usually am.











Yesterday, 9:52 am

#### #450

## john newcombe

Pentode

Join Date: Apr 2019 Location: Skipton, North Yorkshire, UK.

Posts: 241



### Re: Gemini 80-Bus System

I sould have said, on the server side is see the following:

#### Code:

```
: Baudrate requested 9600 set 9600
Trace tty
             : Modem control RTS:1 DTR:1
Trace tty
byrnet file server running - use t-net on the clients to connect
Trace tty < 00:00
Trace tty > 00:00
```

The two final trace messages appear when I issue the T-NET N command on the Gemini.

My Configuration is:

#### Code:

```
#XBEAVER network server configuration file
#Define as a server file - eq no main processor activity
cpuclock 0
                         baud *tracing*
                                              *ttyport*
                                                                ************
```

board 0x00 serial extloop 9600 trace tty tty /dev/ttyS0 bvrnet ./NetworkDrive

echo

echo byrnet file server running - use t-net on the clients to connect











#451



Yesterday, 4:55 pm

## JohnBHanson

Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK.

Posts: 564



#### Re: Gemini 80-Bus System

Sorry for the delay. You should be using gemdebug with port b8 on a gm813. B4 is the centronics printer port. However your diagnostic from xbeaver looks correct which indicates that port b4 is the serial port - this is non standard.

Configuration looks correct for the motherboard serial port /dev/ttyS0. However you did report on your website that previously you

had to use a usb port because of a problem with the linux serial port. If you are using your mac with docker /dev/ttyS0 maybe correct

especially as you appear to send characters it

The same program should work as for the rack system.

PS - just checked thet in your TNET.1.GEMDDDS.IMG and that works on the simulator - so that should be your correct program assumint the serial port is at b8 (The standard).

Thinking about it the serial port could not be at b4 as it requires a block of 8 io addresses.

Last edited by JohnBHanson; Yesterday at 5:08 pm.











### #452

### Yesterday, 5:32 pm

### john newcombe Pentode

Join Date: Apr 2019 Location: Skipton, North

Yorkshire, UK. Posts: 241



### Re: Gemini 80-Bus System

I have no idea why I said B4, it was B8 I was testing with. I have now tried all versions of T-Net that you have sent me over the last year or so just in case they were any differences but alas no joy so far.

Now that you have conformed I am going in the right direction I will do some more digging.

I have attached the RO201 disk contents. This is only the files for now, however the system track looks to be the same as the gem925mfb disk that we already have.

I have just spoken with Charles, the original owner of the machine (and disk!) and have removed a few things that were personal to him. I have checked the rest and it all looks good with no personal data on it.

The disk contains files from both the MFB-1 and MFB-2 systems. This adds to my collection of software and I will try and get what I can documented and sorted out. I will pop the key applications on to separate QDDS floppy images for posterity. I also have both the MFB-1 and MFB-2 user manuals, I will try and get these scanned properly once I have moved house.

Attached Files

Harddisk.zip (1.57 MB, 1 views)







#453



Yesterday, 5:53 pm

## **JohnBHanson**

Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK.

Posts: 564



#### Re: Gemini 80-Bus System

Here is a program to read the svc rom. It copies the rom to address 8000h in processor memory. If you get the time run this on \*real\* hardware and then use a debugger to copy the 8k (length 2000h) down to address 0100h and then exit the debugger and use the save command to generate an 8k file.

The debug command depends on what debugger you use.

The save command to use is A>save 32 svcrom.rom

No urgency though provided the format program works on you systems (emulated and real). Thanks.











Yesterday, 6:31 pm

## john newcombe

Pentode

Join Date: Apr 2019 Location: Skipton, North

Yorkshire, UK. Posts: 241





## Re: Gemini 80-Bus System

No problem I will try and do it tomorrow. Yes the format program does work on the real hardware I have used it to create a ODDS boot disk for the rack system.









## JohnBHanson

Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK.

Posts: 564





And here is the program....

- Attached Files -

svcprog.zip (1.1 KB, 1 views)







#455



## iohn newcombe

Pentode

Join Date: Apr 2019 Location: Skipton, North

Yorkshire, UK. Posts: 241



#### Re: Gemini 80-Bus System

I have copied and uploaded the SVC 4.01 MFB ROM image to the Gemini 80-Bus Resources page.

https://glasstty.com/wiki/index.php/...01 MFB.ROM.zip

I also now have T-NET working and it took some sorting out. Both my Linux box and the Gemini have their serial ports defined as DTEs which is what I expected, however, the Gemini has the TXD and RXD reversed so neither a DTE or DCE but something of both. I have created a custom cable for now but will sort it all out and make it a proper DTE once I have moved house. Anyway the upshot is that I now have my Gemini networked to a Docker container runing on my Arch Linux box. This also works on my Mac, and Windows should work also.

I will create a Docker 'run' command that starts the server automatically and post it to Docker Hub and glasstty.com when I get chance. That way the server can just run under Docker in the background.











#457

## Today, 3:16 pm

## JohnBHanson

Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK.

Posts: 564



### Re: Gemini 80-Bus System

Swapping pins 2 and 3 on an rs232 is a common trick - I almost mentioned it and now sorry I didn't.

Thanks for capturing the SVC ROM. It will be worth doing an image of the hard disk over T-NET for use with simulators etc (Including xbeaver 

).

Disked can copy an entire disk over into a file on a t-net server I have done it with floppies.

Best wishes on the move.



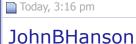








#458



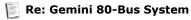
Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK.

Posts: 564





PS Did the format program work on xbeaver.







#459





## john newcombe

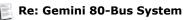
Pentode

Join Date: Apr 2019 Location: Skipton, North

Yorkshire, UK. Posts: 241







Looking at DISKED it wasn't clear to me which command I should use to image the disk, any pointers?







#460



## JohnBHanson

Heptode

Join Date: Aug 2009 Location: Worthing, Sussex,

UK.

Posts: 564

### Re: Gemini 80-Bus System

For disked

Type? for help

All commands are single letter (Case is important - comments in brackets do not type).

Run disked A>disked A:

Disked>t0 (Select track 0) Disked>s1 (Select sector 1)

Disked>Fsn:image.dsk (Select file to dump to)

Disked>Fwnnnn (Write out file of length nnnn\*128 bytes)

Disked>Q (Quit)

Notes numbers are entered as hex or as %decimal - eg 10 or %16

? normally gives help at any stage.

PS - not sure append mode works through t-net.

Depending on the bios you maybe able to use nnnn as the full size of the disk. The I command gives infomation and D selects the disk. Using I on disk B may give you the total size of the disk (If it has a large OFF in the Disk Parameter block). In that case multiply Sectors Per Track by number of tracks reported to calculate nnnn. Then proceed as above USING disk A and the value of nnnn calculated.

Disked is worth getting to know. Note at start up the disk is write protected. This is toggled by the w command. Note that changes to a sector can also be undone with the U command. So it is easy to learn without risking damage.

Last edited by JohnBHanson; Today at 5:23 pm.

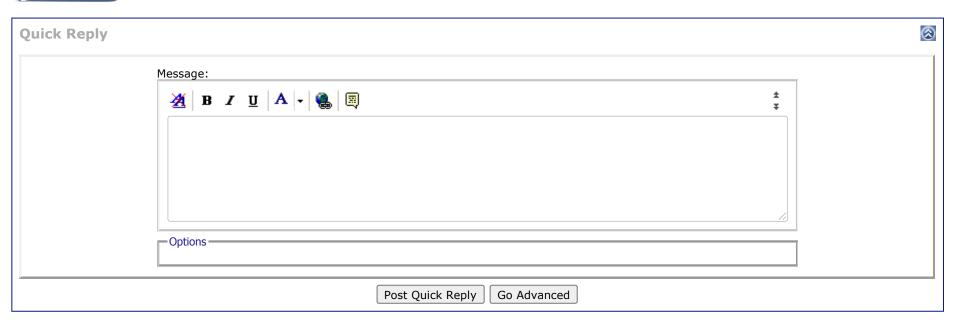








\( \lambda \)



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