Upcoming VCF Events

Need some help with 8 inch floppy drive...

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Adventurer

February 28th, 2017, 04:39 PM

Quote:

2 Attachment(s)

Originally Posted by ***Chuck(G)***

If you apply power and ground the appropriate drive select, you should get the LED. Otherwise, nothing should happen, assuming that you have the correct pullups installed.

Thanks, got it sorted out - 5V power supply ceased to exist, so installed a new one.
Drive setup is currently like this:

Attachment 36640

The differences from standard are:

Could not find trace 5E, not from the picture, it is either not connected or permanent trace without jumpers
Drive select set to DS2
Sector output set to 850 (851 was waiting for hard sectored floppy)
Allow write when write protected
Could not find trace M anywhere, it is either not connected or a permanent trace without jumpers
Drive input is terminated with 7 1K resistors
Every other jumper is set as standard, according to the picture - either connected or free

Now:

286 PC

The 286 is able to read/write in limited formats due to FDC incompatibility, but it works, there is a single drive A: in BIOS now

Intel Celeron 2.6

It does recognise drive as A: on switching on, drive access light goes on, solenoid makes a click (no seek yet), but, after saving changes to BIOS, it reboots, and shows "Error 601 floppy controller", and drive A: is removed from BIOS. Can repeat as many times I want:

First time:

BIOS recognises the drive, access light and solenoid engages, BIOS reboots - and drive A: is lost

What am I missing, and why it works properly on a 286?

Chuck(G)

February 28th, 2017, 05:21 PM

What are you using for pullups? The original spec called for 150 ohms, which means that drivers need to sink about 30 ma. A lot of later motherboards are oriented to 3.5" drives and can't sink the required current. (the old controllers used something like 7438 buffers to drive the lines). 150 ohms on a short line is a bit excessive; try 1K for pullup and see if that helps.

Adventurer

February 28th, 2017, 05:28 PM

Quote:

> *Originally Posted by* ***Chuck(G)***
>
> *What are you using for pullups? The original spec called for 150 ohms, which means that drivers need to sink about 30 ma. A lot of later motherboards are oriented to 3.5" drives and can't sink the required current. (the old controllers used something like 7438 buffers to drive the lines). 150 ohms on a short line is a bit excessive; try 1K for pullup and see if that helps.*

I'm already using 1K - was no difference :(

MikeS

February 28th, 2017, 07:25 PM

Quote:

> *Originally Posted by* ***Adventurer***
>
> *Intel Celeron 2.6*
>
> *It does recognise drive as A: on switching on, drive access light goes on, solenoid makes a click (no seek yet), but, after saving changes to BIOS, it reboots, and shows "Error 601 floppy controller", and drive A: is removed from BIOS. Can repeat as many times I want:*

I still think that the activity light and head load should not be active "on switching on," but only after actually selecting the drive. Could the cabling be different on the Celeron?

Adventurer

February 28th, 2017, 08:25 PM

> Quote:
>
> *Originally Posted by* ***MikeS***
>
> *I still think that the activity light and head load should not be active "on switching on," but only after actually selecting the drive. Could the cabling be different on the Celeron?*

It does not switch on immediately - only when PC checks its hardware few seconds later - switching head load and moving to track 0, the same what happens with a 3.5 inch drive. It works as it should.

Meanwhile I found another PC with Celeron 2.8 - BIOS recognises it fine, I can access it, format, but FDC controller is completely incompatible, so I can not really do much.

For a moment I was able to access the drive even on Celeron 2.6 with the most compatible FDC controller, but after a moment, in the middle of reading it stopped responding with ImageDisk error - no interrupt from FDC. Maybe I need 2K resistors instead of 1K for termination? It appears that floppy controller engages, but shuts down after a while, but it can read/write data and access the drive at this short moment.

Chuck(G)

February 28th, 2017, 08:51 PM

That "no interrupt from FDC" refers to the fact that the FDC isn't seeing an index pulse.

The 765 as used in a PC doesn't have any "Drive Ready" signaling (that signal is NC in the PC design). So a timer is used to determine the drive's ready status and the FDC itself is programmed to abort if two index pulses go by without a sector being found. So, if IMD assumes that the drive is ready and there's no index pulse timeout, it puts up that message.

A floppy drive is pretty brain-dead--it mostly tries to do what it's instructed by the FDC and, in the case of the PC implementation, only gets back READ DATA, INDEX, WRITE PROTECT, and optionally, DISK CHANGE (on 360K and some 720K drives, that status line isn't used).

Adventurer

March 1st, 2017, 01:27 PM

Finally a progress - I was finally able to make an Image of IBM Displaywriters document floppy, and was able to confirm, that my written text is really there. In fact, IBM used an odd code table, so it

4 Attachment(s)

has to to converted first to be read on anything:

Original text as seen on IBM Displaywriter:

Attachment 36651

The same portion of the text, as seen in DOS mode, in an uncompressed image file:

Attachment 36652

And finally, after making conversions for the text to be readable:

Attachment 36653

Was also able to make an image of IBM Displaywriter DS/DD with a Textpack 4 - image size is 534KB, and in fact, Displaywriter needs a part of it to be in SD/128 format, which my controller can not write, so I'm not sure if the image is usable before I get a compatible FDC adapter. Still, things are looking much better than before:

Attachment 36654

Meanwhile thanks everyone for helping out, it could have taken much longer to solve everything. Still, for me this was not an easy/peace of cake experience...

KC9UDX

March 1st, 2017, 01:39 PM

Odd code table? EBCDIC?

Chuck(G)

March 1st, 2017, 06:55 PM

Yes, the DW is an EBCDIC machine. (Well, it's IBM, isn't it?) That includes the printer.

KC9UDX

March 1st, 2017, 10:57 PM

As much as I cringe thinking about coding for EBCDIC, (how bad would it be anyway, in those rare cases where I'd need it, using a look-up table), it would be fun to own a machine that uses it. But it would have to be something that I'd write software for on a regular basis, as opposed to something single-purpose.

Chuck(G)

March 2nd, 2017, 12:48 AM

There are a fair number of those

But realistically, it doesn't matter most of the time--you do have to switch mental gears

when reading memory dumps, however.

KC9UDX

March 2nd, 2017, 04:22 AM

Quote:

*Originally Posted by **Chuck(G)***

[url=https://en.wikipedia.org/wiki/PC-based_IBM-compatible_mainframes]There are a fair number of those

But realistically, it doesn't matter most of the time--you do have to switch mental gears when reading memory dumps, however.

I had an XT/370, or was it AT/370, for a short while. It was part of a large cache that I obtained and couldn't keep all of, unfortunately. I powered it up just enough to not be able to use it, just once. It just didn't seem to me like something I could really play with without very serious effort. But this was before the days of finding everything you needed to know on the WWW.

Chuck(G)

March 2nd, 2017, 04:36 AM

Part of my "baptism by fire" when I was starting out was the assignment of finding the cause of failure as reported by users. The guy I was assigned to looked like he'd been through hell and he had a pile of these things, each stapled to about a 400 page dump about 5 feet high and 15 feet long. It was probably a safety hazard, should an earthquake have hit. Each dump had 65Kwords of central memory (60 bit words), ten 4K (12 bit words) dumps of PPU and 2M words of ECS--and a yellow sheet stapled to the top with the problem.

I don't recall how many of the things I actually solved, but I learned to read octal something fierce, reading text as well as instructions and tables. It was frustrating, daunting and educational.

Adventurer

March 2nd, 2017, 07:17 AM

I'm wandering if anyone has ever made a program to get text from a Displaywriter document floppy? So far the only option seems search/replace utilities/macros, but still - if text is in different segments, I can not automatically patch it together...

Adventurer

March 2nd, 2017, 03:26 PM

Just when I thought I got everything under control, a problem again. 2 Attachment(s)

First- the Celeron 2.8 refused to turn on (5 seconds, and it switched off), if the connected 8 inch drive was switched on. Then, after multiple retries, it did switch on, and it seemed that everything works, fine, however, it is no longer reading one side of the disk, in fact, ImageDisk thinks it is SSDD instead of DS/DD.

Attachment 36682

If I manually select two sides, I get this picture - it tries to read, but can not:

Attachment 36683

The data are read correct from one side.

Tried - replace SCSI cable, remove floppy cable, reconnect, restart - the same. Besides, it does not matter which disk I put in the drive - it reads them all as single sided.

Overloaded floppy controller?
8 inch drive electronics failure?
Something else?

This is one of the moments, when I really want to take a heavy hammer, and crush all this into pieces. It feels like there are small gremlins living inside my equipment, just waiting for a moment to strike...

Needless to say, that everything worked yesterday, and I have not moved/connected/reconnected anything.

Adventurer

March 10th, 2017, 09:01 AM

Finally got a fully compatible system - an old Compaq Deskpro: 2 Attachment(s)

Attachment 36844

According to FDADAP it can read/write in all available formats:

Attachment 36845

However, when I connect my 8 inch drive, it can really do nothing - It can write in none of the formats, and has very poor media reading results with ImageDisk. BIOS recognised the drive correctly, I can format it with ageDisk, but that is all.

Two other systems with less compatible floppy adapters at least are able to get data from the floppies, this can not.

Will try to terminate with 2K and then 3K resistors, I am really out of ideas...

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