
Subject: Kiss68030 Updates

Posted by [denis2342](#) on Thu, 14 Mar 2024 13:33:07 GMT

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Hello

Some news on the KISS 68030 CPU Board front:

I made a new v6.8 Linux Kernel with builtin support for the USBFIFO from will. It will appear as /dev/ttyUF0 (USBFIFO needs to be on address 0xFFFF000C and irq set to IR1).

It was build with the changes from this post:

<https://www.retrobrewcomputers.org/forum/index.php?t=msg&th=780&start=0> but with newer kernel source and the usbfifo module as addition from me.

On the hardware itself I changed U303 from a 74LS14 to a 74ALS04. This Logic IC controls the reset line to the CPU.

But at a cold start the CPU begins to come to life at about 2.4V and this 74LS14 is still sleeping, when it then wakes

up and resets the CPU (because normally the CPU should be cold started with the RESET pin active) the CPU

seems to stall. This can be changed with a 74ALS14 which is a little faster, even better would a 74AHCT14 or best

would be a 74AHC14 (starts operating at 2V) but for that the 74F164 ICs need to be changed to CMOS (best would be 74AHCT164).

With this change I can run at 36.096Mhz reliably for days. A 74AHC14 is on the way to me and I will test 40MHz soon.

Now to the MF-PIC board:

the way to less waitstates is to speed up the signals to the NS32202. the CS signal (chip select) is too slow

for 2 wait states. one way to speed it up is to change the 74LS139 in U13 to a 74AHCT139 or at least

a 74ALS139. Also all other ICs on that board can be changed to faster ALS versions (or AHCT). (the 74LS688 would be a very good candidate, but the ALS version of it are hard to get now).

btw, the 688 could be replaced by a GAL as a drop in replacement.

With these changes I can run my board with 33MHz and 2 WS for the IO boards.

Denis

File Attachments

1) [vmlinux.gz](#), downloaded 99 times

Subject: Re: Kiss68030 Updates
Posted by [coredump](#) on Fri, 27 Dec 2024 01:35:17 GMT
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denis2342 wrote on Thu, 14 March 2024 14:33Hello
(the 74LS688 would be a very good candidate, but the ALS version of it are hard to get now).

The reply comes a bit late but maybe it's still useful:

74ALS521 drops in and in comparison with LS688 it is somewhat faster at ~1/4 static power consumption. Affordable.

74F521 has higher nominal input loading but is even faster with ~1/2 static power consumption. Maybe a more joyful replacement. Even more affordable...

Have fun
Detlef
