MOOC Framework - Support #22851

Add new 3805 board

07/01/2019 09:44 AM - Richard Neswold

Status:	Assigned	**Start date:**	07/01/2019
Priority:	Normal	**Due date:**	
Assignee:	Richard Neswold	**% Done:**	0%
Category:	sis380x driver	**Estimated time:**	0.00 hour
Target version:			

Description

Peter Filip asked that another SIS3805 board be installed at MC7b. He mentions "... PREP could not confirm these SIS 3805 boards were 100% OK ..." and that they hope to use ECL inputs to the cards.

Dennis responded with the following configuration information:

> We only use the A16 address space, so what really matters are the A16 rotary switch, the J_A11 jumper, and the enable A32,A24,A16 jumpers. I think the A16 rotary is the topmost one in your photo. J_A11 is just beside it. The EN_A32/24/16 jumpers are beside the 4th rotary (from the top). So what you want is J_A11 and EN_A32/24/16 set the same as on the existing card. and the A16 rotary set to something different than your existing card. From the s/w configuration files, I think your existing A16 is 7. So having 3 on this one is great. That will work.
>
> You want J_A11 set (well, make it the same as the existing one), I think being open is a 1.
>
> From what I can tell from the photo, it looks like you have EN_A32 set, but 24 and 16 off. Make the A16 jumper on, but the others off (again, it should look like the existing one). More details here:
>
> https://cdcvs.fnal.gov/redmine/attachments/download/41754/Struck_SIS-3805_VME_scaler_manual.pdf

History

#1 - 07/01/2019 09:46 AM - Richard Neswold

On June 26th, **Dennis** reports:

> I created the devices (named Z:NOVTSD** and have the front-end talking to the boards (1 at a time). Currently talking to the one at 9. I got the same result with the board at address 3. I don't successfully see anything counting. As soon as I enable any of the channels, 7, or 15, or whatever, I see the channel 0 reading go to -1 (0xffffffff), but nothing on the channels I enable.
>
> I do note that these two cards are a different version of firmware (1, instead of 2) than the 3805 that we've dealt with successfully in the past. But I hope that isn't the problem here.

#2 - 07/01/2019 09:54 AM - Richard Neswold

On June 27th, **Peter** responded:

> It appears New SIS 3805 boards we are trying to use are ECL type, because FLAT cable input of TTL type would have (+) pin connected to ground (see attached), and I have tested right now: none of the pins on input socket is connected to Ground. Also, there is a removable 100 Ohm resistor network (8x each) before each four 74F245 Transceivers.
>
> "Old" VME scaler board, which works (mapped as Z:NOVTSCxx), is of 3800 type, while new boards are 3805 type. They came from PREP with "CDFx" address, and with Jumper 500 setting [On,On,Off] = custom Firmware. I have selected Jumper 500 [On,On,On] = Default Firmware. (there is a chance to try using original [On,On,Off])
>
> When New board was enabled and "reading data" yesterday (Yellow LED "A" flashing), the Red Led "OVL" was also flashing. OVL Led On = Copy In Progress (CIP). This looks OK, I think. (?)
>
> Another difference is: "old" board has J101 - J108 set ON (LEMO 8x inputs) while new boards have J101 - J108 OFF (Flat 20 pin input). J101-J108 means disabling 100Ohm termination of "Control Inputs", so this should not affect counting of input channels, I think.
>
> I can still test the input channel data CABLE orientation, although, my checks were suggesting the orientation was OK, with red wire at "1"....
>
> ...

I suggest to test the original firmware = Jumper 500 setting, and cable orientation in the morning.

Board with address "3" is in my hands now = it was removed from VME crate yesterday evening.
Board with address "9" is in VME crate, it was communicating OK = flashing Yellow light.

And later in the day:

I plugged in also board with address "3" this time with original J500 = (ON,ON,OFF), and board with address "9" is with J500 = (ON,ON,ON) = 0,0,0, = default firmware. Board "9" communicates (Yellow light flashing) and this time = now = "OVL" (red LED) stays OFF.

I will enable Z:NOVTSCxx and Z:NOVTSDxx now using ACNET console.

Both boards "3" and "9" get 10Hz input ECL at ch. 07 and 15 = the last ch of input A)

After enabling Z:NOVTSDxx on ACNET, the LED Red "OVL" light is flashing on the board Adrressed as "9", being currently read = Yellow Light ON.

#3 - 07/01/2019 10:30 AM - Richard Neswold

On June 27, **Peter** further added:

I have played with input cables of Board "9".

A) channel Z:NOVTSD00 is probably broken, reading #FFFF, or the real count (17 now).

B) by plugging/unplugging input data cable, I was able to increase counts. on these channels (see attached) on new SIS3805 board "9".

I will try to clear the counter channels 00-32 using Control Input, on board "9" NOW.

We think, there is a possibility, that ECL control input has "Inhibit count" control signal set by default; the board is Not counting.