



SIS3150USB/SIS3305 Getting Started for Osaka ILE

1. Installation of the driver for the SIS3150USB to VME interface The location of the driver on the DVD is shown below.

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Documentation for the driver installation can be found in the sis3150usb_programmers_guide.

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2. Installation of the CVI SIS3305 Base Program Distribution kit

Install the SIS3305 base program by running the setup application in the cvidistkit directory of the V_100A-Calibrate directory

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	cvibuild.sis3305_adc	21.11.2011 08:30	Dateiordner				
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Dokumente	🙊 cvi	02.08.2001 11:00	Symbol	2 KB			
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Videos	sis3150usb_setup_8051.bix	07.12.2004 17:19	BIX-Datei	64 KB			
	sis3305_adc.cws	10.11.2011 12:57	CWS-Datei	10 KB			
Computer	sis3305_adc.prj	10.11.2011 12:57	PRJ-Datei	14 KB			
🏭 Lokaler Datenträg	sis3305_adc_10GHz_interleave_test.c	16.03.2011 15:40	C-Datei	52 KB			
BD-ROM-Laufwe	sis3305_adc_calibrate.c	10.11.2011 12:51	C-Datei	85 KB			
3302 gamma	sis3305_adc_tests.c	07.11.2011 08:50	C-Datei	284 KB			
sis8xxx	sis3305_adc_tests_cvi_display.c	08.11.2011 09:36	C-Datei	107 KB			
sis330x	sis3305_base	10.11.2011 12:57	Anwendung	429 KB			
sis3150 9300	sis3305_base_debug	10.11.2011 12:51	Anwendung	2.053 KB			
sis3150usb	sis3305_cvi_configuration.c	03.11.2011 14:11	C-Datei	204 KB			
k sis3302	sis3305_global.h	07.11.2011 08:54	H-Datei	25 KB			
k sis3305	isis3305_gui_config	10.11.2011 12:57	Konfigurationsein	5 KB			
sis3320-250	sis3305_main.c	10.11.2011 10:44	C-Datei	37 KB			

It is recommended to install the application in a top level directory like c:\sis3305 instead of the Program Files folder for read/write access permission reasons.



Start the SIS3305 Test (V100A, SIS3150USB_win) application



Programme (1)
SIS3305 Test (V100A, SIS3150USB_win)
Microsoft Office Outlook (4)
AW: VME clock Verteiler - Fluggzeitspektrometer TOFTOF -> 4 AW: VME clock Verteiler - Fluggzeitspektrometer TOFTOF -> 4 Re: VME clock Verteiler - Fluggzeitspektrometer TOFTOF ARE: ISS820 Clock
Dateien (17)
 sis3305 sis3305.gui_configt sis3305.gui_config_test sis3305.gui_config_test sis3305.gui_config sis3305.gui_config sis3305.gui_config sis3305.gui_config sis3305.gui_configth sis3305.gui_config.th
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Load	
	Anderungsdatum 10.11.2011 12:57

You will be prompted for a configuration file, use the sis3305_gui_config.ini

The startup screen should look like

used configuration file	112205 and another init	_							
Modules	assous_gu_config.ni								
	Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7	Module 8	
Enable	1	0	0	0	0	0	0	0	
Base Address (hex)	41000000	42000000	43000000	44000000	44000000	4500000	46000000	47000000	
Identification (hex)	3305	0000	0000	0000	0000	0000	0000	0000	
Firmware (hex)	100A	0000	0000	0000	0000	0000	0000	0000	
SIS Serial Number (dec)	35	0	0	0	8	0	0	9	
User Serial Number (dec)	10035	0	0	0	0	0	0	0	
ADC 2 chip ID (hex)	0418	0000	0000	0000	0000	0000	0000	0000	
ADC 1 chip ID (hex)	0418	0000	0000	0000	0000	0000	0000	0000	
Temperature (Celsius)	24.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Temperature Supervisor Status	OK								



Use the SIS3305 Configuration menu submenu ADC channel and event saving mode configuration to set both ADC chips to 4-channel mode as shown below.

Panel View Information SIS3305 Configuration ADC Da	ata Acquisition Menues Dedicated Tests Calibrate			
SYSTEM Status	SIS3305 AD	C channel and Event Saving Mode configuration		
	ADC 2 also Channel 5.9 (CDI interferen)			
	Image: Second Complexity of the second sec	nodule=1 ACC: use external (global) trigger nodule=2 ACC: use external (global) trigger nodule=3 ACC: ACC Channel Mode and Event Saving Mode OK nodule=4 ACC: ACC Channel Mode and Event Saving Mode OK nodule=6 ACC: ACC Channel Mode and Event Saving Mode OK	<u>a</u>	
used configuration file		<pre>module=6 ADC2: ADC Channel Mode and Event Saving Mode OK module=7 ADC2: use external (global) trigger module=8 ADC2: use external (global) trigger</pre>		
Modules	Image: Constraint of the state of		-	
Enable	M Cons ans g 515 g 860 g 512	4	<u> 1</u>	
Base Address (hex) 4	ADC2 Channel 5-8 Event Saving Mode (EventConf r	en bits 2:0)		
Identification (hex)	Mode 0: save 4-channel in one Data Block (asynchronous/inte	mai trigger 1 x 5 Gsps or synchronous/global trigger)		
Firmware (hex)) =			
SIS Serial Number (dec)				
User Serial Number (dec)	ADC 1 chip Channel 1-4 (SPI interface)			
ADC 2 chip ID (hex)	Nominal bandwidth (1 GHz typical) Bandwidth	module=1 ADC1: use external (global) trigger	<u>18</u>	
Temperature (Celsius)	no Test Mode Test Mode	module=3 ADC1: ADC Channel Mode and Event Saving Mode OK		
Temperature Supervisor Status	Gain Offset Phase F Order 125 Gapo) Offset Phase F Order 4 ch 4 ch 4 State State F Order 4 ch 4 ch 4 State State State F Order 4 ch 4 ch 4 State State State State F Order 4 ch 4 ch 4 State	nodla-# ADC1: ADC Channel Mode and Yerna Swing Mode DK modlar## ADC1: ADC Channel Mode and Yerna Swing Mode OK modlar## ADC1: ADC Channel Mode and Ferent Swing Mode OK modlar## ADC1: use external (globul) trigger	a a	
	ADC1 Channel 1-4 Event Saving Mode (EventConf r	eg bits 2:0)		
	Mode 0: save 4-channel in one Data Block (asynchronous/inte	mal trigger 1 x 5 Gsps or synchronous/global trigger)		
	Module Gain, Offset, Phase	Gray Code (7	Close	

Go to the ADC test menu and select external trigger. The sample/extended block length parameter is used to define the number of acquired samples. Use the Start ACQ button to start the acquisition.





Save Configuration File or Save Configuration File as... from the SIS3305 Configuration menu can be used to store the current parameter set to file.

Panel View Information	SIS3305 Configuration ADC Data Acquisition Menues Ded	cated Tests			
	Load Configuration File				
SYSTEM Status	Save Configuration File				
	Save Configuration File as				
	Define Modules				
	Define ADC clock				
	Define ADC channel Trigger parameters				
	Define ADC FPGA Input Delay Interface				
used configura	Define ADC channel and Event Saving Mode configuration				
c:\sis3305\sis3305_	Define Lemo In/Out configuration				

In the Save Configuration File as case the Save Configuration File window pops up

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Name	*		Änderungsdatum	Т
sis3305_ sis3305_	gui_config gui_configt		22.12.2011 14:56 22.12.2011 14:02	Кс Кс
•	(III)			4

Cabling with external NIM level trigger signal and pulse generator on channel 1





Scope shot of NIM trigger signal (cyan) and signal (magenta) connected to channel 1 of SIS3305



And the resulting signal in the SIS3305 base program





Note: A high speed fan is required due to the fairly high power consumption of the e2v digitizer chip in the horizontal 4 slot VME enclosure. While the system is fairly loud in a lab environment this should not be an issue for the installation in the final system. The final larger vertical 21 Slot VME Crates will have to run at high fan speed also, but will be somewhat less noisy.