baseline real-time target machine

Education

SN6848

Configuration and Testing Information

V2.0 YO

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For full details about the Baseline real-time target machine, refer to the dedicated user manual on the Speedgoat Customer Portal:

www.speedgoat.com/login

Content

1 Configuration

1.1. Simulink Real-Time I/O Connectivity

Speedgoat I/O Modules

Component	I/O module no.	PCI(e) [Bus, Slot]	IRQ line	Additional information
IO397(1)	1	[6,0]	19	FPGA 50k
IO691	2	[7,0]	17	
IO397(2)	3	[11,0]	19	FPGA 50k

Ethernet Ports

Component	PCI(e) [Bus, Slot]	IRQ line	Additional information
Ethernet port HOST LINK MAC: 00-01-29-A0-C0-5F	[16,0]		Host-target communication (Host link)
Ethernet port ETH 1 MAC: 00-01-29-A0-55-C5	[13,0]		
Ethernet port ETH 2 MAC: 00-01-29-A0-55-C6	[14,0]		

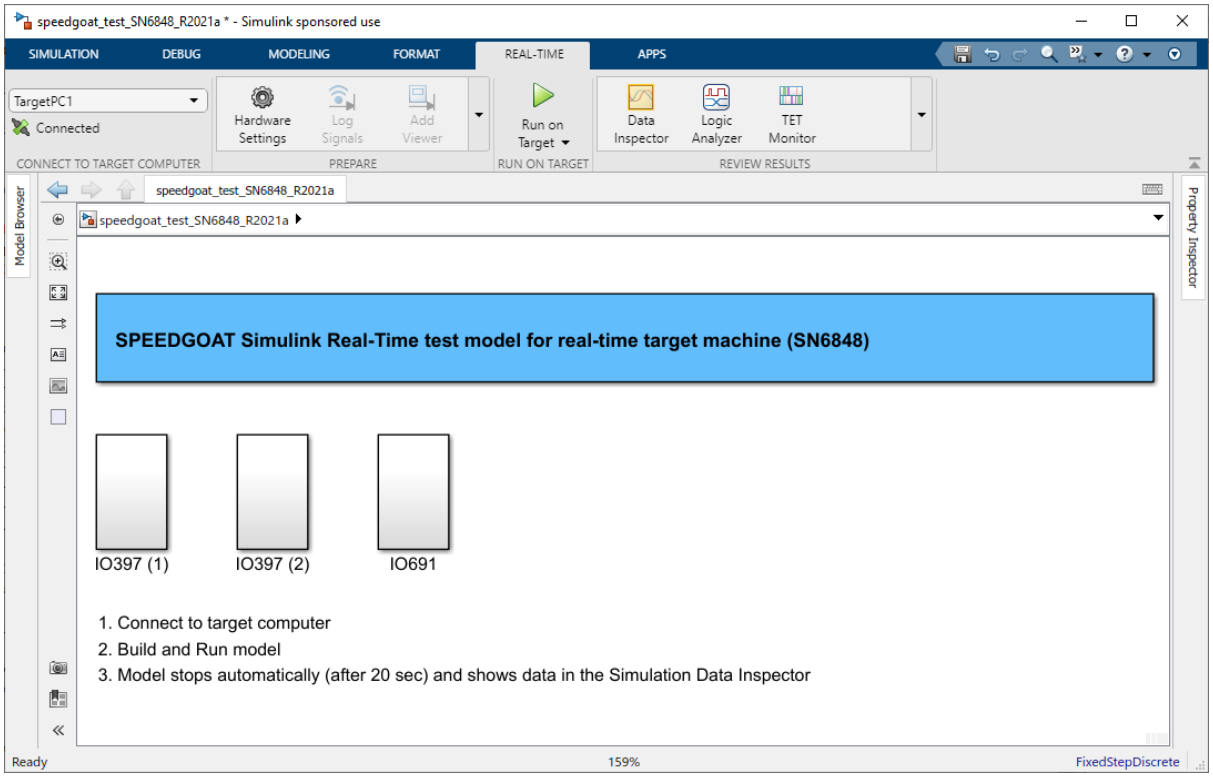
1.2. Options

CPU	Intel Celeron 2 GHz, 4 cores (default option)
Main drive	256 GB SSD (Item ID 107252)

2 Test Model

Speedgoat real-time target machines are delivered with a Simulink® test model that uses a set of channels and ports on all the I/O modules installed. The test model is used to validate the fundamental functionality of the I/O modules and can be used as an example to get started.

The test model uses the loopback method: the model generates outputs for some of the I/O module output pins, which are then routed back to some of the I/O module input pins, either via the wires connected to the terminal board terminals or via the loopback test cables.



The data transferred on your host computer will be monitored automatically. For more information about signal monitoring, refer to the Simulink Real-Time™ documentation.

Important

Prior to executing the test model, ensure that you have correctly configured and set up your target machine, as explained in the Quick Start Guide delivered with your machine, and which is also available on the Speedgoat Customer Portal: www.speedgoat.com/login.

2.1. Terminal Board Test Wiring

To run the test model, wire the terminal board(s) as shown below.

IO397

Connector A

From Pin		To Pin	
1	VIN01 (+) ADC01	9	VOUT01
3	VIN02 (+) ADC02	10	VOUT02
5	VIN03 (+) ADC03	11	VOUT03
7	VIN04 (+) ADC04	12	VOUT04
17	GND	8	VIN01 – 04 (-)
8	ADC04 (-)	6	ADC03 (-)
6	ADC03 (-)	4	ADC02 (-)
4	ADC02 (-)	2	ADC01 (-)

Connector B

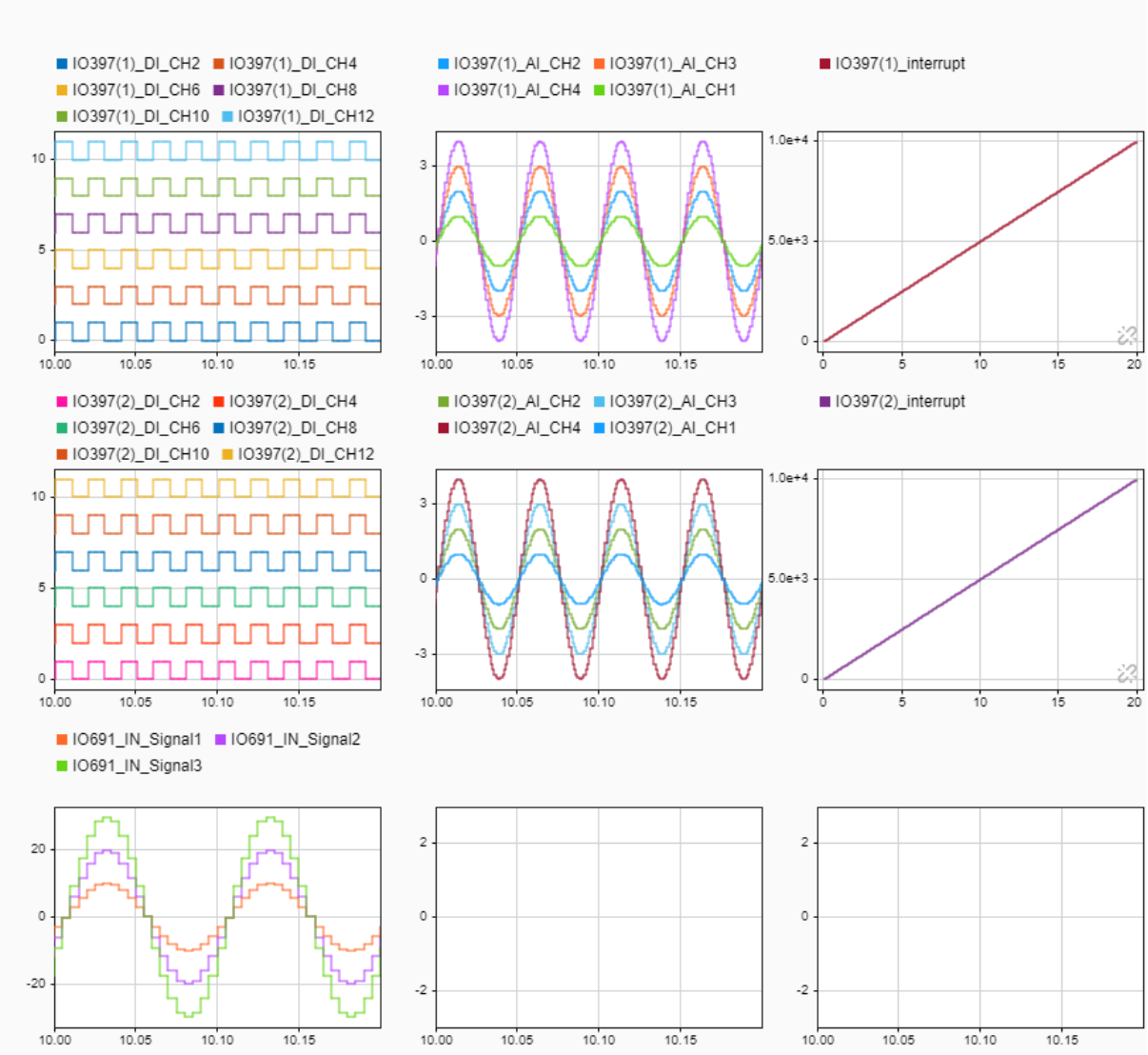
From Pin		To Pin	
3	DO channel 1	4	DI channel 2
5	DO channel 3	6	DI channel 4
7	DO channel 5	8	DI channel 6
9	DO channel 7	10	DI channel 8
11	DO channel 9	12	DI channel 10
13	DO channel 11	14	DI channel 12
15	DO channel 13	16	INTA channel 1

IO691

Connect CAN port A with CAN port B using the provided CAN loopback test cable.

2.2. Simulink Test Model and Results

Once you have connected a pre-wired terminal board or loopback test cable to the I/O module, you are ready to work with the test model available in your Speedgoat Customer Portal. Simulink Simulation Data Inspector (SDI) will show the following:



Note that the model is set to run 20 seconds. To run the test model longer, change the **Stop Time** in Simulink under the **Simulation/Simulate** tab.