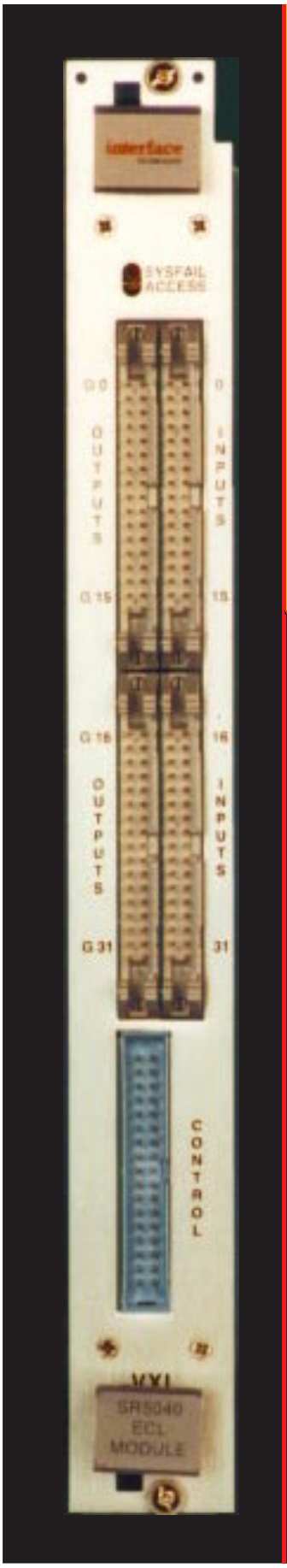


Differential ECL I/O

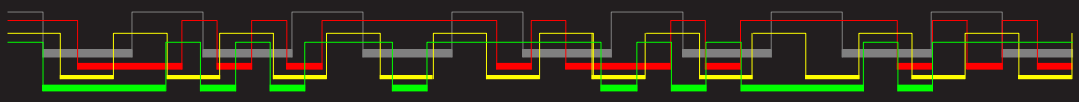
SR5040

VXI plug & play

Differential ECL I/O Module

For SR5000 VXI Digital Test Subsystem

- 32 Input and 32 Output Pins per Module
- 64K Vectors per Channel
- RAM-Backed and Algorithmic Pattern Generation
- NRZ, RZ, RONE, and RTC Output Data Formats Supported
- 16 Timing Generators per Module
- Two Response Generators per Module
- 100 ps Edge Placement Resolution



From the Performance Leader... **interface** TECHNOLOGY

SR5040 SPECIFICATIONS*

Channels per Module

Inputs	32
Outputs	32

Memory Types

Stimulus	Output, Algorithmic
Response	Expect, Mask, Algorithmic
Record	

Memory Depth

65,500 vectors

Output Characteristics

Output Type	ECL, differential
Output Driver	100324
High Voltage (Voh)	-1.025 volt, minimum -0.870 volt maximum Term: 50 ohms to -2.0 volt
Low Voltage (Vol)	-1.830 volt, minimum -1.620 volt, maximum Term: 50 ohms to -2.0 volt

Output Formats

Non-Return to Zero (NRZ)
Return to Zero (RZ)
Return to One (RONE)
Return to Complement (RC)

Output Timing

Clock Pairs	8 total per card (assert/deny) 2 per 8 channels
Delay Range	One clock period
Pulse Width (high or low)	10.0 ns, minimum
Resolution	100 ps, non-monatomic 2.0 ns, monatomic
Delay Accuracy	2.0 ns, typical; 3.0 ns, maximum (single channel)
Pulse Width Accuracy	3.0 ns, typical; 5.0 ns, maximum

Skew

Same Module (channel-to-channel)	2.0 ns, typical; 4.0 ns, maximum
Different Modules (SR5040-to-SR5040)	3.0 ns, typical; 5.0 ns, maximum

Input Characteristics

Input Type	ECL, differential
Input Receiver	100325
Input Termination	50 ohms to -2.0 volt
Vih (single-ended)	-1.165 volt, minimum -0.870 volt, maximum Term: 50 ohms to -2.0 volts
Vil (single-ended)	-1.830 volt, minimum -1.475 volt, maximum Term: 50 ohms to -2.0 volts
Vdiff (differential)	150 mV, minimum

Input Formats

Edge Mode
Window Mode

Input Timing

Number of Timing Clocks (window mode)	Two per card (edge mode); one per card
Input Delay Range	One clock period
Clock Separation	10.0 ns, minimum
Resolution	100 ps, non-monatomic; 2.0 ns, monatomic
Setup Time	7.0 ns, minimum
Hold Time	7.0 ns, minimum

VXI Specifications

Interface Compatibility

SR5040	Register-based, servant only (controlled by SR5010)
Revision	1.3 and 1.4
Size	C-size, single slot
Configuration	Static
Memory	2 MB VME A32/D32

Cooling Requirements

Airflow	6 L / sec @ 0.38 mm water pressure drop for 10°C temp. rise

Power Requirements

+5.0 V	9.5 A	47.5 W
-5.2 V	4.2 A	21.84 W
-2.0 V	2.8 A	5.6 W
+12 V	0.1 A	1.2 W
-12 V	0.1 A	1.2 W

Total		77.34 W

Environmental Specifications

Temperature	Storage = -40°C to +75°C Operating = 0°C to +45°C
Humidity	5% to 95% relative, non-condensing

Software Drivers

National Instruments LabWindows
National Instruments LabView
National Instruments LabWindows/CVI