DNx-SL-514

SSI (Synchronous Serial Interface) board

10-Year Availability Guarantee

- DNA-SL-514 for use with "Cube" chassis
- DNR-SL-514 for use with RACKtangle™ I/O chassis
- DNF-SL-514 for use with FLATRack I/O chassis
- Industry standard SSI master or slave functionality
- Clock rates up to 1.25 MHz (Master) or 625 kHz (slave)
- 4 independent channels
- 350 Vrms channel-to-channel & channel-to-chassis isolation
- Fully differential inputs/outputs at RS-422 logic levels

The DNx-SL-514 provides 4 channels of industry standard SSI interface (DNA-SL-514 shown)

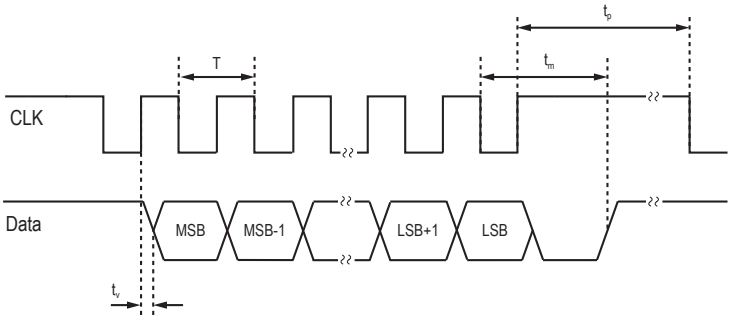
General Description

The DNA/DNR/DNF-SL-514 are high performance SSI (Synchronous Serial Interface) boards for UEI's "Cube", RACKtangle and FLATRack I/O chassis respectively. The DNA/DNR/DNF versions are electrically identical and provide four independent RS-422/485 compatible channels, each having over voltage protection and opto-isolation. The 4 channels can be independently configured. Rx/Tx termination resistors may be enabled or disabled via the API.

The board supports standard SSI master or slave functionality as shown in the timing diagram to the right. "t_v", "t_p", and "t_m" as shown in the diagram are user programmable via the SL-514's API. Each input word may be timestamped.

Software included with the DNx-SL-514 provides a comprehensive yet easy to use API supporting all popular Windows programming languages as well as programmers using Linux and most real-time operating systems including QNX, RTX, VXworks and more.

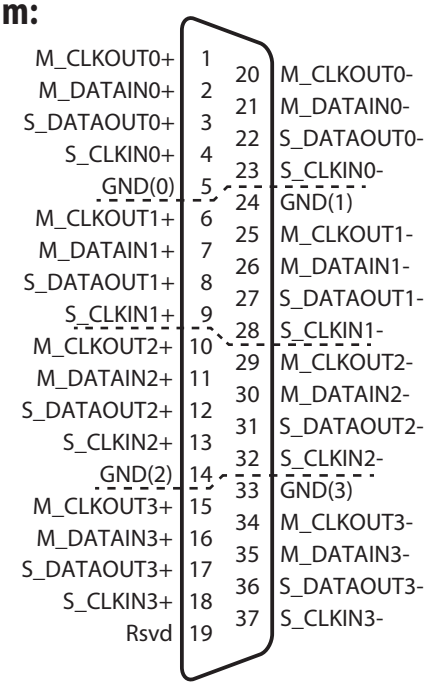
SSI timing diagram



Note: data is latched on the falling edge of the CLK signal

Pinout Diagram:

DB-37 (female)
37-pin connector:



Technical Specifications:

SSI Ports	
Baud Rate	up to 1.25 Mbaud as SSI Master up to 625 kbaud in slave mode
Baud Rates available	User selectable 0.1% accuracy or better
Data Word Length	3 - 32 bits
FIFO (on each channel)	Input: 2048 word, Output: 1024 word
GENERAL SPECIFICATIONS	
Protection	7 kV ESD, 350V isolation
Input High / Low voltage	RS-422/485 compatible
Output High / Low voltage	RS-422/485 compatible
RS-422/485 termination resistors	Software selectable
Electrical Isolation	350 Vrms, chan-chan and chan-chassis
Input/output buffer chip	LTC1687 or equivalent
Power consumption	< 3W
Operating range	Tested -40 to +85 °C
Humidity range	0 - 95%, noncondensing
Vibration *IEC 60068-2-6* *IEC 60068-2-64*	5 g, 10-500 Hz, sinusoidal 5 g (rms), 10-500 Hz, broad-band random
Shock *IEC 60068-2-27*	50 g, 3 ms half sine, 18 shocks @ 6 orientations 30 g, 11 ms half sine, 18 shocks @ 6 orientations
MTBF	350,000 hours

Connection Options:

Cable	Terminal Panel	Description
DNA-CBL-37	DNA-STP-37	DNA-CBL-37 3 foot ribbon cable connects directly to the DNA-STP-37 Screw Terminal Panel.
DNA-CBL-37S	DNA-STP-37	DNA-CBL-37S 3 foot shielded cable connects directly to the DNA-STP-37 Screw Terminal Panel.