DNA/DNR-CAN-503
High-Speed CAN-bus Interface

10 YEAR AVAILABILITY GUARANTEE

STANDARD WARRANTY 3 YEAR

100% TEST VERIFIED

- DNA-CAN-503 for use in "Cube" data acquisition & control chassis
- DNR-CAN-503 for use in RACKtangle™ I/O chassis
- 4 independent CAN ports
- Up to 1Mbit/sec maximum transfer rate
- Completely independent bit rate settings for every port
- 250V DC max isolation between ports; ports and circuitry
- Hot plugging support; error detection
- Fully compatible with *ISO 11898* standard

General Description

The DNA/DNR-CAN-503 boards are 4-port high-speed CAN interfaces for UEI's "Cube" and RACKtangle I/O chassis respectively. This layer is designed for communication with high-speed CAN devices up to 1 Mb/s. The DNA/DNR-CAN-503 uses the Philips SJA1000 CAN Controller for advanced functionality such as listen-only, self-reception (echo), and advanced filtering modes and new transceivers for sleep/wakeup mode support.
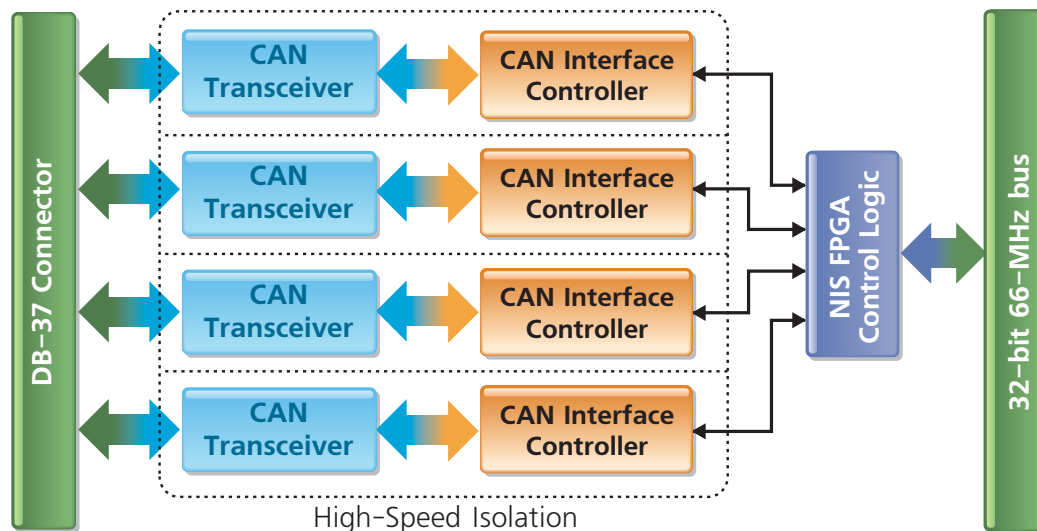
DNA/DNR-CAN-503 is designed to meet the physical and electrical requirements for in-vehicle (automotive) networks based on CAN. Installed in PowerDNA Cube connected to a desktop, industrial, or notebook PC running Windows 2000/NT/XP/Me/9x, you can use DNA-CAN-503 for a variety of CAN applications, including automotive data acquisition, testing and diagnostics, prototype design, factory automation, and machine control.

Software is included, providing a comprehensive, yet easy-to-use API that supports all popular operating systems, including Windows, Linux, and most real-time operating systems—such as QNX, Intime, VXworks, and more. Additionally, the UEIDAQ Framework—an even higher level Windows driver—supplies complete support for those creating applications in many popular Windows programming languages, as well as data acquisition software packages such as LabVIEW and MATLAB/Simulink.

Technical Specifications:

General Specifications	
Number of CAN ports	4, per-channel isolated
Max. transfer rate	up to 1Mbit/s, per-channel programmable
CAN transceiver	Phillips TJA 1050
CAN controller	Phillips SJA 1000
Operating temperature	-40 °C to +85 °C
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	100 g, 3 ms half sine, 18 shocks @ 6 orientations 30 g, 11 ms half sine, 18 shocks @ 6 orientations
Operating Temperature	-40 to 85 deg C
Humidity	0 to 95%, non-condensing
Power Dissipation	2 Watts typical, 3 Watts max
Altitude	120,000 ft
MTBF	350,000
CAN Controller	
Base clock	24MHz
CAN interface version	2.0B
Receive FIFO size	TX: 128 messages, RX: 256 messages
Transmit buffer	11- or 29-bit identifier
Acceptance filter	11- or 29-bit identifier
Error detection	interrupts-based
Protection	short-circuit to battery, ground; thermal protection; CANH and CANL protected from automotive electrical transients (ISO 7637)

Block Diagram

United Electronic Industries, Inc.
Tel: **(508) 921-4600**

http://www.ueidaq.com
Fax: **(508) 668-2350**

Pinout Diagram:

DB-37 (female)
37-pin connector:

J1		DB-9*
19	GND-1	3
37	CAN-L-1	2
18	CAN-H-1	7
36	N/C	8
17	GND-1	6
35	N/C	5
16	N/C	4
34	N/C	1
15	N/C	9
33	GND-2	3
14	CAN-L-2	2
32	CAN-H-2	7
13	N/C	8
31	GND-2	6
12	N/C	5
30	N/C	4
11	N/C	1
29	N/C	9
10	GND-4	3
28	CAN-L-4	2
9	CAN-H-4	7
27	N/C	8
8	GND-4	6
26	N/C	5
7	N/C	4
25	N/C	1
6	N/C	9
24	GND-3	3
5	CAN-L-3	2
23	CAN-H-3	7
4	N/C	8
22	GND-3	6
3	N/C	5
21	N/C	4
2	N/C	1
20	N/C	9
1	N/C	

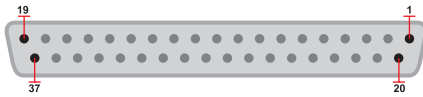CAN Port 1, CAN Port 2, CAN Port 4, CAN Port 3

GNDx	Isolated ground for the corresponding CAN port
CAN-L-x	"low-side" differential CAN signal wire for the corresponding CAN port
CAN-H-x	"high-side" differential CAN signal wire for the corresponding CAN port
N/C	no internal connection

* Pinout selected to match **DNA-COM-CBL** (DB-37M to 4xDB-9M 4-port) cable

Connection Options:

Cables	Description
DNA-CBL-COM	1ft. DB37 cable split into four DB9 connectors