DNA/DNR-708-453

ARINC-708/453 interface *now with WxPD support*

- DNA-708-453 for use in "Cube" I/O chassis
- DNR-708-453 for use in RACKtangle™ I/O chassis
- 2 Transmit outputs
- 2 Receive inputs
- ARINC-708 and ARINC-453 compatible
- WXPD protocol support
- Includes coaxial cable adaptor
- Includes required software

[DNR-708-453 Shown, includes cable and loop-back self-test adaptor included]

General Description

The DNR-708-453 and DNA-708-453 provide ARINC 708 and 453 interfaces, (including WxPD) for UEI's popular RACKtangle and Cube chassis respectively. The boards are ideal for both simulator and on-aircraft operation for such equipment as weather radar and Ground Proximity Warning Systems.

The DNx-708-453 provides two channels, and each channel provides a port "A" and port "B". Channels may receive data on either port A OR B, but not both. Channels may transmit on port A, port B or both, though if both are selected, the data on each port A and B is identical (as it should be as this data typically connects to redundant instruments for both the pilot and copilot.

Data is stored in on-board FIFOs. The 2048 word FIFO is designed to hold up to 20 complete 100 word (1600 bit) frames as per the ARINC-708 specification. Frame size is selectable from 16 to 8192 bits. The DNx-708-453 supports both straight and reverse bit representation on hte TX and RX independently. This dramatically reduces the CPU load caused when the software needs to invert the bit order.

In addition to supporting standard ARINC-708 and -453, the DNx-708-453 also supports the WXPD communications protocol.

All TX/RX channels are brought out to the board's 62-pin "D" connector. A cable adaptor is also included that brings each TX/RX channel out to a standard MIL-1553 style coaxial connector.

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:

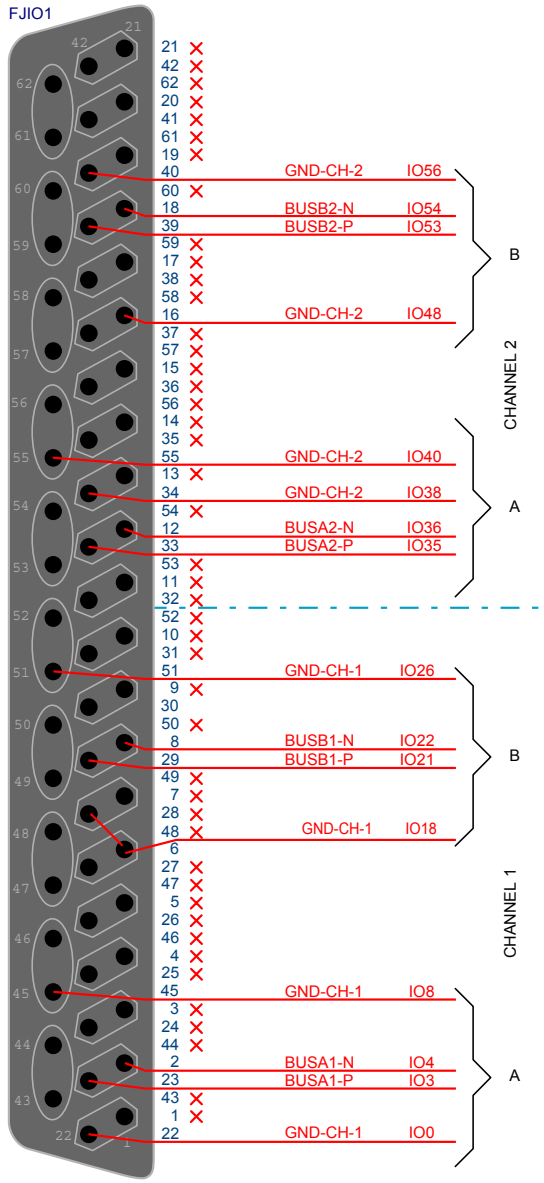
General Specifications		
Number channels/ports	2 channels, each with two ports	
Channel configuration	Port A and Port B. Channels may receive data from either Port A or Port B on a channel, but not both simultaneously. Channels may transmit on Port A, or Port B, or both. However, if transmission is set for both, then both ports transmit identical data.	
Specification compliance	ARINC 708/453 including WxPD	
Configuration	Standard MIL-1553 based signal levels, fully compliant with ARINC-708 and 453	
Interface (software selectable) [measured at connector]	Transformer: 18-27 Vpp into 70 Ω load	Direct Coupling: 6-9 Vpp into 35 Ω load
Isolation	350 Vrms	
Power Consumption	5 W (not including load)	
FIFO and Data TX/RX Specs		
Configuration	Fully buffered FIFO connections	
FIFO size	20 packets (each packet contains the standard 1600 bit/100 word frame.)	
Environmental		
Operating Temp. (tested)	-40°C to +85°C	
Operating Humidity	0 - 95%, non-condensing	
MTBF	275,000 hours	
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	
Altitude	120,000 ft	

Ordering Guide:

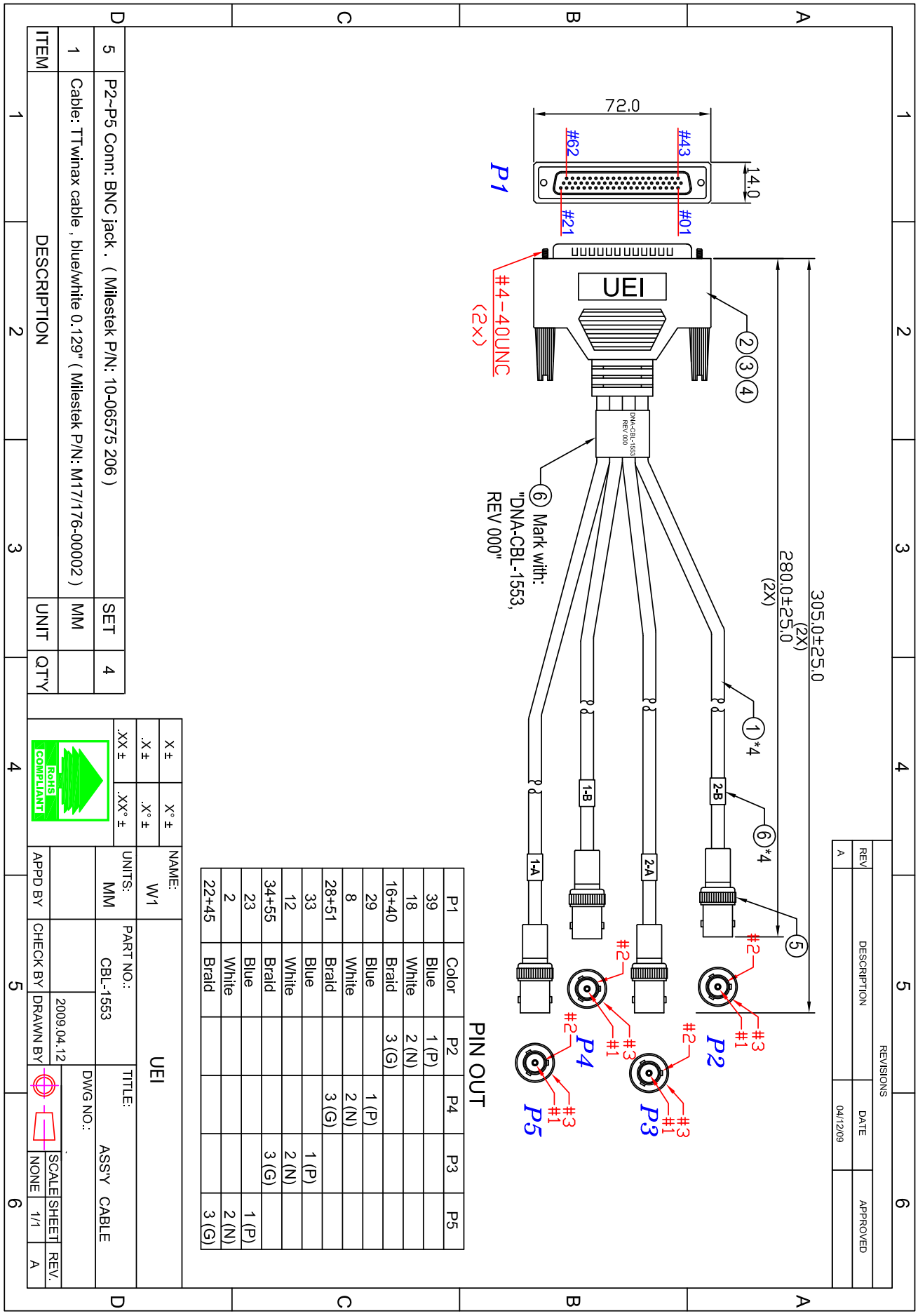
Part Number	Description
DNA-708-453	Two channel, ARINC-708/453/WxPD Interface for "Cube" series chassis (includes break-out cable to standard 1553 style connectors)
DNR-708-453	Two channel, ARINC-708/453/WxPD Interface for PowerDNR RACKtangle™ series chassis (includes break-out cable to standard 1553 style connectors)

Pinout Diagram:

The DNx-708-453 provides connections via a 62-pin "D" connector. A one foot, 62-pin to (quad connector) cable is also included which provides connection to standard MIL-STD-1553 style connectors.



Cable Diagram:



ITEM	DESCRIPTION	UNIT	QTY
1	Cable: TTwinax cable , blue/white 0.129" (Milestek P/N: M17/176-00002)	MM	SET
5	P2~P5 Conn: BNC jack . (Milestek P/N: 10-06575 206)		4

PIN OUT

P1	Color	P2	P4	P3	P5
39	Blue	1 (P)			
18	White	2 (N)			
16+40	Braid	3 (G)			
29	Blue		1 (P)		
8	White		2 (N)		
28+51	Braid		3 (G)		
33	Blue			1 (P)	
12	White			2 (N)	
34+55	Braid			3 (G)	
23	Blue				1 (P)
2	White				2 (N)
22+45	Braid				3 (G)

X ±	X° ±	NAME:	W1
.X ±	.X° ±	UNITS:	MM
.XX ±	.XX° ±	PART NO.:	CBL-1553
		TITLE:	ASS'Y CABLE
APPD BY		DWG NO.:	
CHECK BY			
DRAWN BY	2009.04.12	SCALE	NONE
		SHEET	1/1
		REV.	A

UEI

RoHS COMPLIANT