Hardware Installation Guide

BNCPANEL-16
1U, 16 Channel BNC Breakout Panel

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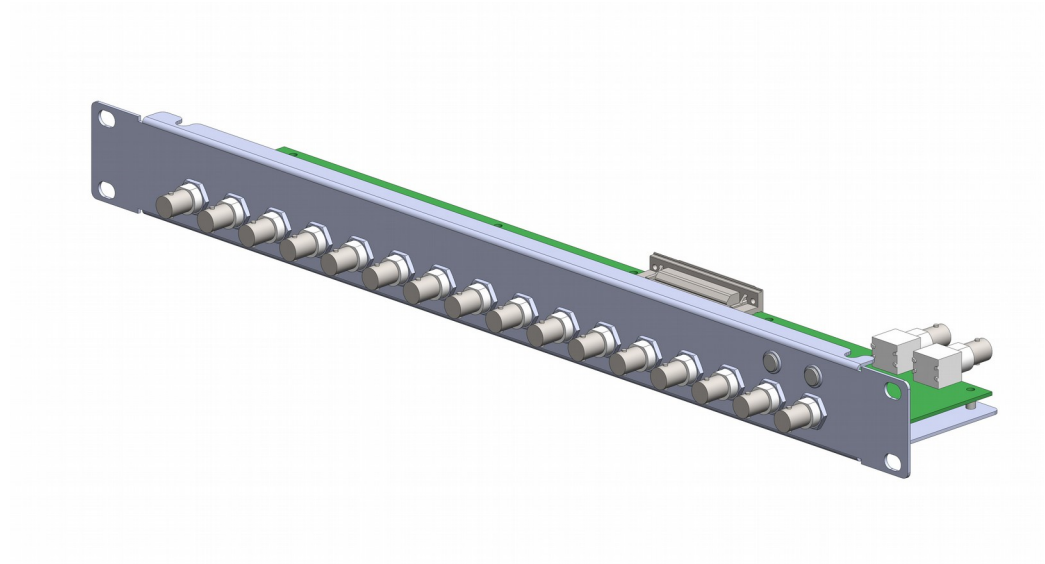
1 Overview

BNCPANEL-16 is a 16-channel BNC breakout panel in 1U 19” form factor providing connectivity for various D-TACQ products which use SCSI-68 or VHDCI connectors. The panel accepts up to 16 differential channels and is compatible with products including:

ACQ425ELF	ACQ132CPCI
ACQ437ELF	ACQ216CPCI

A variant of BNCPANEL-16 is also available which provides up to two 4-channel connections to provide connectivity to ACQ420FMC. Please contact D-TACQ for more details.

BNCPANEL-16 also provides LEMO inputs to extend Clock and Trigger inputs from the acquisition system to a more accessible front panel.



2 Connectors

2.1 BNC Connectors

BNC channel numbers are numbered logically and are marked on the front panel.

2.2 SCSI Connector

2.2.1 16-Channel Pinout

BNCPANEL-16 provides the following connections from SCSI-68 to the 16x BNC connectors.

Pin No.	***Signal***	***Pin No.***	***Signal***
1	0VA	35	0VA
2	0VA	36	0VA
3	CH01+	37	CH01-
4	0VA	38	0VA
5	CH02+	39	CH02-
6	0VA	40	0VA
7	CH03+	41	CH03-
8	0VA	42	0VA
9	CH04+	43	CH04-
10	0VA	44	0VA
11	CH05+	45	CH05-
12	0VA	46	0VA
13	CH06+	47	CH06-
14	0VA	48	0VA
15	CH07+	49	CH07-
16	0VA	50	0VA
17	CH08+	51	CH08-
18	0VA	52	0VA
19	CH09+	53	CH09-
20	0VA	54	0VA
21	CH10+	55	CH10-
22	0VA	56	0VA
23	CH11+	57	CH11-
24	0VA	58	0VA
25	CH12+	59	CH12-
26	0VA	60	0VA
27	CH13+	61	CH13-
28	0VA	62	0VA
29	CH14+	63	CH14-
30	0VA	64	0VA
31	CH15+	65	CH15-
32	0VA	66	0VA
33	CH16+	67	CH16-
34	0VA	68	0VA

2.2.2 Cables

Matching connector type is 68 way male Micro D (SCSI-II Type), 4-40 screw, e.g. TE Connectivity 5787170-7.

It is common practice for customers to manufacture their own cables to fit in with their own sensor requirements.

D-TACQ Solutions supply a standard range of cables and can also produce custom solutions. BNCPANEL-16 may be used with standard cables such as L-COM CA900MM-1M SCSI-68 to SCSI-68 or CA2060MM-1M SCSI-68 to VHDCI.

2.2.3 Grounding

Digital grounding (0VD) is provided for any fitted clock/trigger connectors and is separate from the analogue signal ground (0VA).

Some jumpers are provided to configure the panel grounding. For the SCSI-68 connector, the following options exist:

- **JP1** connects signal ground (0VA) from the acquisition card to signal ground on BNCPANEL-16. (Fitted by default.)
- **JP2** connects the SCSI-68 connector shield to signal ground.
- **JP3** connects the SCSI-68 connector shield to BNCPANEL-16 chassis. (Fitted by default.)

2.3 LEMO Clock/Trigger Connectors

Clock and trigger inputs use LEMO 00 type connectors.

2.3.1 Cables

Mating connector is a LEMO ERA.00.250.NTL.

It is common practice for customers to manufacture their own cables to fit in with their own sensor requirements.

D-TACQ Solutions supply a standard range of cables and can also produce custom solutions. These include BNC to LEMO 00 cables. Please contact D-TACQ for details.

2.4 MDR36 Connectors

A variant of BNCPANEL-16 can be built to output via MDR36 type connectors. Please contact D-TACQ for details.

2.4.1 4-Channel Pinout

Both MDR36 connectors provide the following pinout to the front panel. P1 maps to channels 1-4 and P2 maps to channels 13-16.

Pin No.	***P1 Signal***	***P2 Signal***	***Pin No.***	***P1 Signal***	***P2 Signal***
1	Clock	Clock	19	NC	NC
2	0VD	0VD	20	0VD	0VD
3	Trigger	Trigger	21	0VD	0VD
4	0VD	0VD	22	0VD	0VD
5	NC	NC	23	NC	NC
6	NC	NC	24	NC	NC
7	0VA	0VA	25	0VA	0VA
8	NC	NC	26	0VA	0VA
9	CH04+	CH16+	27	CH04-	CH16-
10	0VA	0VA	28	0VA	0VA
11	NC	NC	29	0VA	0VA
12	CH03+	CH15+	30	CH03-	CH15-
13	0VA	0VA	31	0VA	0VA
14	NC	NC	32	0VA	0VA
15	CH02+	CH14+	33	CH02-	CH14-
16	0VA	0VA	34	0VA	0VA
17	NC	NC	35	0VA	0VA
18	CH01+	CH13+	36	CH01-	CH13-

2.4.2 Cables

Mating connector is Centronics MDR36 type (e.g. 3M 10236-55G3PL).

It is common practice for customers to manufacture their own cables to fit in with their own sensor requirements.

D-TACQ Solutions supply a standard range of cables and can also produce custom solutions. BNCPANEL-16 may be used with standard cables such as Videk 1082-2.

2.4.3 Grounding

Some jumpers are provided to configure the panel grounding. For the MDR36 connectors, the following options exist:

- **JP4** connects signal ground (0VA) from the P1 connector acquisition card to signal ground on BNCPANEL-16. (Fitted by default.)
- **JP5** connects signal ground (0VA) from the P2 connector acquisition card to signal ground on BNCPANEL-16. (Fitted by default.)

2.5 Specification

This describes the ESD protection and other specifications provided by BNCPANEL-16[1].

	Value			***Units***	***Condition***
	Min.	***Nom.***	***Max.***		
Nominal Input Voltage	-10		+10	V	
ESD Protection Voltage		8		kV	Contact
ESD Protection Voltage		15		kV	Air
Peak ESD Pulse Power		400		W	10/1000µs
Peak ESD Pulse Power		2.3		kW	8/20µs

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