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INSTALLATION GUIDE
BNC-2144

The BNC-2144 is a 32-channel rack-mount adapter for interfacing to the NI PXI-449*X* family.

The BNC-2144 has the following features:

- 32 analog input channels (BNC)
- 19 in. rack-mount housing

What You Need to Get Started

To set up and use the BNC-2144, you need the following items:

- ❑ Hardware
  - BNC-2144
  - NI PXI-449*X* Dynamic Signal Acquisition (DSA) device
- ❑ Documentation
  - *BNC-2144 Installation Guide*
  - *Read Me First: Safety and Radio-Frequency Interference*
  - *NI PXI-449X Specifications*
  - *NI Dynamic Signal Acquisition User Manual*
  - *DAQ Getting Started Guide*
- ❑ Tools
  - 1/8 in. flathead screwdriver
- ❑ Cables
  - Infiniband-to-Infiniband cables (part numbers 197516A-01, 197516A-02)
  - BNC-to-BNC cables (part numbers 779697-01, 779697-02)

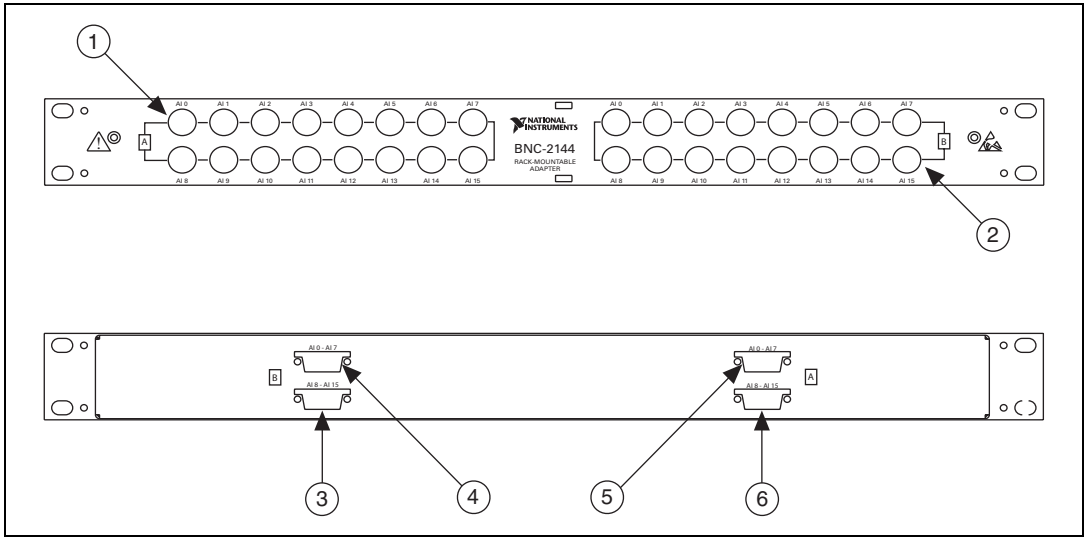
If you do not have NI-DAQmx 8.6 or later, or one of the documents, you can download them from `ni.com`, or contact an NI sales representative.

Theory of Operation

Caution Refer to the *Read Me First: Safety and Radio-Frequency Interference* document before removing equipment covers or connecting/disconnecting any signal wires. Refer to the *Specifications* section of this document for important safety and compliance information.

NATIONAL INSTRUMENTS

Figure 1 shows the BNC-2144 front and back panels.

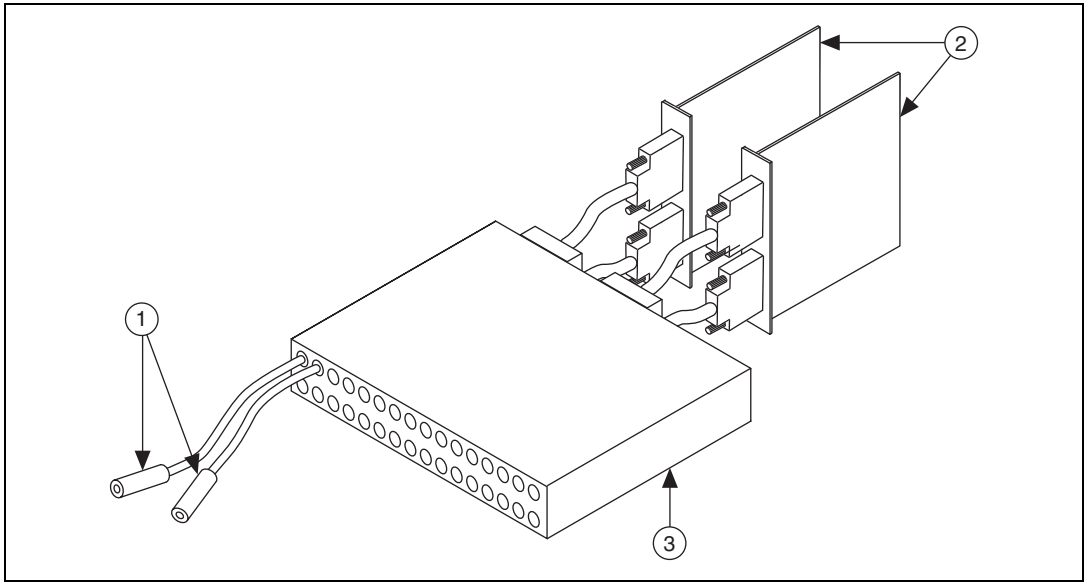


1	Device A BNC Connectors	3	Device B AI8–AI15 Infiniband Connector	5	Device A AI0–AI7 Infiniband Connector
2	Device B BNC Connectors	4	Device B AI0–AI7 Infiniband Connector	6	Device A AI8–AI15 Infiniband Connector

Figure 1. BNC-2144 Parts Location Diagram

Connecting Signals

Figure 2 shows an example of a measurement system with the BNC-2144.



1	Sensors	2	NI PXI-449*X* Devices	3	BNC-2144

Figure 2. Connecting the BNC-2144

Specifications

This section lists the specifications for the BNC-2144. These specifications are typical at 25 °C unless otherwise stated.

Analog Input

Input channels 32

Maximum input voltage

Positive terminal .....±10 V_{pk}

Negative terminal .....±1 V_{pk}

Overvoltage protection

Positive terminal .....±30 V_{pk}

Negative terminal .....±5 V_{pk}

Maximum cable length .....61 m (200 ft), typical

Crosstalk

Gain (dB)	Crosstalk for Adjacent/ Nonadjacent Channels (dBc)*, †	
	1 kHz	92.2 kHz
30	–110/–110	–85/–96
0, 10, 20	–115/–120	–85/–100

* Source impedance ≤ 1 kΩ

† Input amplitude is –1 dBFS.

Physical

Dimensions .....48.3 × 4.4 × 6.4 cm (19.0 × 1.7 × 2.5 in.)

Weight .....0.89 kg (1.96 pounds)

I/O Connectors

I/O connections .....32 BNC connectors and 4 Infiniband 4x connectors

Environmental

Operating temperature .....0 to 55 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)

Storage temperature .....–20 to 70 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)

Relative humidity .....10 to 90%, noncondensing (Tested in accordance with IEC-60068-2-56.)

Altitude .....2,000 m (at 25 °C ambient temperature)

Pollution Degree (indoor use only).....2

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN-61010-1
- UL 61010-1, CSA 61010-1

Note For UL and other safety certifications, refer to the product label or visit `ni.com/certification`, search by model number or product line, and click the appropriate link in the Certification column.

Environmental Management

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Waste Electrical and Electronic Equipment (WEEE)

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