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Find the *National Instruments IMAQ-A8014* at our website: *Click HERE*

INSTALLATION GUIDE

IMAQ™ A8014 Camera Cable

This guide describes how to use the National Instruments IMAQ A8014 analog camera cable to connect the PCI/PXI-1409 or PCI-1410 image acquisition (IMAQ) device to a camera.

The IMAQ A8014 cable provides direct connection between the IMAQ 1409/1410 device and the camera without using a breakout box. Use the IMAQ A8014 cable with the following Sony and JAI cameras:

- Sony XC-ES Series
- Sony XC-ST Series
- Sony XC-HR Series
- JAI A-Series

Note Refer to the Sony and JAI Web sites and documentation for information about the functionality of these cameras.

Getting Started

The following items are necessary for connecting the IMAQ A8014 cable:

- ❑ IMAQ A8014 cable
- ❑ *IMAQ A8014 Camera Cable Installation Guide*
- ❑ IMAQ 1409 device and documentation

  or
- ❑ IMAQ PCI-1410 device and documentation
- ❑ Camera and documentation

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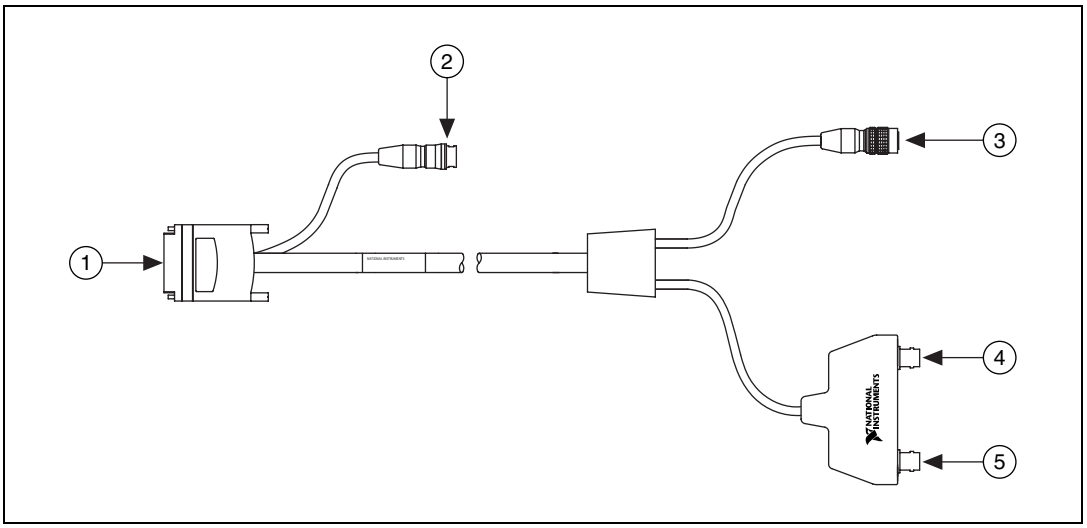
Connecting the IMAQ A8014 Cable

Complete the following steps to connect the IMAQ A8014 cable to the IMAQ 1409/1410 device and camera. Refer to Figure 1 for an illustration of the IMAQ A8014 cable.

1. Connect the 68-pin male VHDCI connector to the connector on the IMAQ 1409/1410 device and tighten the thumbscrews.
2. Connect the 12-pin male Hirose connector to the camera power supply.
3. Connect the 12-pin female Hirose connector to the input receptacle on the camera.

Optional Connections

1. Connect the external trigger to the **Ext. Trig 0** BNC.
2. Connect any device requiring general-purpose digital input/output, such as a strobe light, to the **Ext. Trig 1** BNC.



1	68-Pin Male VHDCI Connector	4	Ext. Trig 0
2	12-Pin Male Hirose Connector	5	Ext. Trig 1
3	12-Pin Female Hirose Connector		

Figure 1. IMAQ A8014 Cable

Connectors

The 68-pin VHDCI connector provides connection to the IMAQ 1409/1410 device, and the 12-pin Hirose connectors provide connection to the camera. Figures 2 and 3 show the pinouts for these connectors.

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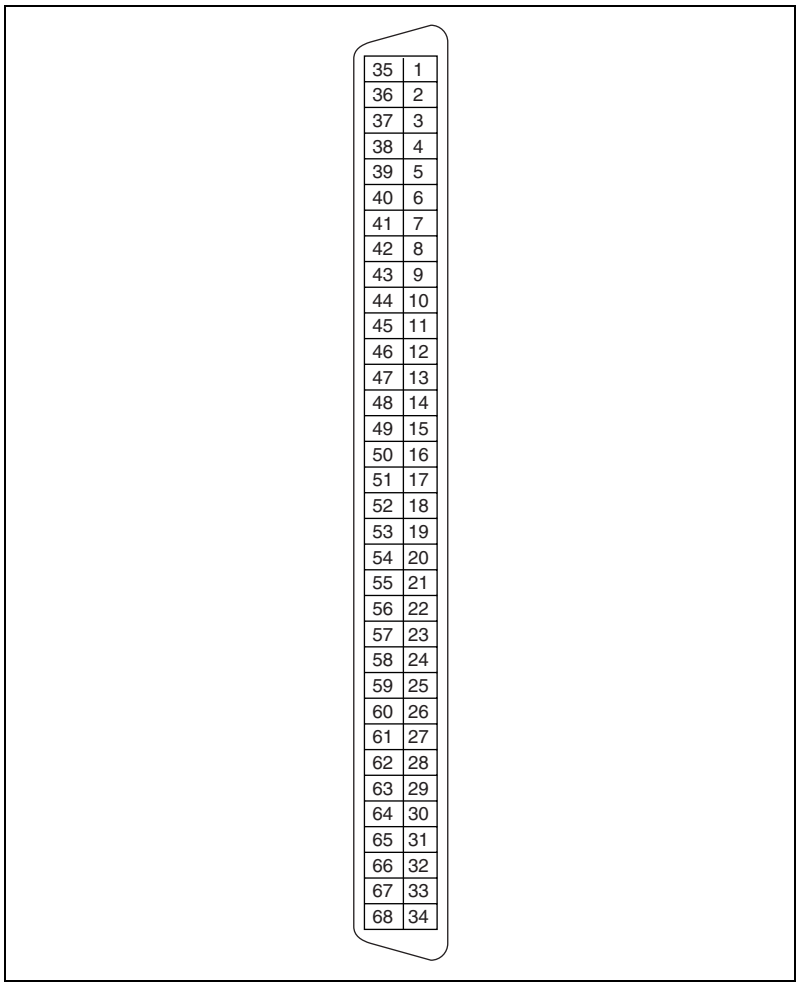


Figure 2. 68-Pin VHDCI Connector (Cable)

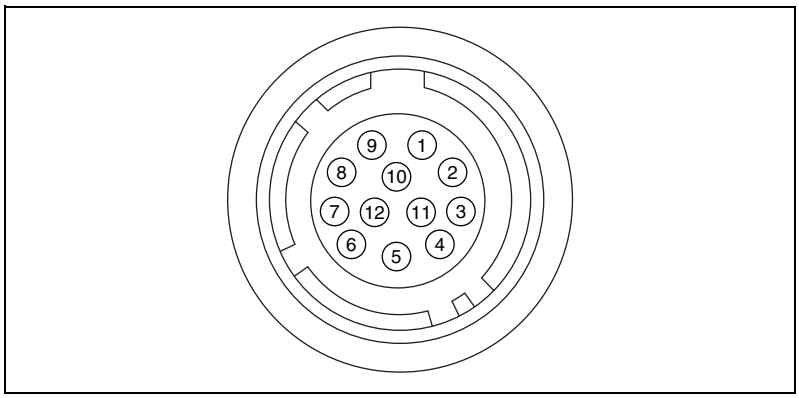


Figure 3. Hirose Connector (Cable)

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Pin Assignments

Table 1 shows the pin assignments for the connectors on the IMAQ A8014 cable.

Table 1. IMAQ A8014 Connector Pin Assignments

Signal	68-Pin VHDCI	12-Pin Male Hirose (to Power Supply)	12-Pin Female Hirose (to Camera)	Ext. BNC 0	Ext. BNC 1
VIDEO(0) +	68	—	4	—	—
VIDEO(0) –	67	—	3	—	—
HSYNC_IN +	16	—	6	—	—
DGND	26	—	5	—	—
VSYNC_IN +	15	—	10	—	—
DGND	2	—	8	—	—
PCLK_IN +	3	—	9	—	—
DGND	39	—	8	—	—
TRIG(3)	5	—	11	—	—
DGND	41	—	12	—	—
TRIG(0)	8	—	—	Center	—
DGND	42	—	—	Shield	—
TRIG(1)	7	—	—	—	Center
DGND	39	—	—	—	Shield
DC +12V	—	2	2	—	—
DGND	—	1	1	—	—

Triggering

You can use the IMAQ A8014 cable for applications requiring precise triggering or exposure control. In addition to connecting the video signal between the camera and the IMAQ 1409/1410 device, the IMAQ A8014 cable also connects the camera control lines on the IMAQ 1409/1410 to the exposure and trigger inputs on the camera. The IMAQ 1409/1410 can then be programmed to generate precise timing pulses for controlling the camera.

Tip Visit the National Instruments Camera Advisor Web site at `ni.com/camera` for application notes and sample code for many of the cameras the IMAQ A8014 supports.

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