GETTING STARTED

Gazelle
Cameral Link Digital Camera

1 Pre-Installation

1. Recommended System Configuration

OS	CPU	RAM	VIDEO	PORTS
XP, Vista, Windows 7	2.4GHz or equivalent	512MB	NVIDIA GeForce6 or later 128 MB RAM or more	Camera Link PCIe card with Full CL interface

- Windows XP, Vista or Windows 7
- 512 MB RAM
- Intel Pentium 4.20 GHz or compatible processor
- NVIDIA GeForce6 or later video card with 128 MB RAM or more
- PCI Express (PCIe) slot
- Camera Link (CL) PCIe card with Full CL interface
  (see reverse for supported frame grabbers)
- Other required hardware accessories (see reverse)

2. Electrostatic Precautions and Camera Care

- Users who have purchased a bare board camera should:

  - Either handle bare handed or use non-chargeable gloves, clothes or material. Also use conductive shoes.
  - Install a conductive mat on the floor or working table to prevent the generation of static electricity.

  - When handling the camera unit, avoid touching the lenses. To clean the lenses, use a standard camera lens cleaning kit or a clean dry cotton cloth. Do not apply excessive force.

  - This product is not intended for use in residential environments

- To clean the surface of your image sensor, follow the steps outlined in www.ptgrey.com/support/kb/index.asp?a=4&q=66.
- Extended exposure to bright sunlight, rain, dusty environments, etc. may cause problems with the electronics and the optics of the system.
- Avoid excessive shaking, dropping or mishandling of the device.

3. Install Camera Link PCIe card and software according to manufacturer instructions.
See reverse for supported frame grabbers.

4. Register for a Customer Downloads Account
Go to the Point Grey downloads page
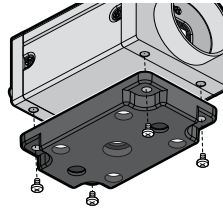http://www.ptgrey.com/support/downloads/index.asp

- **New customers:** Under Register (New Users), complete the form, then click "SUBMIT". After you submit your registration, you will receive an e-mail with further instructions on how to activate your account.

- **Existing customers:** login under "LOGIN WITH AN EXISTING ACCOUNT". You will be taken to the product Downloads page. Scroll to the bottom and complete the form under "ADD A NEW PURCHASED PRODUCT".

2 Installation

5. Install the Camera Configuration File for Your Frame Grabber

Login to the Point Grey downloads page http://www.ptgrey.com/support/downloads/index.asp. After login, you will be taken to the downloads page for the products to which you have access. Expand "GAZELLE". Then, click the "DOWNLOAD" link of the configuration file for your frame grabber to begin the download. Install the configuration file to a directory of your choice and note the location.

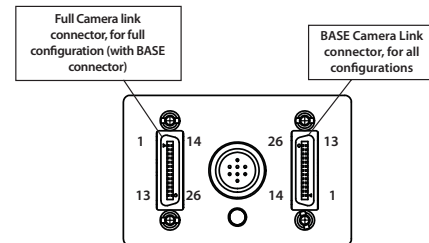### 6. Install the Tripod Mounting Bracket (optional)

- The ASA and ISO-compliant tripod mounting bracket attaches to the camera using the included M3 screws. The bracket is included at no extra charge with every Point Grey Gazelle.

7. Install a lens
- Unscrew the dust cap from the C-mount lens holder to install a lens. See reverse for a recommended 25mm C-mount lens available for purchase from Point Grey

8. Connect the Camera Link PCIe card and cable to the camera

- 85 MHz-certified cables are required. The maximum supported cable length is 5 meters. See reverse for recommended cables. For Base 2-tap configuration, use base connector. For Full 8-tap configuration, use both base and full connectors (two cables are required). Connectors are labelled on the camera.[i]

Full Camera link connector, for full configuration (with BASE connector) | BASE Camera Link connector, for all configurations

Some cable assemblies may be looser than others when connected to the SDR connectors on the camera. We recommend applying a screwdriver to the cable screw pins to secure the connection.

9. Supply Power to the Camera

Connect a 12 V DC power supply to the camera's GPIO port. The power supply wiring harness must be compatible with a Hirose HR25 8-pin female connector. See reverse for a compatible wall-mount power adapter available for purchase from Point Grey.

10. Confirm Successful Installation

To operate the camera, start the serial interface tool for your frame grabber and reference the configuration file downloaded in Step 5. Control the camera using the software instruction set described in the camera's Technical Reference manual, downloadable from http://www.ptgrey.com/support/downloads/index.asp.

3 Troubleshooting

The Gazelle Technical Reference Manual can be downloaded from http://www.ptgrey.com/support/downloads/index.asp. Our online Knowledge Base (http://www.ptgrey.com/support/kb/index.asp) addresses the following issues:

- Article 88: Vertical bleeding or smearing from a saturated portion of an image
- Article 145: Image discontinuities or horizontal tearing of images when displayed on monitor

CONTACTING POINT GREY RESEARCH

For all general questions about please contact us at info@ptgrey.com.
For technical support (existing customers only) contact
us at www.ptgrey.com/support/contact/.

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V6W 1K7	

CONTROLLING THE CAMERA

The user can monitor or control features of the camera using a command set developed by Point Grey. These commands are used with the serial interface tool provided by your Camera Link frame grabber, and control the camera via the frame grabber-specific configuration file downloaded during installation (see reverse). For command descriptions and syntax, see your camera's Technical Reference manual.

ⓘ Point Grey does not provide camera control software. Refer to the interface tool provided with your Camera Link frame grabber.

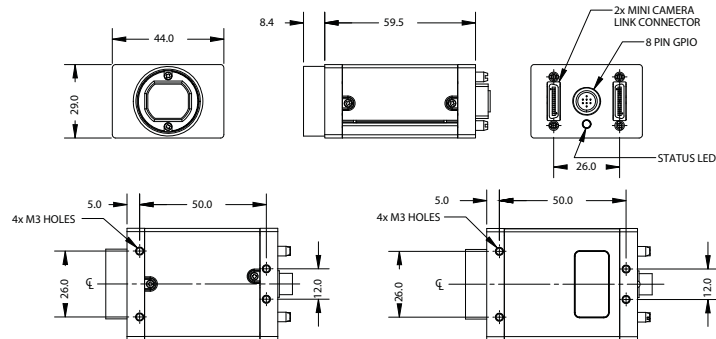## CAMERA INTERFACE

Camera Link Connectors

The camera is equipped with two (2) 26-pin female 0.05 inch SDR connectors for video data and camera control and configuration. Pin assignments conform to the Camera Link specification. For more information, see your camera's Technical Reference Manual.

General Purpose I/O Connector

The Gazelle has a Hirose HR25 8-pin general purpose input/output (GPIO) female connector on the back of the case (P/N: HR25-7TR-8SA).

Diagram	Pin	Function	Description
	1	IO0	Opto-isolated input (+3.3 V to +30 V) Input delay time: 4 µs Default behavior: Trigger in, active high
	2	IO1	Opto-isolated open collector output (+3.3 V to +30V) Drive strength: 25 mA at 30 V Default behavior: Strobe out for duration of exposure
	3		Reserved
	4		Reserved
	5	GND	Ground for V_{EXT}, +3.3 V pins
	6	GND_OPTO	Ground for opto-isolated IO pins
	7	V_{EXT}	External power input, 12 V +/- 10%
	8	+3.3V	Power external circuitry
To configure the GPIO pins, consult section 3.4 "General Purpose Input / Output" of the Gazelle Technical Reference Manual			

TECHNICAL DRAWINGS

STATUS LED

The camera is equipped with a bi-color red/green LED. When no power is present, the LED is off. When the camera is first connected to power, the LED first turns solid orange (red and green on simultaneously) until the camera is initialized. Once the camera is fully initialized, the LED turns solid green.

LED Behaviour	Description
Off	Not receiving power
Green flashing slowly, low intensity	Camera is receiving power, no IP connection is established or establishing connection with camera control software
Green flashing quickly, low intensity	Establishing IP connection
Steady green, high intensity	Streaming images
Red flashing quickly	Firmware update in progress
Red flashing slowly	General error - contact technical support

REQUIRED ACCESSORIES

For more information about supported frame grabber and cable combinations, see http://www.ptgrey.com/support/kb/index.asp?a=4&q=359.

Supported Frame Grabbers

Point Grey provides camera configuration files (CCFs) for using the camera with compatible frame grabbers. For more information see http://www.ptgrey.com/support/kb/index.asp?a=4&q=359

To download CCFs, go to http://www.ptgrey.com/support/downloads/index.asp

Cables

85 MHz-certified cables are required for the Camera Link connection between the camera and the host system. The maximum supported cable length is 5 meters.

To purchase a 3-meter HDR-SDR mini compatible cable from Point Grey, go to http://www.ptgrey.com/products/accessories/index.asp?type=cables (Part No. ACC-01-2200)

Power Supply

Power must be provided through the GPIO interface. The required input voltage is 12 V +/- 10% DC. Point Grey sells a 12 V wall-mount power supply equipped with a HR25 8-pin GPIO wiring harness for connecting to the camera (Part No. ACC-01-9006). To purchase, visit http://www.ptgrey.com/products/accessories/index.asp

Lens

The camera lens mount is compatible with C-mount lenses. To purchase a 25mm lens, compatible with Gazelle model sensors, go to http://www.ptgrey.com/products/accessories/index.asp?type=optics (Part No. LENS-30S6-250C)

VIDEO DATA OUTPUT

Video Data Output GZL-CL-22C5

#Taps	Bit Depth	Max Size (HxV)	MAX FRAME RATE				
			max res	1280x960	640x480	320x240	160x120
8	8	2048x1088	281	319	630	1231	2347
2	10	2048x1088	71	80	160	319	630

Video Data Output GZL-CL-41C6

#Taps	Bit Depth	Max Size (HxV)	MAX FRAME RATE					
			max res	1600x1200	1280x960	640x480	320x240	160x120
8	8	2048x2048	149	253	315	618	1183	2183
2	10	2048x2048	37	64	80	160	318	630