

VADDIO™ ZOOMSHOT™ QSR SYSTEM

High Definition Point of View Camera System with 19X Optical Zoom featuring the Quick-Connect SR Analog Interface

Model Number 999-6918-000 (North America)

Model Number 999-6918-001 (International)





TABLE OF CONTENTS

| | |
|--|----|
| Overview | 3 |
| Unpacking: | 4 |
| Front View with Feature Call-outs | 4 |
| Image: ZoomSHOT HD PTZ Camera | 4 |
| Rear Panel Connections with Feature Call-outs | 5 |
| Image: ZoomSHOT HD Camera | 5 |
| Quick-Connect SR Interface | 6 |
| Image: Rear Panel with Feature Call-outs | 6 |
| First Time Set-up: | 6 |
| Step By Step Installation Instructions: | 7 |
| Image: Basic Wiring Configuration | 8 |
| Compliance and CE Declaration of Conformity - ZoomSHOT | 9 |
| Warranty Information | 10 |
| ZoomSHOT QSR General Specifications: | 11 |
| Appendix 1: Pin-outs for ZoomSHOT Camera | 12 |
| Table EZCamera Power & HD Video RJ-45 Connector Pin-outs | 12 |
| Appendix 2: Pin-outs for Quick-Connect SR Interface | 12 |
| Table: DE-15 - YPbPr Pin-Out | 12 |
| Communication Specification | 13 |
| ZoomSHOT Command List (1/2)..... | 13 |
| ZoomSHOT Command List (2/2)..... | 14 |
| ZoomSHOT Inquiry List (1/1) | 15 |

OVERVIEW:

The Vaddio ZoomSHOT HD camera produces amazing results for small, medium and large room applications. Anywhere that a Point-of-View or stationary camera can be used alone or in conjunction with a Vaddio PTZ camera to simplify camera coverage and preset positioning, the ZoomSHOT is the answer.

Essentially, the ZoomSHOT is a low cost pan/tilt/zoom camera, where the pan and tilt are adjusted manually. However, unlike security-type stationary cameras, the ZoomSHOT is equipped with a 19X optical power zoom lens that produces a horizontal field of view ranging from 58° on the wide end to 3.1° on the tele end in a HD 16:9 format.

ZoomSHOT HD is a camera with a unique pedigree. Designed from the ground up, this HD camera uses the Vaddio EZCamera™ Cat-5 wiring standard for video, power and control. Using HSDS™ (high speed differential) video outputs over Cat-5 cable, the ZoomSHOT sports a wide range of video resolutions that are selectable from the rear panel; from 480p/59.94-YPbPr up to and including 1080p/60. The HSDS processing allows delivery of the HD video signals up to 150' (45.72m).

Choose between three (3) IR frequencies for the Vaddio IR Shot Commander to allow multiple cameras to be locally IR controlled with a single remote control. The ZoomSHOT also has an OSD (on screen display) for easy set-up and basic image control that's accessible with the IR remote. Up to six (6) camera zoom presets can be programmed and recalled via the remote or RS-232 (up to 16 zoom presets with RS-232). IR signal forwarding is also included.

ZoomSHOT is paired with the tried-and-true Quick-Connect SR Interface in this package which represents a super-high value and a very low price. So breathe easy, and try a ZoomSHOT today!

Intended Use:

Before operating the device, please read the entire manual thoroughly. The system was designed, built and tested for use indoors with the power supply provided. The use of a power supply, other than the one provided, or outdoor operation has not been tested and could damage the device and/or create a potentially unsafe operating condition.

Important Safeguards:

Read and understand all instructions before using. Do not operate any device if it has been dropped or damaged. In this case, a Vaddio technician must examine the product before operating. To reduce the risk of electric shock, do not immerse in water or other liquids and avoid extremely humid conditions.



Use only the power supply provided with the system. Use of any unauthorized power supply will void any and all warranties.



Please do not use "pass-thru" type RJ-45 connectors. These pass-thru type connectors do not work well for professional installations and can be the cause of intermittent connections which can result in the RS-232 control line failing and locking up, and/or compromising the HSDS (high speed differential) signals. For best results please use standard RJ-45 connectors and test all cables for proper pin-outs prior to use and connection to Vaddio product.

Save These Instructions:

The information contained in this manual will help you install and operate your product. If these instructions are misplaced, Vaddio keeps copies of Specifications, Installation and User Guides and most pertinent product drawings for the Vaddio product line on the Vaddio website. These documents can be downloaded from www.vaddio.com free of charge.



Image: ZoomSHOT HD Camera



Image: ZoomSHOT Rear Panel

UNPACKING:

Carefully remove the product and all of the included parts from the packaging. Identify the following parts for each camera:

ZoomSHOT QSR Camera System (North America):

Part Number: 999-6918-000

- One (1) ZoomSHOT HD Camera (998-6918-000)
- One (1) Vaddio IR SHOT Commander Remote
- One (1) Quick-Connect SR Interface
- One (1) 3-Position Phoenix-type Connector for IR Forwarding
- One (1) 24 VDC, 2.0 A Power Supply with Power Cord for North America
- One (1) Thin Profile Wall Mount with Mounting Hardware
- One (1) EZCamera™ Control Adapter (RJ-45-F to DB-9-F)
- Documentation

ZoomSHOT QSR Camera System (International):

Part Number: 999-6918-001

- One (1) ZoomSHOT HD Camera (998-6918-000)
- One (1) Vaddio IR SHOT Commander Remote
- One (1) Quick-Connect SR Interface
- One (1) 3-Position Phoenix-type Connector for IR Forwarding
- One (1) 24 VDC, 2.0 A Power Supply
- One (1) Euro Power Cable
- One (1) UK Power Cable
- One (1) Thin Profile Wall Mount with Mounting Hardware
- One (1) EZCamera™ Control Adapter (RJ-45-F to DB-9-F)
- Documentation



Front View with Feature Call-outs

Image: ZoomSHOT HD PTZ Camera



- 1) **Lens:** 19X Optical Zoom Lens
- 2) **IR Sensor and Power LED:** The IR sensor for the IR Shot Commander Remote is located here. In a separate opening, a blue LED power light and a red LED tally resides (turns purple on boot up).
- 3) **The Yoke:** For manual pan and tilt. Tilt range is $\pm 30^\circ$ and Pan is limited to the service loop of the cabling.
- 4) **The Aluminum Base and Steel Cylindrical Body:** Please don't drop it on your foot, it's fairly substantial.
- 5) **Logo:** Really Cool Logo Badge (RCLB). The RCLB is affixed to the base in a recessed ovoid area.

Rear Panel Connections with Feature Call-outs

Image: ZoomSHOT HD Camera



1) RS-232 & IR Out: The RS-232 accepts modified VISCA protocol for camera control, as well as transmits IR signaling received by the front IR receiver, which can be transmitted to third party devices.

2) EZ Power/Video Port:

This RJ-45 connector is only used with the Quick-Connect SR, Quick-Connect DVI-D/HDMI SR Interface, Quick-Connect USB and USB Mini Interfaces to supply power and return HSDS (differential) video from the camera over Cat-5 cable up to distance of 150' (45.72m).

3) Dip Switch Settings:

Settings for IR remote frequency, IR receiver on/off, image flip, test bars and defaults can be configured on these switches. See the Switch Settings page for additional information. The dip switch settings are as follows:

| Dip Switch | Function |
|------------|---|
| 1 | Up = IR1, Down = IR2 |
| 2 | Up = IR 1 or 2, Down = IR3 |
| 3 | Up=IR ON, Down = IR OFF |
| 4 | Up = Normal Image, Down = Image Flip |
| 5 | Test Bars |
| 6 | Update Position - Leave UP unless updating firmware |
| All Down | Reset to Defaults - with power cycle |



4) HD Video Select:

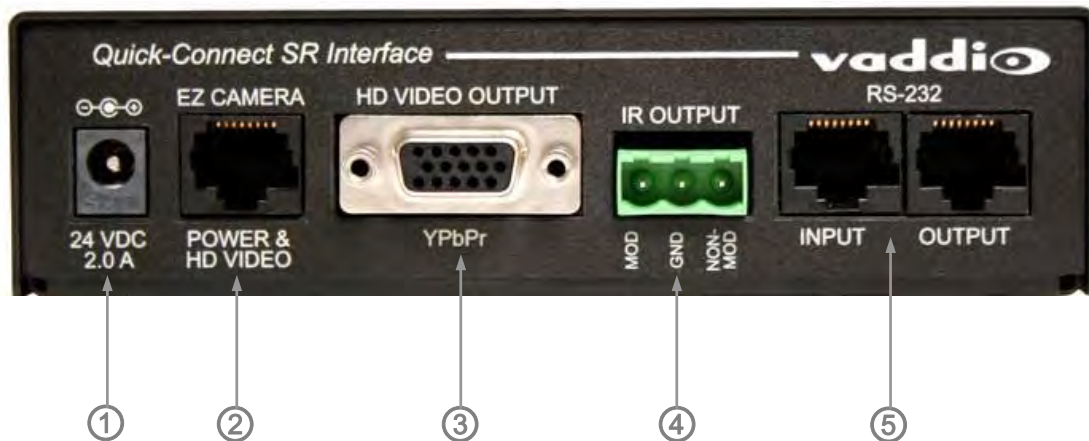
A rotary switch allows the user to choose the component HD output video resolution and format. See the HD Video Select Rotary Switch Settings are as follows:

| Rotary | Resolutions | Rotary | Resolutions |
|--------|-------------|--------|-------------|
| 0 | 720p/59.94 | 8 | 576p/50 |
| 1 | 1080i/59.94 | 9 | -- |
| 2 | 1080p/59.94 | A | -- |
| 3 | -- | B | -- |
| 4 | 720p/50 | C | -- |
| 5 | 1080i/50 | D | -- |
| 6 | 1080p/50 | E | 1080p/29.97 |
| 7 | 480p/59.94 | F | 1080p/25 |



QUICK-CONNECT SR INTERFACE

Image: Rear Panel with Feature Call-outs



1) Power Input:

5.5mm OD x 2.5mm ID coaxial connector for the provided PowerRite 24 VDC, 2.0 Amp power supply.

2) EZCamera Power & HD Video:

A single Cat-5 connection between the EZCAMERA POWER & HD VIDEO RJ-45 connector and the camera's EZ Power HD Video Port on the HD-19 camera extends power and video. Power is fed to the camera and HSDS video is returned from the camera on the same Cat-5.

3) HD Video Output:

DE-15 connector outputs the YPbPr analog component HD video, which was extended from the camera over Cat-5 cable. SD video resolutions (Y/C and CVBS formats) are not supported by the Quick-Connect SR Interface, however analog component SD video is supported.

4) IR Output:

With the IR pass-thru turned ON (see camera dip switch settings), IR from third-party IR remote controls can be sent through the ZoomSHOT camera to third-party equipment, such as hardware videoconferencing codecs. IR can be used as either modulated (through the air) or non-modulated (wired) signals).

5) RS-232 Input & Output Jacks:

These RJ-45 connectors allow an external controller (beware of upcoming shameless plug) like the ProductionVIEW™ Precision Camera Controller to route through the Quick-Connect SR for ease of cabling.

FIRST TIME SET-UP:

The ZoomSHOT was designed to be very easy to use and operate. There is documentation at the back of this manual for pin-outs of the connectors on the Quick-Connect and camera.

Before Installing:

- Choose camera mounting location, paying close attention to camera viewing angles, lighting conditions, possible line of site obstructions, and checking for in-wall obstructions where the camera is to be mounted. Always pick a mounting location that will optimize the performance of the camera.
- The Thin Profile Wall Mount for the ZoomSHOT can be mounted directly to a 1-gang wall box or can be mounted using only dry wall anchors.
- For Power/Video and RS-232 signals, use standard Cat-5 cable (568B termination and real RJ-45 connectors) from the EZ-POWER VIDEO and RS-232 ports on the back of the ZoomSHOT to the Quick-Connect SR Interface. The EZ-POWER VIDEO jack on the camera is *color coded* as a reminder that there is 24 VDC power on that Cat-5 cable.

Step By Step Installation Instructions:

Step 1: After determining the optimum location of the camera, route, mark and test the two (2) Cat-5 cables from the camera to the Quick-Connect SR Interface located at the head-end. The two Cat-5e cables should feed-through the hole located on the rear flange of the Thin Profile Wall Mount. If the bracket is to be mounted on a 1-gang wall box, use the screws supplied with the wall box cover plate to attach the Thin Profile Wall Mount. If mounting to the drywall with wall anchors, use two (2) quality wall anchors. The mounting holes are slotted and are 90° opposing to provide easy leveling. Level the mount and tighten the mounting screws.

Step 2:

Using the HD VIDEO SELECT rotary switch and CAMERA SETTINGS dip switches on the back of the camera, set up the camera's output resolution and functional preferences. There are tables on previous pages that identify the choices...maybe keep these tables handy for future use...or you can easily look them up on the Vaddio website (vaddio.com) when needed.

On the camera:

- Set the desired HD Resolution with the rotary selection switch.
- Set the IR frequency of the camera (if it is to respond to the IR remote control).
- Set the image orientation (normal or flipped).

Step 3: Follow the sample wiring diagram for connecting the Cat-5 cables to the ZoomSHOT and Quick-Connect SR Interface (yep, on the next page, but read and understand the rest of these instructions especially the next note).



NOTE: Check all Cat-5e cables for continuity in advance of the final connection. Label the Cat-5e cables. Plugging the EZ-POWER VIDEO cable into the wrong RJ-45 may cause damage to the camera system and void the warranty. For premise cabling, please use real RJ-45 connectors and crimpers. Please don't use the pull through or EZ type of RJ-45.

Step 4: Place the camera onto the camera mount and use the provided ¼"-20 screws to secure the camera to the mount. To dress the cabling, push the extra cable back into the wall opening.

Step 5: Connect the Vaddio 24 VDC, 2.0 Amp power supply to a power outlet and to the Quick Connect SR Interface. Power will travel down the EZ-POWER VIDEO Cat. 5 cable to the camera. The camera will boot up and in a few seconds, HSDS (differential) video will travel back down the Cat-5 cable and be ready to accept control information from the IR remote control or RS-232 camera controller.



To insure proper continuity of control and operation of the cameras, the RS-232 controller (control system or joystick) should be powered on after the camera.

Image: Basic Wiring Configuration



Note: RS-232 Control can be run through the RS-232 IN and OUT of the Quick-Connect SR Interface and is required for use with IR Forwarding.

COMPLIANCE AND CE DECLARATION OF CONFORMITY - ZOOMSHOT

Compliance testing was performed to the following regulations:

- **FCC Part 15 (15.107, 15.109), Subpart B**
- **ICES-003, Issue 4: 2004**
- **EN 55022 A: 2006 + A1: 2007**
- **KN22 2008 (CISPR 22: 2006)**
- **KN24 2008 (CISPR 24: 1997 + A1: 2000 + A2: 2002)**
- **EMC Directive 2004/108/EC**
- **EN 55024: A2: 2003**

Class A
Class A
Class A
Class A
Class A
Class A
Class A



FCC Part 15 Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B, of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference including interference that may cause undesired operation of the device. Changes or modifications not expressly approved by Vaddio can affect emission compliance and could void the user's authority to operate this equipment.



ICES-003 Compliance

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.



European Compliance

This product has been evaluated for Electromagnetic Compatibility under the EMC Directive for Emissions and Immunity and meets the requirements for a Class A digital device. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Standard(s) To Which Conformity Is Declared:

EMC Directive 2004/108/EC

EN 55022 A: 2006 + A1: 2007(CISPR 22:2005/A1:2005)

EN 55024: A2: 2003

- EN 61000-4-2: 1995 + Amendments A1: 1998 + A2: 2001
- EN 61000-4-3: 2006 + A1: 2008
- EN 61000-4-4: 2004 + Corrigendum 2006
- EN 61000-4-5: 2006
- EN 61000-4-6: 2009
- EN 61000-4-8: 2010
- EN 61000-4-11: 2004

KN24 2008 (CISPR 24: 1997 + A1: 2000 + A2: 2002)

- EN 61000-4-2
- EN 61000-4-3
- EN 61000-4-4
- EN 61000-4-5
- EN 61000-4-6
- EN 61000-4-8
- EN 61000-4-11

IEC 60950-1:2005 (2nd Edition); Am 1:2009

EN 60950-1:2006+A11:2009+A1:2010+A12:2011

Class A

Immunity
Electrostatic Discharge
Radiated Immunity
Electrical Fast Transients
Surge Immunity
Conducted Immunity
Power Frequency Magnetic Field
Voltage Dips, Interrupts and Fluctuations
IT Immunity Characteristics
Electrostatic Discharge
Radiated Immunity
Electrical Fast Transients
Surge Immunity
Conducted Immunity
Power Frequency Magnetic Field
Voltage Dips, Interrupts and Fluctuations

Safety

Safety

WARRANTY INFORMATION

(See Vaddio Warranty, Service and Return Policies posted on vaddio.com for complete details):

Hardware* Warranty: Two (2) year limited warranty on all parts and labor for Vaddio manufactured products. Vaddio warrants its manufactured products against defects in materials and workmanship for a period of two years from the day of purchase, to the original purchaser, if Vaddio receives notice of such defects during the warranty. Vaddio, at its option, will repair or replace products that prove to be defective. Vaddio manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry standard practices.

Exclusions: The above warranty shall not apply to defects resulting from improper or inadequate maintenance by the customer, customers applied software or interfacing, unauthorized modifications or misuse, mishandling, operation outside the normal environmental specifications for the product, use of the incorrect power supply, modified power supply or improper site operation and maintenance. OEM products and products manufactured by other companies are excluded and are covered by the manufacturer's warranty.

Vaddio Customer Service: Vaddio will test, repair, or replace the product or products without charge if the unit is under warranty. If the product is out of warranty, Vaddio will test then repair the product or products. The cost of parts and labor charge will be estimated by a technician and confirmed by the customer prior to repair. All components must be returned for testing as a complete unit. Vaddio will not accept responsibility for shipment after it has left the premises.

Vaddio Technical Support: Vaddio technicians will determine and discuss with the customer the criteria for repair costs and/or replacement. Vaddio Technical Support can be contacted through one of the following resources: e-mail support at support@vaddio.com or online at vaddio.com.

Return Material Authorization (RMA) Number: Before returning a product for repair or replacement request an RMA from Vaddio's technical support. Provide the technician with a return phone number, e-mail address, shipping address, product serial numbers and original purchase order number. Describe the reason for repairs or returns as well as the date of purchase. See the General RMA Terms and Procedures section for more information. RMA's are valid for 30 days and will be issued to Vaddio dealers only. End users must return products through Vaddio dealers. Include the assigned RMA number in all correspondence with Vaddio. Write the assigned RMA number clearly on the shipping label of the box when returning the product. All products returned for credit are subject to a restocking charge without exception.

Voided Warranty: The warranty does not apply if the original serial number has been removed or if the product has been disassembled or damaged through misuse, accident, modifications, use of incorrect power supply, use of a modified power supply or unauthorized repair.

Shipping and Handling: Vaddio will not pay for inbound shipping transportation or insurance charges or accept any responsibility for laws and ordinances from inbound transit. Vaddio will pay for outbound shipping, transportation, and insurance charges for all items under warranty but will not assume responsibility for loss and/or damage by the outbound freight carrier. If the return shipment appears damaged, retain the original boxes and packing material for inspection by the carrier. *Contact your carrier immediately.*

Products not under Warranty: Payment arrangements are required before outbound shipment for all out of warranty products.

*Vaddio manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry standard practices.

Other General Information:

Care and Cleaning

Do not attempt to take this product apart at any time. There are no user-serviceable components inside.

- Do not spill liquids in the product
- Keep this device away from food and liquid
- For smears or smudges on the product, wipe with a clean, soft cloth
- Use a lens cleaner on the lens - not a hanky
- Do not use any abrasive chemicals.

Operating and Storage Conditions:

Do not store or operate the device under the following conditions:

- Temperatures above 40°C (104°F) or temperatures below 0°C (32°F)
- High humidity, condensing or wet environments
- In inclement weather
- In swimming pools or under waterfalls
- Dry environments with an excess of static discharge
- In orbit (vacuum issue)
- Under severe vibration

ZoomSHOT QSR General Specifications:

| ZoomSHOT Camera System | |
|-----------------------------------|--|
| Part Numbers | ZoomSHOT QSR System 999-6918-000 (North America) ZoomSHOT QSR System 999-6918-001 (International) |
| Image Sensor | 1/3-Type Exmor High-speed, Progressive Scan CMOS Sensor with 1.3 Megapixels |
| Video Output Resolutions | HD: 1080/59.94/50/30/25, 1080i/59.94/50, 720p/59.94/50 SD: 480p/59.94 & 576p/50 (analog only) |
| Lens/ Focal Length | 19X Optical Zoom, F=4.5mm wide to 85mm tele end (F1.6-F2.9), Min. Focus Distance 1.0m |
| Horizontal Viewing Angle | 58.1° Wide End to 3.2° Tele End - 16:9 Format |
| Video S/N Ratio | >52 dB |
| Minimum Illumination | 0.7 LUX (F1.6, 50IRE) |
| Serial Control Protocol | RS-232 (Modified VISCA) |
| Manual Pan/Tilt Range | Pan: Limited to service loop of cabling, yoke and base are mechanical only Tilt: ± 30° Invertible for Ceiling Mount |
| Preset Positions | Six (6) Programmed and Recalled via IR Remote, 16 Programmed and Recalled with RS-232 |
| Tally Light | Available through RS-232 Control |
| Camera Connectors | Two (2) RJ-45 Jacks: <ul style="list-style-type: none"> EZ-Power VIDEO RJ-45 Jack for use with Quick-Connect - Supplies power to the camera and returns differential HD video from the camera RS-232 RJ-45 Jack (RS-232 Communication and IR Out (with Quick-Connect -SR Interfaces |
| HD Video Select | 16-Position Rotary Switch: Used to set HD Video Resolution Output |
| Camera Settings | 6-Position Dip Switch: For IR Freq., Baud Rate 9600, Image Flip & Test Bars 16-Position Rotary Switch for Output Resolution Settings |
| Thin Profile Wall Mount | 535-2000-237 (Provided with Systems) Black powder coating, Sized to fit on 1-gang wall box or drywall mounting |
| User Controls | IR Shot Commander Remote with OSD for set-up, RS-232 Port for External Control |
| Materials & Weight | Aluminum & Steel, Weight = 2.75643 lbs. (1.68kg) |
| Dimensions: | Tube: 3" (76.2mm) Diameter x 4.75" (120.65mm) Long Base: 5.5" (139.7mm) Diameter Overall Height: 5.5" (139.7mm) Tall |
| Quick-Connect SR Interface | |
| Connectors | <ul style="list-style-type: none"> Power Connector: 5.5mm OD, 2.5mm ID coaxial connector Power/Video RJ-45: Supplies power to, and differential HD video from the camera Video Output: DE-15 connector for HD Analog Component (YPbPr) video only (No SD Support) IR Output: Transmits modulated or non-modulated IR signals received from the camera's IR receiver RS-232 IN RJ-45: Accepts RS-232 from ProductionVIEW or other external control systems RS-232 OUT RJ-45: Sends RS-232 from Quick-Connect SR to the camera |
| Power Supply | 24 VDC, 2.0 Amp |
| Dimensions (H x W x D) | 1/3 Rack Size - 1.6" (40.64mm) H x 5.5" (139.7mm) W x 3.25" (82.5500000000001mm) D |
| Weight | 0.45 lbs. (0.2041165643 kg) |
| Accessory | Rack Mount Adapter: 998-6000-002 - Holds three (3) Quick-Connect SR Interfaces |

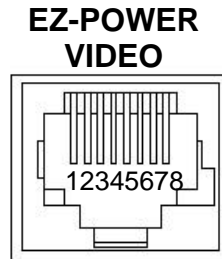
Moon in Front Page Header: Europa - Sixth closest moon of the planet Jupiter.

APPENDIX 1: PIN-OUTS FOR ZOOMSHOT CAMERA

Table EZCamera Power & HD Video RJ-45 Connector Pin-outs

ZoomSHOT EZPOWER HD VIDEO PORT

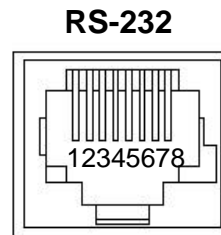
| Pin | YPbPr |
|-----|--------|
| 1 | Power+ |
| 2 | Power- |
| 3 | Y+ |
| 4 | PB+ |
| 5 | PB - |
| 6 | Y - |
| 7 | PR+ |
| 8 | PR- |



Important Note: The EZ POWER HD VIDEO RJ-45 Connector is for use with the **Quick-Connect SR, Quick-Connect DVI/HDMI SR, Quick-Connect USB and USB Mini Interfaces ONLY** (568B Wiring Standard). The video signals are differential (HSDS™) and can only be received by the interfaces above.

ZoomSHOT Camera RS-232 Port

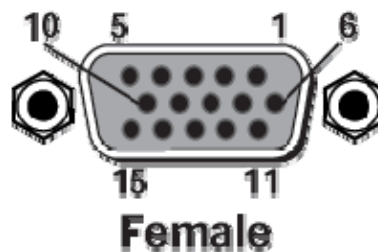
| Pin # | Function |
|---------|--|
| Pin - 1 | N/A |
| Pin - 2 | N/A |
| Pin - 3 | N/A |
| Pin - 4 | IR Output (Diff Signal to Quick-Connect) |
| Pin - 5 | IR Ground (Diff Signal to Quick-Connect) |
| Pin - 6 | Digital GND |
| Pin - 7 | RXD (from TXD of control source) |
| Pin - 8 | TXD (to RXD of control source) |



APPENDIX 2: PIN-OUTS FOR QUICK-CONNECT SR INTERFACE

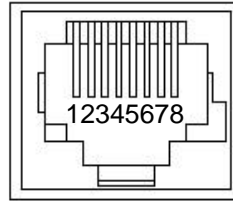
Table: DE-15 - YPbPr Pin-Out

| Pin | YPbPr |
|-----|--------|
| 1 | Pr |
| 2 | Y |
| 3 | Pb |
| 4 | - |
| 5 | - |
| 6 | Pr GND |
| 7 | Y GND |
| 8 | Pb GND |
| 9 | - |
| 10 | GND |
| 11 | - |
| 12 | - |
| 13 | - |
| 14 | - |
| 15 | - |



COMMUNICATION SPECIFICATION

Communication Speed: 9600 bps (default)
 Start bit: 1
 Stop bit: 1
 Data bits: 8
 Parity: None
 No Flow control



| Pin # | RJ-45 RS-232 and IR Out Pins |
|-------|---|
| 1) | Unused |
| 2) | Unused |
| 3) | Unused |
| 4) | IR Output (Diff Signal to Quick-Connect SR) |
| 5) | IR Ground (Diff Signal to Quick-Connect SR) |
| 6) | GND (GND of IR Short Range - Pin 3) |
| 7) | RXD (from TXD of control source) |
| 8) | TXD (to RXD of control source) |

NOTE: The Vaddio ZoomSHOT control protocol is similar, but not identical to the Sony® VISCA™ command set in order to be compatible with several popular control devices. Not all VISCA commands are supported and there are many ZoomSHOT specific commands in the following Command and Inquiry Lists.

ZoomSHOT Command List (1/2)

| Command Set | Command | Command Packet | Comments |
|----------------|------------------|----------------------------------|--|
| Address Set | Broadcast | 88 30 01 FF | Address Set (Daisy chain) |
| IF_Clear | Broadcast | 88 01 00 01 FF | IF Clear |
| Command Cancel | | 8x 2p FF | p:socket number(1,2) |
| CAM_Power | On | 8x 01 04 00 02 FF | Power On/Off |
| | Off(Standby) | 8x 01 04 00 03 FF | |
| CAM_Zoom | Stop | 8x 01 04 07 00 FF | p:(0-Slow to 7-Fast) |
| | Tele(Standard) | 8x 01 04 07 02 FF | |
| | Wide(Standard) | 8x 01 04 07 03 FF | |
| | Tele(Variable) | 8x 01 04 07 2p FF | |
| | Wide(Variable) | 8x 01 04 07 3p FF | |
| | Direct | 8x 01 04 47 00 0p 0q 0r FF | |
| CAM_Focus | Direct(Variable) | 8x 01 7E 01 4A 0v 0p 0q 0r 0s FF | pqrs: Zoom Position* v: zoom speed |
| | Stop | 8x 01 04 08 00 FF | |
| CAM_WB | Far(Standard) | 8x 01 04 08 02 FF | pqrs: Focus position* |
| | Near(Standard) | 8x 01 04 08 03 FF | |
| | Far(Variable) | 8x 01 04 08 2p FF | |
| | Near(Variable) | 8x 01 04 08 3p FF | |
| | AutoFocus | 8x 01 04 38 02 FF | |
| | ManualFocus | 8x 01 04 38 03 FF | |
| | Auto/Manual | 8x 01 04 38 10 FF | |
| | Direct | 8x 01 04 48 0p 0q 0r 0s FF | |
| CAM_RGain | Auto | 8x 01 04 35 00 FF | Normal Auto (Auto Tracing WB) Manual White Balance One Push White Balance Mode |
| | Manual | 8x 01 04 35 03 FF | |
| | One Push WB | 8x 01 04 35 05 FF | |
| CAM_RGain | Reset | 8x 01 04 03 00 FF | pqrs:00-ffff |
| | Up | 8x 01 04 03 02 FF | |
| | Down | 8x 01 04 03 03 FF | |
| | Direct | 8x 01 04 43 0p 0q 0r 0s FF | |
| CAM_BGain | Reset | 8x 01 04 04 00 FF | pqrs:00-ffff |
| | Up | 8x 01 04 04 02 FF | |
| | Down | 8x 01 04 04 03 FF | |
| | Direct | 8x 01 04 44 0p 0q 0r 0s FF | |
| CAM_AE | Full Auto | 8x 01 04 39 00 FF | Auto Exposure Mode Manual Control Mode |
| | Manual | 8x 01 04 39 03 FF | |
| CAM_Iris | Reset | 8x 01 04 0B 00 FF | pq(0x00-0x11) |
| | Up | 8x 01 04 0B 02 FF | |
| | Down | 8x 01 04 0B 03 FF | |
| | Direct | 8x 01 04 4B 00 00 0p 0q FF | |
| CAM_Gain | Reset | 8x 01 04 0C 00 FF | pq(0x00-0x11) |
| | Up | 8x 01 04 0C 02 FF | |
| | Down | 8x 01 04 0C 03 FF | |
| | Direct | 8x 01 04 4C 00 00 0p 0q FF | |
| CAM_Bright | Reset | 8x 01 04 0D 00 FF | pq(0x00-0x24) |
| | Up | 8x 01 04 0D 02 FF | |
| | Down | 8x 01 04 0D 03 FF | |
| | Direct | 8x 01 04 4D 00 00 0p 0q FF | |
| CAM_Backlight | On | 8x 01 04 33 02 FF | |
| | Off | 8x 01 04 33 03 FF | |
| CAM_Aperture | Reset | 8x 01 04 02 00 FF | pq(0x00-0x1F) |
| | Up | 8x 01 04 02 02 FF | |
| | Down | 8x 01 04 02 03 FF | |
| | Direct | 8x 01 04 42 00 00 0p 0q FF | |

ZoomSHOT Command List (2/2)

| Command Set | Command | Command Packet | Comments |
|-------------------|--------------------------|----------------------------|---|
| CAM_Memory | Reset | 8x 01 04 3F 00 0p FF | p:Memory No(=0-0xF) |
| | Set | 8x 01 04 3F 01 0p FF | |
| | Recall | 8x 01 04 3F 02 0p FF | |
| CAM_IDWrite | | 8x 01 04 22 0p 0q 0r 0s FF | pqrs:0x0000 – 0xFFFF |
| IR_Receive | On | 8x 01 06 08 02 FF | |
| | Off | 8x 01 06 08 03 FF | |
| CAM_LR_Reverse | On | 8x 01 04 61 02 FF | Mirror (Horizontal) on Mirror (Horizontal) off |
| | Off | 8x 01 04 61 03 FF | |
| CAM_PictureEffect | Color | 8x 01 04 63 00 FF | |
| | B&W | 8x 01 04 63 04 FF | |
| Tally | On | 8x 01 7E 01 0A 00 02 FF | |
| | Off | 8x 01 7E 01 0A 00 03 FF | |
| Preset Pan Speed | Zoom Speed | 81 01 7E 01 0B 00 00 ZZ FF | ZZ:Zoom Speed(0-7); |
| BLK.Enhance | No support | No support | No support |
| GMA.Enhance | Gamma | 8x 01 7E 54 00 00 0p 0q FF | pq: Gamma (0x00-0x10) |
| CRM.Enhance | Chroma | 8x 01 7E 55 00 00 0p 0q FF | pq: Chroma (0x00-0x64) |
| KNE.Enhance | Knee | No support | No Support |
| DIS.Enhance | Digital Image Stabilizer | 8x 01 7E 57 02 FF | On |
| | | 8x 01 7E 57 03 FF | Off |
| SNR.Enhance | Digital Noise Reduction | 8x 01 7E 58 02 FF | On |
| | | 8x 01 7E 58 03 FF | Off |
| AGC.Enhance | AGC Mode | 8x 01 7E 59 00 FF | Off |
| | | 8x 01 7E 59 01 FF | Low |
| | | 8x 01 7E 59 02 FF | Medium |
| | | 8x 01 7E 59 03 FF | High |
| | | 8x 01 7E 59 04 FF | Manual |
| CAM_Shutter | Reset | 8x 01 04 0A 00 FF | pq(0x00-0x23) |
| | Up | 8x 01 04 0A 02 FF | |
| | Down | 8x 01 04 0A 03 FF | |
| | Direct | 8x 01 04 4A 00 00 0p 0q FF | |
| CAM_ICR | ICR On | 8x 01 04 01 02 FF | ICR On – Cut filter out B&W |
| | ICR Off | 8x 01 04 01 03 FF | ICR Off – Cut filter in Color |

*Zoom and Focus Data:

CAM_Zoom: Range(0x000–0x6B3)

CAM_Focus: Range (0x0000-0xC000) dependent on Zoom Position

ZoomSHOT Inquiry List (1/1)

| Inquiry Command | Command | Response Packet | Comments |
|-----------------------|-------------------|---|--|
| CAM_PowerInq | 8x 09 04 00 FF | y0 50 02 FF y0 50 03 FF | On Off(Standby) |
| CAM_ICRModelInq | 8x 09 04 01 FF | y0 50 02 FF y0 50 03 FF | On - ICR filter Out Off – ICR filter In |
| CAM_IDInq | 8x 09 04 22 FF | y0 50 0p 0q 0r 0s FF | pqrs:0x0000 – 0xFFFF |
| CAM_BacklightModelInq | 8x 09 04 33 FF | y0 50 02 FF y0 50 03 FF | On Off |
| CAM_WBModelInq | 81 09 04 35 FF | y0 50 00 FF y0 50 03 FF y0 50 05 FF | Auto Manual One Push WB |
| CAM_FocusModelInq | 8x 09 04 38 FF | y0 50 02 FF y0 50 03 FF | Auto Manual |
| CAM_AEModelInq | 8x 09 04 39 FF | y0 50 00 FF y0 50 03 FF y0 50 0A FF y0 50 0B FF | Auto Exposure Mode Manual Control Mode Shutter Priority Mode Exposure Priority Mode |
| CAM_MemoryInq | 8x 09 04 3F FF | y0 50 0p FF | p: Preset 0-0xf |
| CAM_ApertureInq | 8x 09 04 42 FF | y0 50 00 00 0p 0q FF | Pq:x00-0x1F |
| CAM_RGain | 8x 09 04 43 FF | y0 50 0p 0q 0r 0s FF | pqrs:00-ffff |
| CAM_BGain | 8x 09 04 44 FF | y0 50 0p 0q 0r 0s FF | pqrs:00-ffff |
| CAM_ZoomPosInq | 8x 09 04 47 FF | y0 50 00 0p 0q 0r FF | pqr(0x00-0x6B3) |
| CAM_FocusPosInq | 8x 09 04 48 FF | y0 50 0p 0q 0r 0s FF | pqrs: Focus Position |
| CAM_ShutterPosInq | 8x 09 04 4A FF | y0 50 00 00 0p 0q FF | pq(0x00-0x23) |
| CAM_Iris | 8x 09 04 4B FF | y0 50 00 00 0p 0q FF | pq(0x00-0x11) |
| CAM_Gain | 8x 09 04 4C FF | y0 50 00 00 0p 0q FF | pq(0x00-0x24) |
| CAM_Bright | 8x 09 04 4D FF | y0 50 00 00 0p 0q FF | pq(0x01-0x64) |
| CAM_LR_Reverse | 8x 09 04 61 FF | y0 50 02 FF y0 50 03 FF | On Off |
| CAM_Freeze | 8x 09 04 62 FF | y0 50 02 FF y0 50 03 FF | On Off |
| CAM_PictureEffect | 8x 09 04 63 FF | y0 50 00 FF y0 50 04 FF | Off B&W |
| IR_ReceiveInq | 8x 09 06 08 FF | y0 50 02 FF y0 50 03 FF | On Off |
| TallyInq | 8x 09 7E 01 0A FF | y0 50 02 FF y0 50 03 FF | On Off |
| PresetSpeedInq | 8x 09 7E 01 0B FF | y0 50 00 00 rr FF | rr:Zoom 0x00-0x07 |
| BLK.Enhance | No support | No support | No support |
| GMA.Enhance | 8x 09 7E 54 FF | y0 50 00 00 0p 0q FF | pq: Gamma (0x00-0x10) |
| CRM.Enhance | 8x 09 7E 55 FF | y0 50 00 00 0p 0q FF | pq: Chroma (0x00-0x64) |
| KNE.Enhance | No support | No Support | No support |
| DIS.Enhance | 8x 09 7E 57 FF | y0 50 02 FF y0 50 03 FF | On Off |
| SNR.Enhance | 8x 09 7E 58 FF | y0 50 02 FF y0 50 03 FF | On Off |
| AGC.Enhance | 8x 09 7E 59 FF | y0 50 00 FF y0 50 01 FF y0 50 02 FF y0 50 03 FF y0 50 04 FF | Off Low Medium High Manual AGC Gain |



Toll Free: 800-572-2011 ▪ Phone: 763-971-4400 ▪ FAX: 763-971-4464
www.vaddio.com