



Vaddio™ WallVIEW™ PRO H900

Featuring the Quick-Connect PRO, EZIM and Sony® BRC-H900

Part Numbers:

999-6895-000: WallVIEW PRO H900 System with the Sony BRC-H900 (camera included) - North America

999-6895-001: WallVIEW PRO H900 System with the Sony BRC-H900 (camera included) - International



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Overview:

Vaddio WallVIEW PRO BRC-H900 is built and adapted for use with the Sony BRC-H900 3-CMOS HD pan/tilt/zoom robotic camera. This system was designed for an easier cable extension installation and integration where the camera must be located a long distance away from the head-end processors and switchers.



The Quick-Connect PRO uses HSDS™ (high speed differential signaling), which is a highly accurate, long distance, active video transmission system. The PRO series delivers low-loss, high-quality HD video over Cat-5 cabling at distances up to, and including, 500' (152.4m). The system is capable of accepting the high definition resolution video that the BRC-H900 camera outputs, (HD - 1080i/59.94/50 field/s or 720p59.94/50 frames/s component video), as well as higher resolutions up to 1080p/60.

The Quick-Connect PRO system also has automatic camera sensing for loading the correct control protocols, automatic resolution sensing, analog component video outputs (YPbPr), a four position distance adjustment for Cat-5 cabling skew and Y-Gain adjustment, all in a 1-RU rack-mount enclosure. The Quick-Connect PRO System includes the EZ Interface Module (EZIM™) that fastens to the back of the camera mount. Like all Vaddio WallVIEW systems, the Thin Profile Wall Mount and mounting hardware is included.

The BRC-H900 HD PTZ Camera features a 14x zoom lens and a three (3), 1/2-type 2.07 megapixel CMOS image sensors. The Quick-Connect PRO kit for the BRC-H900 is excellent when paired with a ProductionVIEW Precision Camera Controller because of the built-in basic CCU and its ability to produce remarkable video in a wide range of shooting conditions.

Important Safeguards:

Read and understand all instructions and warranty statements 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.



General Safeguard: Use only the power supply provided with the system. Use of any unauthorized power supply will void any and all warranties. Please do not cut the secondary side (or the DC side) of the power supply and attempt to extend the power to the camera. The warranty is voided when the cable is cut.



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™ 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.

Intended Use

Before operating the device, please read the entire manual thoroughly. The system was designed, built and tested for use indoors, and with the provided power supply and cabling. 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.

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.

Information:

For RS-232 control information, please see the full-length Technical Manual for the BRC-H900. This manual can be found either on the Sony or the Vaddio website.

Unpacking

998-6895-000: WallVIEW PRO H900 - North America

Carefully remove the device(s) and all parts from the packaging. Please do not toss the packaging yet, just set it aside where it won't be in the way. Unpack and identify the following parts:

- One (1) Sony BRC-H900 PTZ Camera
- One (1) 998-1105-009, Quick-Connect PRO Series Interface
- One (1) 36 VDC 2.78 Amp power supply with power cord for North America
- One (1) 2-pin Molex 5.0mm Euro-style IR Forward connector
- One (1) EZIM (EZ Interface Module) for Quick-Connect PRO
- Two (2) 6-32 x .188" Pan Head for attaching EZIM to the Wall Mount
- One (1) 440-6704-000 Break-out Cable from EZIM to Camera
- One (1) 998-1001-232 EZCamera Control Adapter
- One (1) 535-2000-225 Wall Mount for Camera (in Black)
- Four (4) #8 x 1.25" Sheet Metal Screws
- Four (4) Wall Anchors (EZ Anchors)
- Two (2) ¼" - 20 Camera Mounting Screws
- One (1) Documentation



998-6895-001: WallVIEW PRO H900 - International

Unpack and identify the following parts:

- One (1) Sony BRC-H900 PTZ Camera
- One (1) 998-1105-009, Quick-Connect PRO Series Interface
- One (1) 36 VDC 2.78 Amp power supply
- One (1) Euro Power Cable
- One (1) UK Power Cable
- One (1) 2-pin Molex 5.0mm Euro-style IR Forward connector
- One (1) EZIM (EZ Interface Module) for Quick-Connect PRO
- Two (2) 6-32 x .188" Pan Head for attaching EZIM to the Wall Mount
- One (1) 440-6704-000 Break-out Cable from EZIM to Camera
- One (1) 998-1001-232 EZCamera Control Adapter
- One (1) 535-2000-225 Wall Mount for Camera (in Black)
- Four (4) #8 x 1.25" Sheet Metal Screws
- Four (4) Wall Anchors (EZ Anchors)
- Two (2) ¼" - 20 Camera Mounting Screws
- One (1) Documentation



Anatomy of the Quick-Connect PRO System Interface

Image: Quick-Connect PRO Front Panel Indicator (left to right)



Power Light: Illuminates when the power supply is plugged in the back of the Quick-Connect. This concludes our tour of the front panel.

Image: Quick-Connect PRO Rear Panel Connectors and Controls (left to right)



Power Supply Input:

The Quick-Connect PRO uses a 36VDC, 2.78 Amp power supply on a 5.5mm OD x 2.5mm ID connector.

Power on RJ-45: Power is provided on a Cat-5 cable to EZIM (EZCamera Interface Module) which, powers the camera up to a distance of 500' (152.4m)

Cam Select Dip Switches: Not applicable for H900 Systems - Leave All Switches Down.

IR Gain Multi-turn Encoder: Not applicable for H900 Systems

IR Output on 2-pin Molex 5.0mm Connector: Not applicable for H900 Systems

Y-Gain: Adjusts Y-Gain and allows the user to fine tune the video signal especially over longer cable lengths. Adjust to taste and system requirements.

Distance: Distance Adjustments for Cat-5 cable (<100', 200', 300', 400'+) equalizes the length of the twisted pairs for improved video performance. Set to the position that delivers the best video.

Video Outputs on BNC-F Connectors: Three (3) HD video signals (YPbPr) at any one time can be transmitted from the EZIM the Quick-Connect PRO. The H-900 system is equipped with HD breakout cable only. There is an optional SD breakout cable available that will supply Y/C and Composite video.

Connector Labels and Supported Video Signals

Y/Y:	Y of YPbPr - or - Y (luminance) of Y/C on BNC-F connector
PB/C:	PB of YPbPr - or - C (chrominance) of Y/C on BNC-F connector
PR/COMP:	PR of YPbPr - or - Composite (CVBS) Video on BNC-F connector

Video RJ-45: This RJ-45 receives the camera's three (3) differential video signals from the EZIM on the Video Cat-5 cable.




Later on, in this exciting yet easy to understand manual, there will be some tips to optimize the performance of the WallVIEW PRO H900.

Image: EZIM Top Panel (left to right) and ISO View of EZIM
(About the size of a deck of cards)



POWER RJ-45: The EZIM CCU receives 36 VDC on one Cat-5 cable (all 4-pair) from the CCU.

 Be sure to mark the Power Cat-5 and avoid plugging it into a place it doesn't belong.

EZIM:
Top Connector Panel and 25-pin side connector shown

RS-232 IN: Connect this RJ-45 with a Cat-5 cable to the RS-232 out of the control device.

RS-232 OUT: Out to next camera in daisy chain control configurations.

Video RJ-45: This RJ-45 sends the camera's three (3) video signals on 3-pr (differential video).

Installation Basics:

The WallVIEW PRO H900 system was designed for installation on a vertical wall surface with Cat-5 cable connectivity for Video, Power and Control signaling (three Cat-5 cables are required). Installation is simplified in that no custom 8-Pin mini-din cables or expensive plenum coax cables are needed and no power outlets are required near the camera bracket. All cabling is routed to the head-end using Cat-5 cables using standard straight through RJ-45 connectors (568B termination). "Pass-thru" type RJ-45 connectors should be avoided like clichés...



Before Installing:

- Locate the 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. Pick a mounting location that will optimize the performance of the camera.



Pre-wire all cabling as required, test and mark the cables POWER, VIDEO and CONTROL. Do not guess at the cable's function and try the "process of elimination method" and plug the POWER cable into all the RJ-45 jacks to see which one cable powers the camera. In all likelihood, this method will cause damage to your system and your warranty will be voided.

RS-232 Cabling:

- If the camera is connected to a third-party control system (such as AMX or Crestron), a DB-9 to RJ-45 EZCamera control adapter cable is included (P/N: 998-1001-232).



Please do not use "pass-thru" type RJ-45 connectors. The Vaddio Cat-5 wiring standard uses pins 7 and 8 on both the video and the control Cat-5 cables. The pass-through connectors have proven to provide unpleasantly insufficient connectivity for these important signals. They are "ok" for voice and data, but not for video and control. Typically the trouble with pass-through connectors has to do with shorts or non-connection on the outside pins (1, 2, 7 & 8).

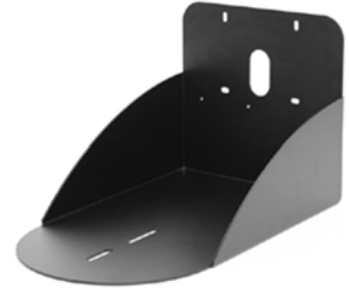
Step By Step Mounting Instructions:

Step 1:

After determining the optimum location of the camera system, mark the locations for the four screw holes and cable pass-thru (vertical oval). Install the drywall mounts and cut the hole for the cable pass-thru. At this point, do not install the Wall Mount.

Image: Huge-Heavy Duty Wall Mount

The wall mount may be mounted directly to a 3-gang wall box or to drywall with the appropriate wall anchors.

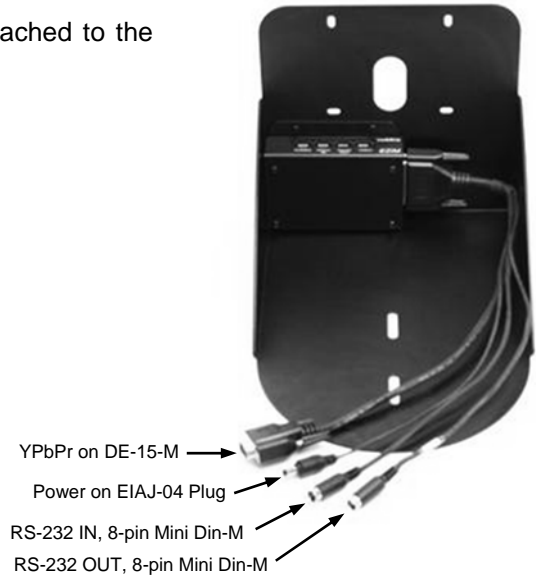


Step 2:

Connect the break out cable to the EZIM. Mount the EZIM and break out cable in the back of the wall mount, using the supplied #6 screws and two tapped screw holes.

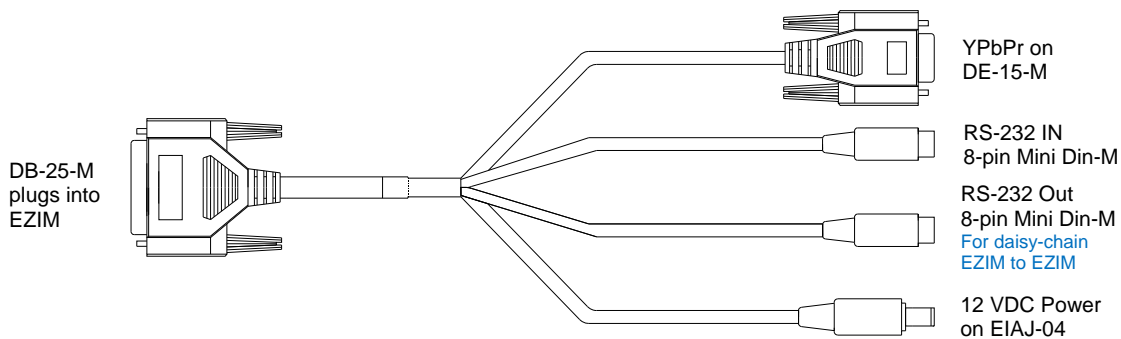
Image: EZIM Break out Cable and Wall Mount

Wall mount shown with EZIM CCU and HD break out cable attached to the back of the mount with the supplied screws.



Drawing: High Definition Video & Power Break Out Cable

P/N: 440-6704-000



Step 3: Take the Wall Mount, with the EZIM and break out cable installed, and place it against the drywall anchors or 3-gang wall box, making sure to pull the three Cat-5 cables through the oval pass-through hole. Finger-tighten the screws to the mount and confirm that the base is level. Tighten the screws firmly. If the bracket is to be mounted on a 3-gang wall box, use the screws supplied with the electrical box.

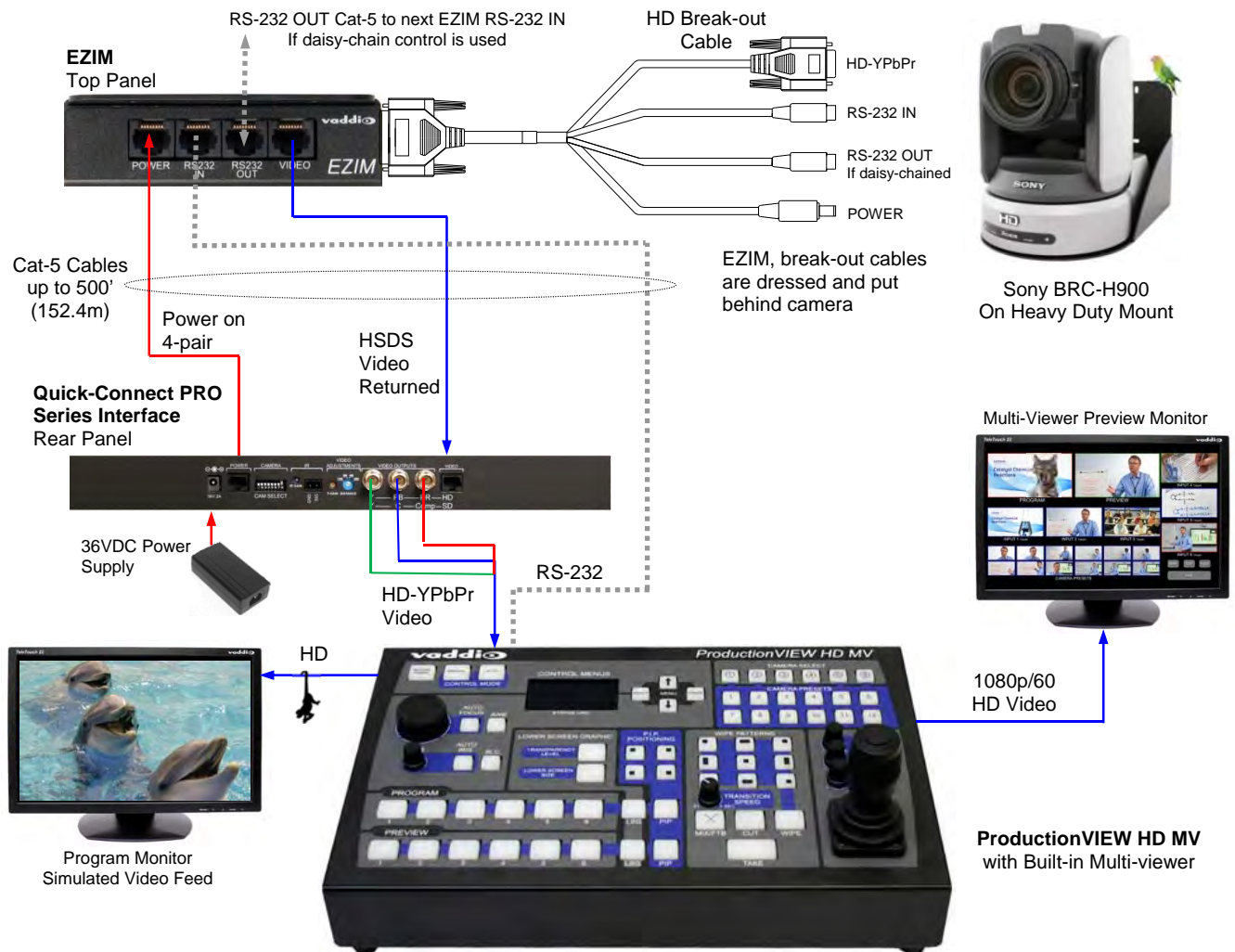
Step 4: Three (3) Cat-5 cables are required to connect the BRC-H900 camera. Confirm that the Cat-5 cables are terminated correctly, by testing them with a continuity tester. Connect the Power, Video and RS-232 IN Cat-5 cables from the head-end to the appropriate RJ-45 connectors on the EZIM. Connect the break-out cable to the appropriate ports on the BRC-H900; YPbPr, RS-232 IN and Power. A 4th Cat-5 will have to be run from the RS-232 OUT to the next EZIM/H900 RS-232 IN to run daisy-chain control. Daisy chaining is not generally recommended, but the world isn't always perfect. Push the camera into place and dress the cables. Secure the camera to the mount and using the supplied 1/4"-20 screws.

Step 5: The Quick-Connect PRO Series Interface breaks-out the signals from the Cat-5 cables back to standard connectors at the head-end. Plug the YPbPr from the Quick-Connect PRO to the Mixer/Switcher/Controller (i.e. ProductionVIEW HD MV with built-in Multi-viewer). There is one (1) RJ-45 to DE-9 (DB-9 for the shell size challenged) adapter included to convert the control signals (other than Vaddio controllers) to Cat-5 cables for attaching control systems to the camera.

Drawing: Wiring Diagram of Basic Connectivity (the basic idea)



The Quick-Connect PRO Interface uses a Cat-5 (all 4-pairs) for power to ensure the motors receive the required current to operate properly. The Video Cat-5 cable uses three pairs for video YPbPr. The RS-232 Cat-5 is routed to the EZIM and adapted to 8-pin Mini Din through the break-out cable. These Cat-5 cables can be run up to 500' (152.4m). See Appendix 1 for wiring and pin-out information.



Completing the Installation:

Connect the Vaddio 36 VDC power supply to the DC Plug on the back of the Quick-Connect and the AC side to an AC outlet. Power will travel down the Power Cat-5 cable to the EZIM, powering the camera. The camera will "Home" to a centered position ready for control information from the IR remote control or RS-232 camera controller of the integrators' choice. To insure proper continuity of control and operation of the cameras, the RS-232 controller (control system or joystick) must be powered on after the camera. Move the camera with the camera controller and test the video functionality.

Optimizing System Performance:

Optimizing the settings will help achieve maximum performance from the system.

Adjust the Y Gain Settings: Make sure the distance adjustment is set at its lowest setting. Adjust the trim pot on the back of the Quick-Connect counter-clockwise until the picture fades or drops out (cable length dependent). Adjust clockwise just past the setting where picture is restored. Leave the distance adjustment** at its lowest setting unless recommended by Vaddio technical support.

Sony Manual:

Follow the instruction manual supplied with the BRC-H900 to set up the camera. The Quick-Connect PRO is configured to work with the camera delivering component HD video.

General Specifications

WallVIEW PRO H900 System (Please see specs for Sony camera in the Sony manual)	
Part Numbers	998-6895-000: Quick-Connect PRO H900 - North America 998-6895-001: Quick-Connect PRO H900 - International
Quick-Connect Interface	
Connectors	Power Connector: 5.5mm OD x 2.5mm ID Power RJ-45: Supplies 36V to EZIM (EZCamera Interface Module) Regulators IR: 2-Pin Molex 5.0mm Euro-Style Connector Video Outputs: BNC Connectors for HD Analog Component (Y,PB,PR) or Y/C and Composite Video RJ-45: Transports HD or SD video from camera depending on Break-out cable. This system ships with HD cable only, the SD cable is an optional accessory.
Camera Select Switch	8-Position DIP switch loads camera profiles and IR Forwarding for Polycom and TANDBERG Codecs (IR Forwarding not supported with H900)
Video Adjustments	Y-Gain (luminance gain) for fine tuning over longer cable distances. Distance Compensation: 100', 200', 300', 400'+
Max. Cat- 5 Cable Distance	Up to 500' (152.4m) for Video Power and Control
Power Supply	36 VDC, 2.78 Amp
Dimensions	1-RU Rack Mount, 1.72" (43.69mm) H x 18.93" (480.82mm) W x 6" (152.4mm) D
EZCamera Interface Module (EZIM)	
Connectors	Four (4) RJ-45 Connectors (Power, VIDEO, RS-232 IN and RS-232 OUT for Daisy-chain Control) One DB-25 to Camera's native connectors (Power, Video, Control)
Cable Assemblies	HD Cameras: DB-25M to DE-15HD, EIAJ-04 Power Connector, 8-Pin Mini Din RS-232 IN, 8-Pin Mini Din RS-232 OUT)
Power Regulator	Internal regulator supplies 12VDC to Cameras
Dimensions	3.035" (76.2mm) H x 4.45" (113.03mm) W x 1.25" (31.75) D

FCC, ICES-003 Compliance and CE Declaration of Conformity Quick-Connect PRO Series Interface and EZIM Products



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 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 standards for Emissions and Immunity and meets the requirements for E4 environment. This product complies with Class A (E4 environment). 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 89/336/EEC

EN 55022A	Conducted and Radiated Emissions
EN 55024	Electromagnetic Compatibility - Immunity
EN 61000-4-2	Electrostatic Discharge Requirements
EN 61000-4-3	Radiated Electromagnetic Field Requirement
EN 61000-4-4	Electrical Fast Transients / Burst Requirements
EN 61000-4-5	Surge Requirements
EN 61000-4-6	Conducted Immunity Requirements
EN 61000-4-8	Power Frequency Magnetic Field Requirements
EN 61000-4-11	Voltage Dips, Interrupts and Fluctuations Requirements

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, customer 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
- 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 Trash Compactors or Refrigerated Walk-in Coolers
- In inclement weather
- Dry environments with an excess of static discharge
- In an Stage Coach or Logging Truck
- Under severe vibration

Appendix 1: Cable Pin-outs for the WallVIEW PRO Systems

EZCamera Interface Module Pin-outs

Power Connector

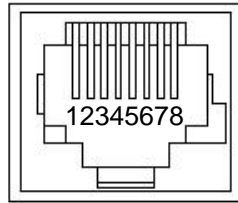
Pin	Signal
1	Power +
2	Power -
3	Power +
4	Power -
5	Power +
6	Power -
7	Power +
8	Power -



Same HD Pin-outs as below

RS-232 IN Connector

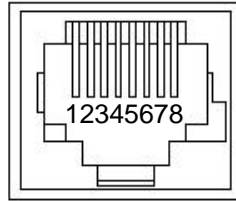
Pin	Signal
1)	Unused
2)	Unused
3)	Unused
4)	Unused
5)	Unused
6)	Unused
7)	Unused
8)	Unused



RS-232 Note:
The RS-232 OUT connector is used only with daisy-chain control configurations.

RS-232 OUT Connector

Pin	Signal
1)	Unused
2)	Unused
3)	Unused
4)	Unused
5)	Unused
6)	Unused
7)	Unused
8)	Unused



Quick-Connect PRO Series Interface Pin-outs



Power Connector

Pin	Signal
1	Power +
2	Power -
3	Power +
4	Power -
5	Power +
6	Power -
7	Power +
8	Power -

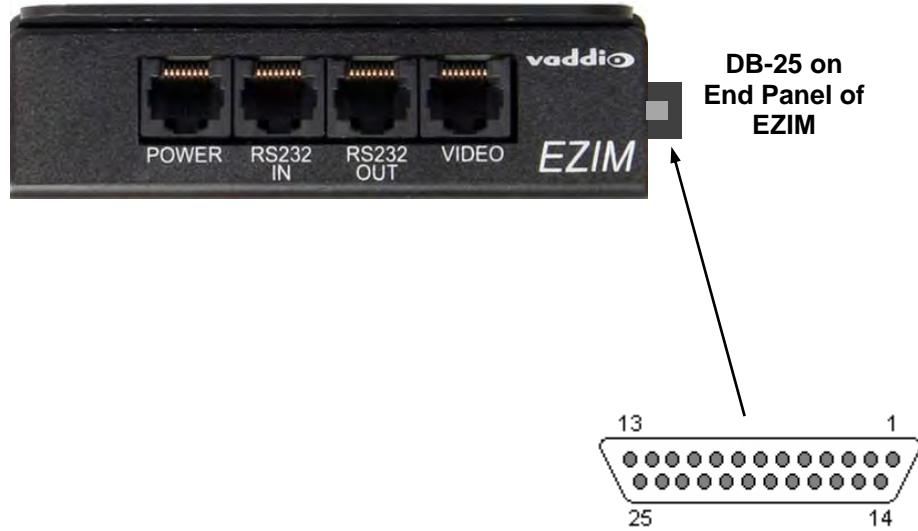
Video Connector HD ONLY

Pin	Signal	SD	HD
1)	N/A		N/A
2)	N/A		N/A
3)	N/A		Y+
4)	N/A		PB+
5)	N/A		PB-
6)	N/A		Y-
7)	N/A		PR+
8)	N/A		PR-

EZCamera Interface Module Pin-outs (continued)

DB-25 Connector

Pins	Signal
1	GND Out
14	RXD Out
2	TXD Out
15	DTR Out
3	DSR Out
16	GND IN
4	TXD IN
17	RXD IN
5	DTR IN
18	DSR IN
6	IR
19	GND
7	GND
20	CVBS/PR
8	GND
21	C/PB
9	GND
22	Y/Y
10	GND
23	GND
11	GND
24	12V
12	12V
25	12V
13	12V





Inside Back Cover - Blank



Toll Free: 800-572-2011 ▪ Phone: 763-971-4400 ▪ FAX: 763-971-4464

www.vaddio.com