

WALLVIEW™ PRO HE100 WITH HSDS™

Vaddio™ PRO Series Cable System with High Speed Differential Signaling for the Panasonic® AW-HE100 High Definition PTZ Camera

OVERVIEW

The Vaddio Quick-Connect PRO HE100 (Figure 1) is built for use with the Panasonic AW-HE100 high definition PTZ Camera. Vaddio's WallVIEW PRO HE-100 camera is designed for easier installation and integration. In addition, the standard RS-422 is converted to RS-232 for operation with our complete line of ProductionVIEW™ PTZ camera controllers and switchers. The system uses high speed differential signaling (HSDS), an active transmission system that delivers low-loss, high-quality video over CAT-5 cabling distances up to 500' (152.4m). The system is capable of high definition (HD) 1080i or 720p component video. The AW-HE100 comes in either NTSC or PAL formats.

In addition the Quick-Connect PRO system also has auto camera resolution sensing, analog component video outputs (Y, Pb, Pr), four position distance adjustment for Cat. 5 cabling, Y-Gain adjustment, 1-RU rack mount Quick-Connect™ PRO System with HSDS, and 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.



Figure 1: Quick-Connect PRO HE100 System with Camera, Wall Mount and EZIM with break out cable (behind camera)

INTENDED USE

Before installing the Vaddio WallVIEW PRO HE100 Camera System, please read the entire manual thoroughly. All Vaddio camera systems were designed for use indoors. Outdoor operation is not recommended, has not been tested, and could damage the camera and/or create a potentially unsafe operating condition. Use only the Vaddio PowerRite power supply provided.

SAVE THESE INSTRUCTIONS

The information contained in this manual will help you install the Vaddio WallVIEW PRO systems. For reference, Vaddio keeps copies of Specifications, Installation and User Guides and most pertinent product drawings for the Vaddio product line on the website. These documents can be downloaded from www.vaddio.com free of charge.

IMPORTANT SAFEGUARDS

Read and understand all instructions before using. Do not operate any electrical 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 and avoid extremely humid conditions.



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



Do not use RJ-45 "pass-thru" connectors. Use standard RJ-45 connectors for best results.

INFORMATION

For RS-422 control information, please see the full-length Manual for the PANASONIC AW-HE100 posted on the Vaddio or Panasonic website. Vaddio has also prepared a number of TechNotes, specifications and drawings designed to inform and educate integrators on the value and the specific uses of Vaddio products.

UNPACKING

Carefully remove all of the parts from the packaging. Unpack and identify the following parts:

- One (1) Panasonic AW-HE100 –12 VDC Version - with IR Remote
- One (1) Quick-Connect PRO (1-RU) with 2-position Phoenix Type Connector (998-1105-009)
- One (1) EZIM PRO, EZ Interface Module (998-6700-001)
- One (1) HD EZIM Breakout Cable (440-6704-010)
- One (1) CommFront CVT-485_422-1 Port Powered RS-232 to RS-422 Converter
- One (1) DB-9M to Cat 5 RS-232 Adapter (998-1003-000)
- One (1) DB-9F to Cat 5 RS-422 Adapter (998-1005-232)
- One (1) Wall Mount for AW-HE100 (535-2000-229) with Mounting Hardware
- One (1) 36V PowerRite Power Supply with AC Cord Set
- One (1) AC Cord Set for North America
- One (1) 3' (.91m) Cat 5 Patch Cable (341-192)
- Documentation:
 - Vaddio Manual
 - Panasonic AW-HE100 Manual

Optional Accessory: Quick-Connect Boxes for SD video (300 ft. limit) Part # - 998-1105-001 (see p. 5)

Wiring Diagram Example

The Basic Idea:

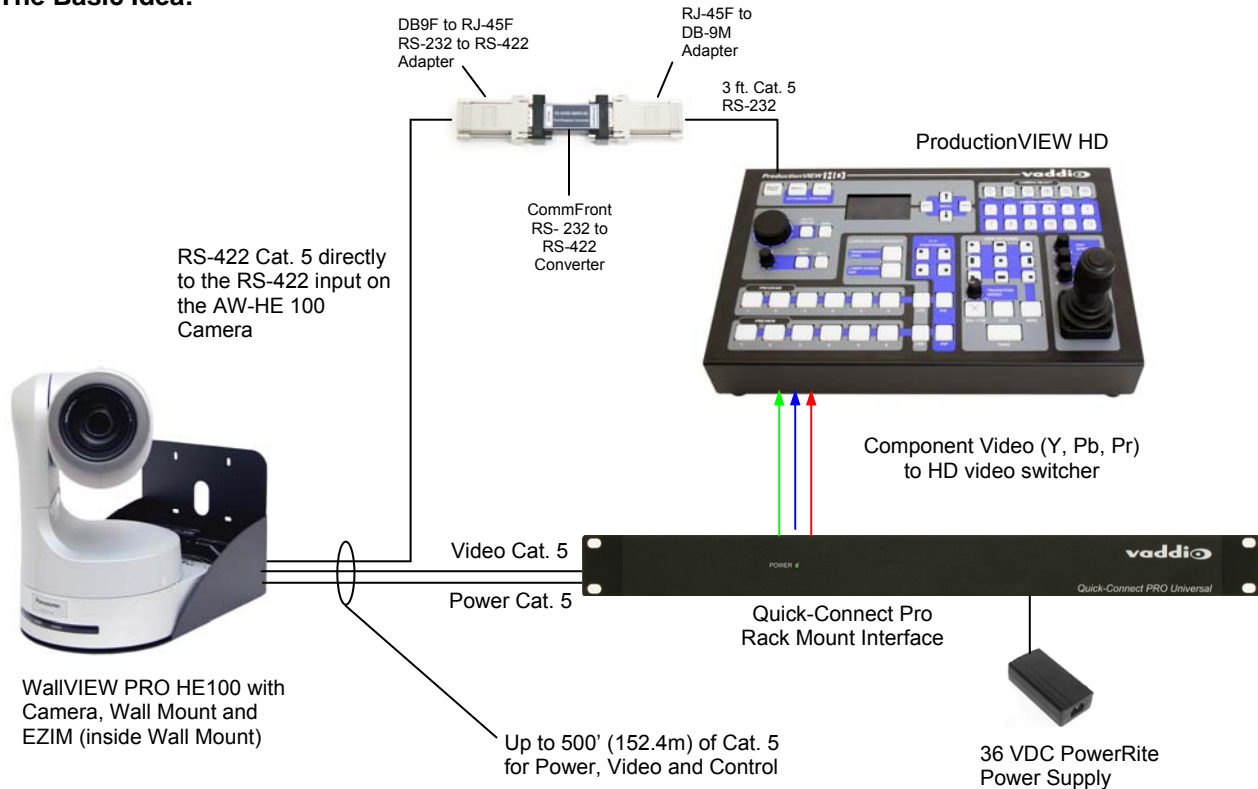


Figure 2: Basic connectivity of the WallVIEW PRO HE 100 System.

The WallVIEW PRO HE 100 uses a Cat. 5 (all 4-pairs) for power to ensure the direct drive motors receive the required current to operate properly. The Video Cat. 5 uses 3-pairs of the Cat. 5 for Video. The RS-232/RS-422 Cat. 5 uses three (3) conductors to the RS-232 to 422 adapter and five (5) conductors for RS-422 control protocols to the camera. The RS-232 to RS-422 is port powered and it is recommended to be located close to the control source. These Cat. 5 cables can be run up to 500' (152.4m). See Appendix 1 for wiring and pin-out information.

INSTALLATION

All WallVIEW products are specifically designed for installation on a vertical wall surface with Cat. 5 cable connectivity for Power, Video and Control signaling (three cables are required). Installation is simplified in that no custom 8-Pin mini-din cables or expensive S-Video plenum 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.

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 to optimize the performance of the camera.
- Pre-wire all cabling as required (see wiring diagram examples).
- The Wall Mount for the WallVIEW PRO HE100 can be mounted directly to a 3-gang wall box or can be mounted to the drywall using four dry wall anchors.

MOUNTING INSTRUCTIONS

Step 1:

After determining the optimum location of the camera system, route the required 3 (three) Cat. 5 cables from the camera to the Quick-Connect Pro interface located at the head-end. The three Cat. 5 cables should feed-through the oval slot located on the rear flange of the wall mount (Figure 4). If the bracket is to be mounted on a 3-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 four (4) quality wall anchors. The mounting holes are slotted and are 90° opposing to provide easy leveling. Level the mount and tighten down the mounting screws. A fourth Cat. 5 cable is required if simultaneous SD video is desired (see p. 5).

Figure 3:
Thin Profile Wall Mount with oval cable feed-through hole. The wall mount may be mounted directly to a 3-gang wall box or to the dry wall with the appropriate wall anchors.



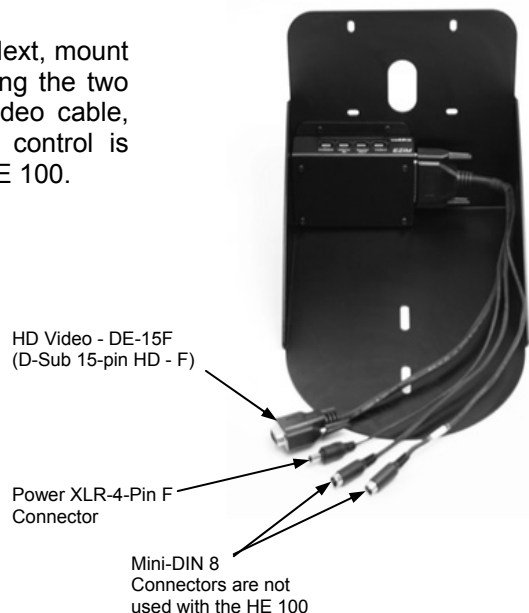
Step 3:

Connect the 25-pin end of the break out cable to the EZIM. Next, mount the EZIM to the back of the wall mount on the left side, using the two tapped screw holes (see Figure 4). Connect the 15-pin video cable, power connector. NOTE: The Cat. 5 cable for RS-422 control is connected directly to the “Controller” port on the back of the HE 100.

Figure 4:
25-pin break out cable connected to EZIM (left); EZIM and break out cable installed in Wall Mount (right).



RS-232 IN & OUT are not used with the HE 100. Connect the RS-422 Cat. 5 cable to the camera's Controller port.



HD Video - DE-15F (D-Sub 15-pin HD - F)

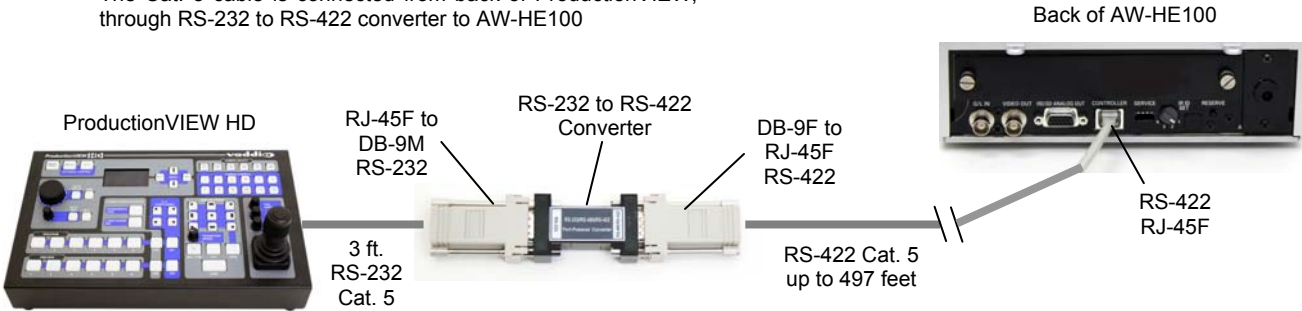
Power XLR-4-Pin F Connector

Mini-DIN 8 Connectors are not used with the HE 100

Step 4:

Attach the Cat. 5 cables for Power and Video to the EZIM. Feed the excess Cat. 5 cable into the wall opening or wall box. Note: The RS-232 In and Out ports are unused, as the HE-100 uses RS-422 (see Figure 5).

Figure 5:
The Cat. 5 cable is connected from back of ProductionVIEW, through RS-232 to RS-422 converter to AW-HE100



Step 5:

Place the camera onto the camera mount and using the 1/4"-20 screw to secure the camera to the mount.

Step 6:

Assemble the RS-232 to RS-422 converter. There are two RJ-45 to DB-9 adapters, one that has a female DB-9 and the other has a male DB-9. Connect the DB-9 ends to the RS-232 to RS-422 adapter, and screw the parts together, using the supplied hardware.

Step 7:

Connect the supplied Cat. 5 cable – approximately 3 feet in length – to the Control port on the ProductionVIEW controller. Connect the other end of the Cat. 5 cable to the RS-232 end of the protocol converter (see Figure 5). Connect the RS-422 side of the protocol converter to the Cat. 5 cable that is home-run to the AW-HE100 Controller port.

Step 8:

The Quick-Connect PRO is a 1-RU rack mount interface that breaks out the signals from the Cat. 5 cables back to the standard connectors. Set the four position distance adjustment switch to the appropriate length, based on your Cat. 5 cable run. The basic system connectivity is illustrated in Figure 6.

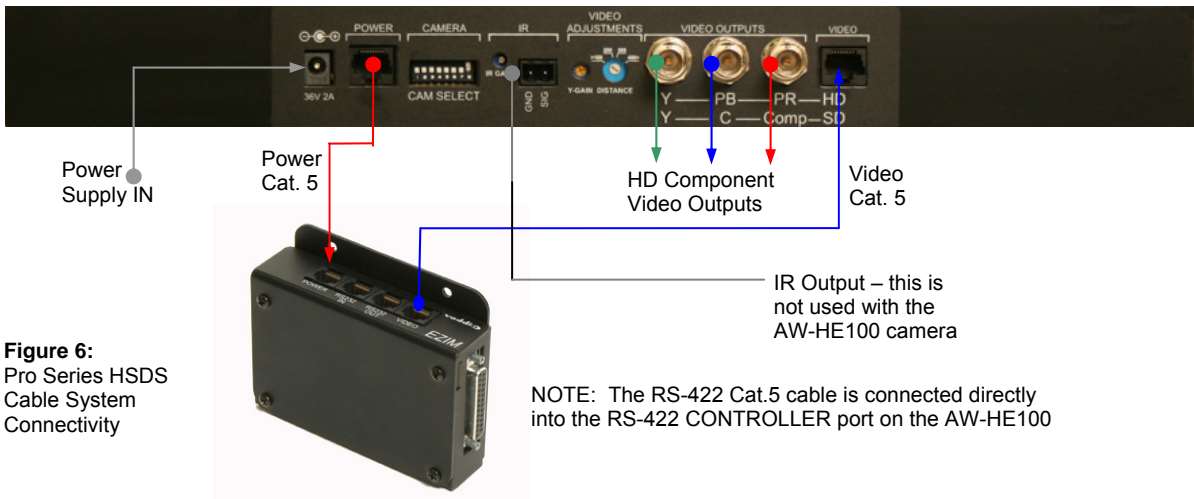
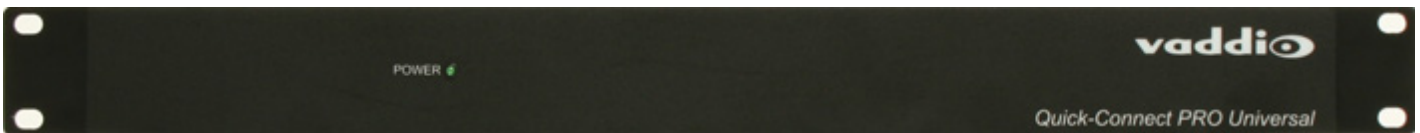


Figure 6:
Pro Series HSDS Cable System Connectivity

NOTE: The RS-422 Cat.5 cable is connected directly into the RS-422 CONTROLLER port on the AW-HE100

Step 8 (continued):

Attach the Cat. 5 cables for Power, Video and Control to the Quick-Connect PRO interface. Connect the HD video output BNC connectors. Connect the PowerRite 36 VDC power supply to the Quick-Connect PRO power input. Please check all Cat. 5 cables for continuity in advance of final connection.

Note: Plugging the POWER Cat. 5 Cable into the wrong RJ-45 may cause damage to the camera system and void the warranty.

Step 9:

Connect the Vaddio 36 VDC power supply to an AC outlet. Power will travel down the Power Cat. 5 cable to the cable shoe, powering the camera. The camera will “Home” to a centered position ready for control information from the IR remote control or RS-232/422 camera controller of the integrators’ choice. NOTE: 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.

Step 10:

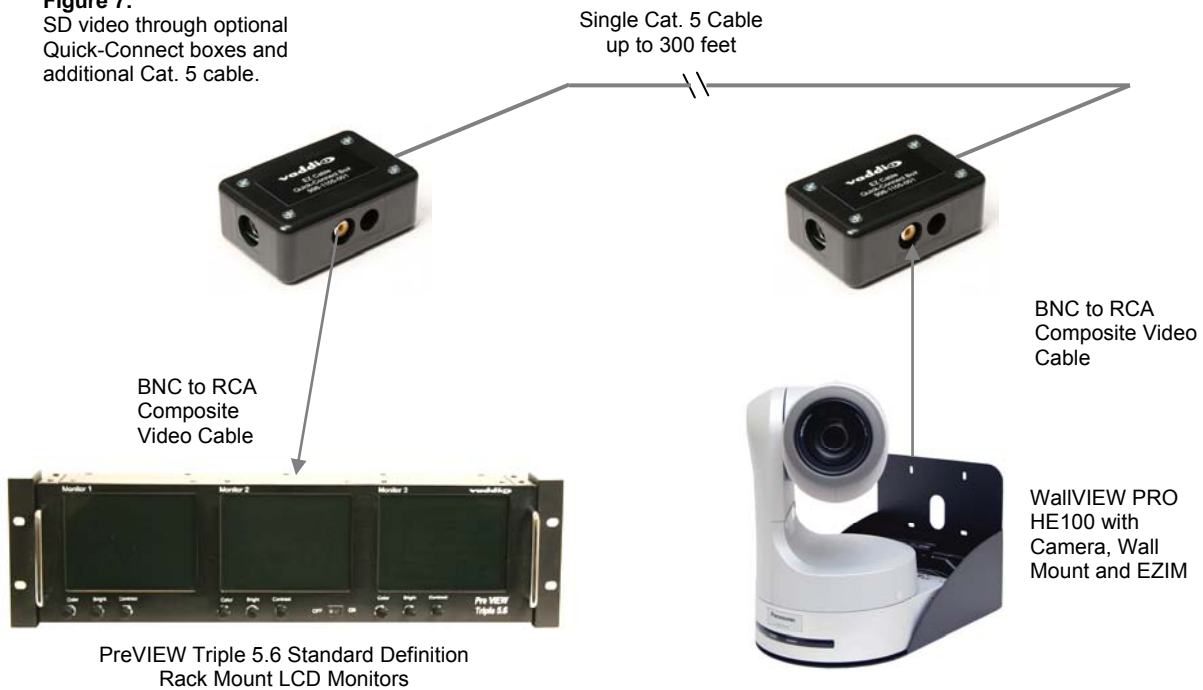
Follow the instruction manual supplied with the AW-HE100 to set up the camera for the lighting conditions that the camera is installed in (fluorescent, halogen, etc.), as well as the selected output resolution. The Quick-Connect PRO is configured to work with the camera delivering component HD 1080i or 720p video. Adjust the Y-Gain on the back of the Quick-Connect PRO (see Figure 6) for video quality.

Optional Installation for Simultaneous Standard Definition Video:

Standard definition video can be delivered over one additional Cat. 5 cable using two Quick-Connect boxes (Part # 998-1105-001). Connect a BNC to RCA cable between the Video Out of the camera, and the RCA input of the Quick-Connect Box. Run a Cat. 5 cable – up to 300 feet – to another Quick-Connect Box. Connect another video cable between the other Quick-Connect Box and the head end equipment, such as the video monitor (shown below). No power supplies are required in the configuration below.

Figure 7:

SD video through optional Quick-Connect boxes and additional Cat. 5 cable.



CARE AND CLEANING

- Do not attempt to take the products in these systems apart. There are no user-serviceable components.
- Keep these devices away from food and liquid, and do not spill liquids on the products
- For smears or smudges on the lens, wipe with a clean, soft cloth. Do not use any abrasive chemicals on the camera body at any time.

OPERATING AND STORAGE CONDITIONS

Do not store or operate the WallVIEW PRO System under the following conditions:

- Temperatures above 40°C (104°F) or below 0°C (32°F), for Indoor Use Only
- High humidity, condensing or wet environments
- Dusty environments
- In inclement weather
- Under severe vibration

GENERAL SPECIFICATIONS

WallVIEW PRO HE100 System	
System Part Numbers	999-6105-000 NTSC 999-6105-001 PAL
Quick-Connect Interface	
Connectors	Power Connector: 5.5mm OD x 2.5mm ID Power RJ-45: Supplies 36V to EZCamera Interface Module Regulator IR: 2-Pin Phoenix type spring cage connector Video Outputs: BNC Connectors for HD Analog Component (Y,PB,PR) or SD Video RJ-45: Transports HD or SD video from camera depending on camera selection switch position
Camera Select Switch	8-Position DIP switch loads camera profiles and IR Forwarding for Polycom and TANDBERG Codecs (IR Forwarding Not Available on AW-HE100)
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 (1.75" H x 19" W x 6" D)
EZCamera Interface Module (EZIM)	
Connectors	Four (4) RJ-45 Connectors (Note: RS-232 in/out does not work with the AW-HE100 camera) One DB-25 for Power, Video, Control & IR (IR not available for AW-HE100 camera)
Cable Assemblies	For Panasonic HD Cameras: DB-25M to DB-15HD, 4-Pin XLR-F Power Connector (8-Pin Mini Din x 2 - unused)
Power Regulator	Supplies 12VDC to Cameras
Dimensions	Approx. (3.035" H x 4.46" W x 1.242" D)

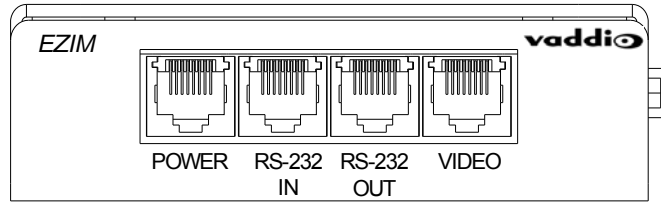
Panasonic AW-HE100 Camera Basic Specifications	
Camera Part Number	AW-HE100
Signal Systems	NTSC or PAL
Video Resolutions	HD 1080i or 720p
Lens	13x Optical
Weight	Approx. 16.5 lbs. (7.5 kg)
Dimensions	Approx 9.375" W x 13.5" H x 10.125" D – excluding protrusions (238mm x 343.5mm x 257mm) - excluding protrusions

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

EZCamera Interface Module Pin-outs

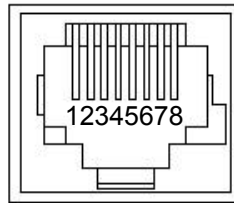
Power Connector

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



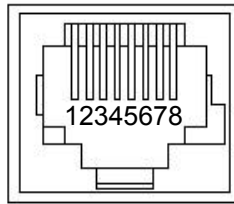
RS-232 IN Connector

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



RS-232 OUT Connector

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

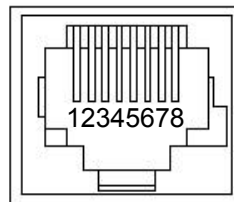


RS-232 Note:

The Panasonic AW-HE100 camera does use the RS-232 ports on the EZIM and does not support daisy-chain.

Video Connector

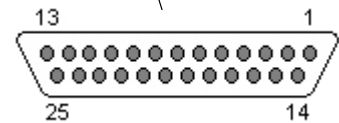
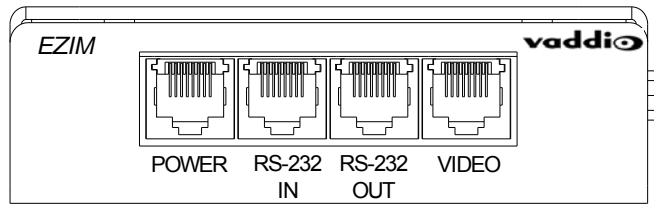
Pin	Signal	SD	HD
1)	N/A		IR+
2)	N/A		IR GND
3)	N/A		Y+
4)	N/A		PB+
5)	N/A		PB-
6)	N/A		Y-
7)	N/A		PR+
8)	N/A		PR-



EZCamera Interface Module Pin-outs (continued)

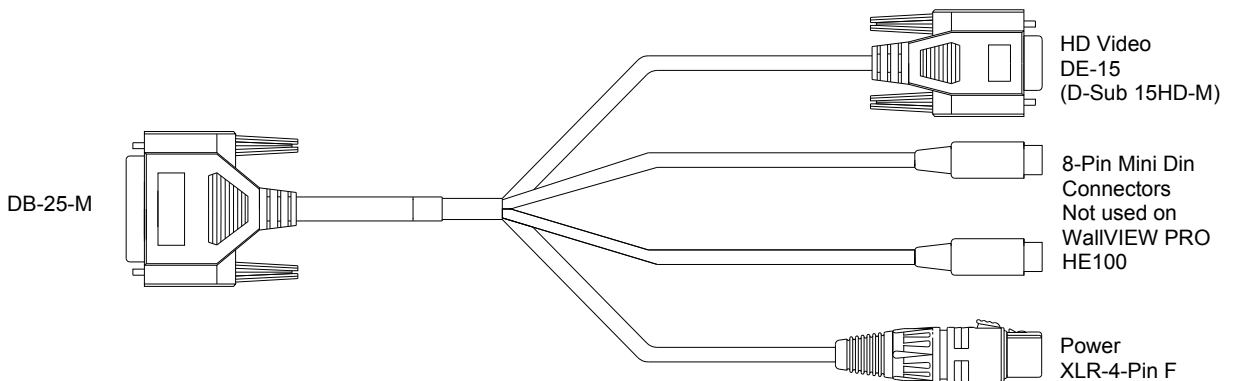
DB-25 Connector

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

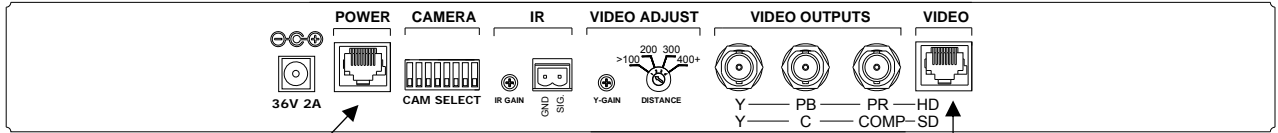


EZIM Breakout Cable

Part Number 440-6704-010 EZIM for WallVIEW PRO HE100



Quick-Connect Pin-outs



Power Connector

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

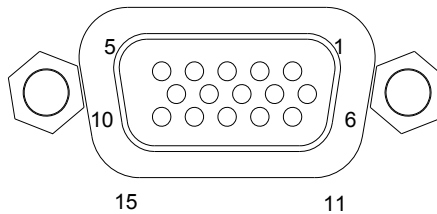
Video Connector

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-

Panasonic AW-HE100

**Panasonic HD Video (analog component) Pin-outs
Video Output Connector (DB-15HD)**

Pin	Signal
1	PR
2	Y
3	PB
4	GND
5	GND
6	GND
7	Unused
8	Unused
9	NC
10	Unused
11	Unused
12	Unused
13	Unused
14	Unused
15	Unused



Please See the AW-HE100 Panasonic Owners Manual for all other pin-outs.

FCC, ICES-003 Compliance and CE Declaration of Conformity



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

Hardware* Warranty - One year limited warranty on all parts. Vaddio warrants this product against defects in materials and workmanship for a period of one year from the day of purchase from Vaddio. If Vaddio receives notice of such defects during the warranty period, they will, at their option, repair or replace products that prove to be defective.

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, operation outside the normal environmental specifications for the product, use of the incorrect power supply, improper extension of the power supply cable or improper site operation and maintenance.

Vaddio Customer service – Vaddio will test, repair, or replace the product or products without charge if the unit is under warranty and is found to be defective. 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 www.vaddio.com.

Return Material Authorization (RMA) number - Before returning a product for repair or replacement, request an RMA from Vaddio's technical support. Provide a technician with a return phone number, e-mail address, shipping address, and product serial numbers and describe the reason for repairs or returns as well as the date of purchase and proof of purchase. Include your assigned RMA number in all correspondence with Vaddio. Write your assigned RMA number on the shipping label of the box when returning the product. Please see Vaddio's website for current RMA policies and procedures.

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, or unauthorized repair. Cutting the power supply cable on the secondary side (low voltage side) to extend the power to the device (camera or controller) voids the warranty for that device.

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.



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