



PRODUCTIONVIEW™

PRECISION CAMERA CONTROLLER

Integration Joystick, with Seven Discrete Camera Control Ports, On-board Camera Presets, CCU Exposure and Color Control Functions with External Control Capability

Part Number: 999-5700-000 (North America)

Part Number: 999-5700-001 (International)



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OVERVIEW:

In our continuing drive to redefine camera control, Vaddio™ introduces the Precision Camera Controller system. Designed to control up to seven PTZ cameras, the Precision Camera Controller can be used as a stand-alone device or in conjunction with a variety of video switchers or mixers on the market today.

The control surface gives system users real-time knobs and buttons to control functions. In addition to a joystick controller with separate pan, tilt and zoom speed adjustment knobs, there are controls for red & blue gain, detail, iris and gain.



ProductionVIEW Precision Camera Controller

The system is capable of storing up to 14 pan, tilt and zoom position presets per camera. Two discrete control buses can be configured to select PTZ cameras, as well as control an external switcher or mixer via either RS-232 or tally outputs on the back of the console.

Precision Camera Controller is the ideal camera control system for a variety of applications, including houses of worship, local government, live event production and other situations where PTZ camera control is required.

Intended Use:

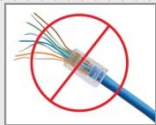
Before operating the device, please read the entire manual thoroughly. The system was designed, built and tested for use indoors, and with the provided power supply and cabling. The use of a power supply other than the one provided or outdoor operation has not been tested and could damage the device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

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™ 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.

UNPACKING:

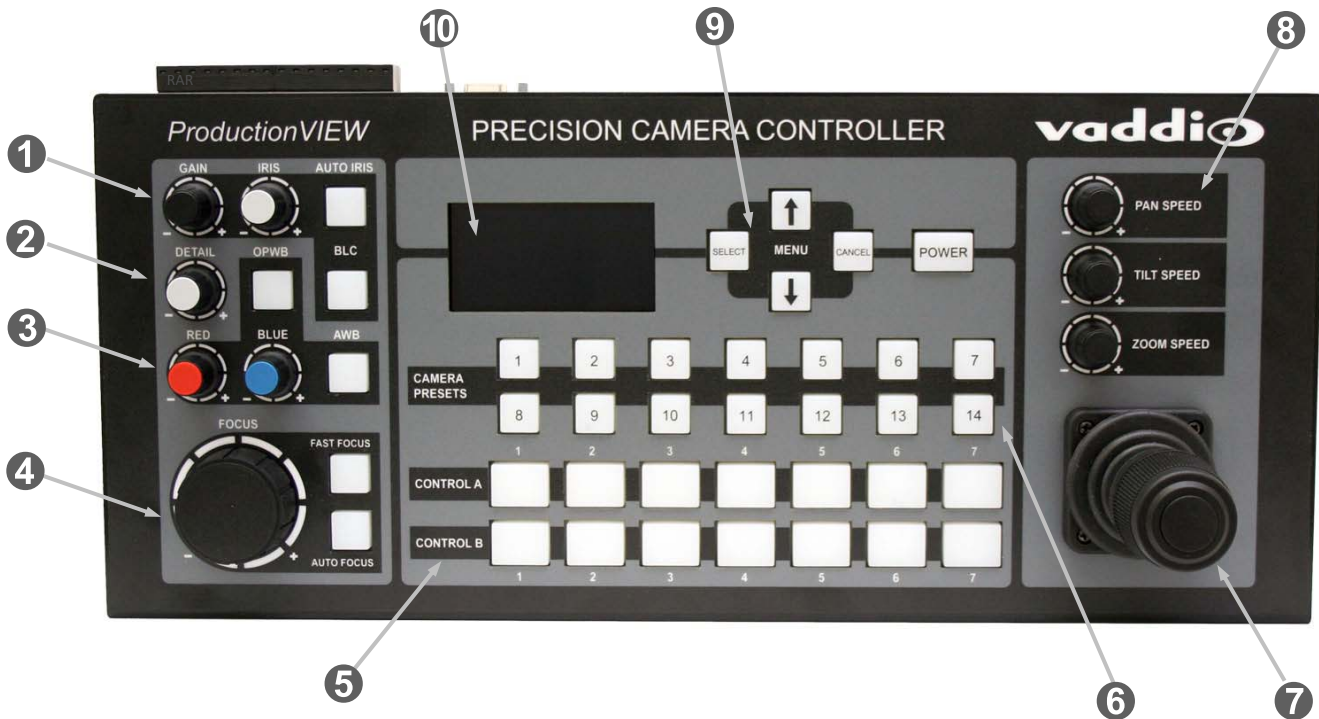
Carefully remove the device and all of the parts of the 999-5700-000 from the packaging.

Unpack and identify the following parts:

- One (1) ProductionVIEW PRECISION CAMERA CONTROLLER
- One (1) 18 VDC, 2.75A Power Supply
- One (1) AC Cord Set
- Two (2) 8-pin Phoenix type connectors
- Documentation and Manuals

Note: The International Version, 999-5700-001 includes the Euro and UK power cords.

Image: Front panel of ProductionVIEW Precision Camera Controller

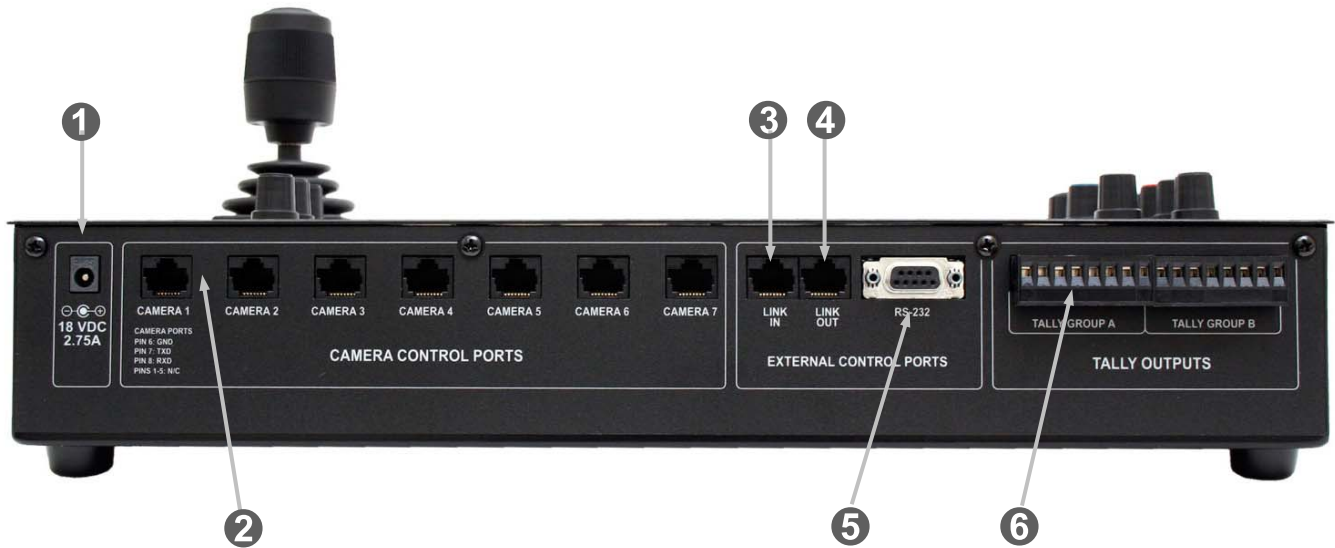


Front Panel Controls:

- Iris and Gain Controls ***: Iris and gain can be adjusted from knobs for real-time control of these critical functions. There are also buttons for auto iris and backlight compensation.
- Detail ***: Detail adjusts the sharpness of the camera's output.
- Color Controls ***: Red and blue gain allow adjust the color of the camera's image sensor. In addition there are both a one-push white balance and auto white balance.
- Focus Adjustments**: A large focus wheel helps with accurate focusing. An auto focus button, and fast focus are located next to the focus wheel. Pressing Fast Focus once zooms the camera in all of the way, allowing the user to adjust the focus manually. Pressing Fast Focus again zooms the camera back out to the preset zoom position. NOTE: Focus controls can only be used with compatible cameras.
- Control A and B Buses**: Selects which camera to control (PTZ, Iris, Color, Presets, etc.) on the Control A or B bus (A Bus is default but is user definable). Control codes for external video switchers and mixers can be programmed into the Precision Camera Controller for remote control of switcher functions on Control A and Control B buses (menu selection).
- Camera Presets**: 14 presets are available for each PTZ camera connected.
- Joystick Controller**: The 3-axis Hall-Effect joystick has been redesigned and is taller than our previous joysticks for smoother, more accurate pan, tilt and zoom control. In addition, there is a button on top which will move the camera automatically to the home position.
- Pan, Tilt Zoom Speed Adjustments**: Individual pan, tilt and zoom speed knobs are located above the joystick for adjusting those speeds on the camera selected. The speed adjustments are discreet, allowing for setting speeds for each camera connected to the system.
- Menu and Power Buttons**: Setting up the Precision Camera Controller is easy through the four buttons. The power button, when pressed and held will power down the Precision Camera Controller and the cameras connected.
- LCD Screen**: An 8-line LCD provides status on camera controls (gain, iris, etc.) as well as the menu information for setting up the device.

NOTE: *Certain cameras can't use certain functions called out in Features 1, 2 & 3, due to limitations of the camera systems.

Image: Rear Panel of ProductionVIEW Precision Camera Controller



Rear Panel I/O:

- 1. Power Input:** Use only the 18 VDC, 2.75A power supply provided with the Precision Camera Controller. Use of any other power supply may cause damage to the Precision Camera Controller and to the products connected to it.
- 2. Camera Control Ports on RJ-45 connectors:** One camera control port per camera (no daisy-chaining is required, or supported).
- 3. Link In:** This is a data input port set up to receive a connection from a Secondary Precision Camera Controller for Link function. Link allows a user to control all cameras connected to one or both controllers from a single position.
- 4. Link Out:** This is a data output port for setting up a Precision Camera Controller as a secondary Precision Camera Controller, when the cable is run to the Link In port on another Precision Camera Controller.
- 5. RS-232 Control Port:** DB-9 for RS-232 control of internal functions (Pin 2 = TX, Pin 3 = RX, Pin 5 = GND) for use with external controllers or external production switchers.
- 6. Tally Outputs:** For use with tally light or external devices (i.e. video switchers, camera control units, etc.). These external control contacts correspond directly to front panel Control A & B buses. Tally contacts are latching, TTL type. These triggers are not relays and no voltage should be applied to these triggers at any time. The triggers are configurable as Active High or Active Low.

First Time Set-up with the ProductionVIEW Precision Camera Controller:

ProductionVIEW Precision Camera Controller was designed to be easy to use and operate right out of the box. Controls are intuitive and logical, and the pin-outs are printed on the back panel.

Getting Started:

To start using the Precision Camera Controller, connect the RS-232 Camera Control Ports on the unit to the RS-232 inputs on the cameras. Turn on the cameras and let them home, then turn on the Precision Camera Controller. The Precision Camera Controller will scan each of the cameras connected and automatically load the appropriate RS-232 codes for control of each camera. Any mix of up to seven (7) compatible camera systems can be used concurrently on the system (see Figure 4). In all cases, video will be routed to an external switcher/mixer.

Drawings: System Configurations Examples

Sample Configuration 1:

Precision Camera Controller connected to seven (7) PTZ cameras (like Vaddio HD-20s) directly.



Precision Camera Controller

Sample Configuration 2:

Two Precision Camera Controllers set up in Link Mode. The Precision Camera Controller with the cameras connected is the Primary, and the Precision Camera Controller without cameras is the Secondary unit. **There can be two operators, but only one operator can access the cameras at a time** (Cessna 172 not included).



Primary

Secondary

Sample Configuration 3:

Two Precision Camera Controllers set up in Link Mode. Each Precision Camera Controller has 7 cameras connected, and all cameras can be controlled from either Precision Camera Controller, however **not concurrently**. **There can be two operators, but only one operator can access all fourteen cameras at any point in time**. As an example, both the Master and the Secondary can operate their own Control A bus cameras concurrently, but in order for the Master to control the B bus of the Secondary Precision Camera Controller, then operator at the Secondary position must remain idle. An external switcher may not be connected to Precision Camera Controller in Dual Link mode. Both Precision Camera Controllers must be set to Control A under the Camera Select Bus menu.



Camera Set #2 - Control B

MASTER Camera Set #2 - Control A
Camera Set #1 - Control B



OPERATING THE PRODUCTIONVIEW PRECISION CAMERA CONTROLLER:

Most of the console functions and controls are easy and intuitive. However, there are some more involved procedures listed below.

Master Power Switch:

- When the Master Power Switch is powered down, all of the attached cameras will be placed in standby. To turn the system off, the button must be touched and held down for two (2) seconds (the delay in “off” command is to ensure that the system is not inadvertently turned off during an event).
- When the Master Power Switch is powered up, all attached cameras will activate and select default camera and preset information as defined in the menu. The Precision Camera Controller will scan the inputs for camera type and auto-configure accordingly. This can take up to one minute and is normal operation. Precision Camera Controller will also scan for, and confirm connectivity to an external switcher if it is configured for operation with an external switcher via RS-232.

Important Note: When the camera control ports are changed or reconfigured, *RESCAN CAMERAS* in the menu must be selected, or the Precision Camera Controller must be rebooted.

Setting-up Compatible External Switchers using RS-232:

The RS-232 control codes for the Edirol V-44SW and Isis external switchers are built into the Precision Camera Controller. To activate these codes, use the following procedure:

1. Go to the Menu (see page 10) under Video Switcher and select the desired switcher mode.
2. The next item in the menu is the transition time. Set this to the desired time (for Edirol only).
3. Turn off the ProductionVIEW Precision Camera Controller.
4. Connect the external video switcher to the RS-232 Control Port (DB-9) on the back of the Precision Camera Controller.
5. Turn on the external switcher and let it boot up completely.
6. Turn on the Precision Camera Controller and let it boot up completely – making sure that it recognizes the external switcher (on the LCD screen of Precision Camera Controller).
7. Test for proper operation

NOTE: If an external switcher is connected to Precision Camera Controller, you can't use the system in “Dual Link” mode, with two Precision Camera Controllers connected to each other (see configurations)

Setting Camera Presets per Channel:

- Press and hold the camera selection button for 4 seconds on the Control A (if A is the default) bus.
- The unused camera presets and camera selection button will flash at this time.
- Touching a flashing camera preset button, the unit will store all the information available via the camera at this time. A non-flashing or already saved preset location (not-flashing camera preset button) can be overwritten.
- Camera presets contain all the camera information besides the Pan/Tilt/Zoom position including brightness, focus, backlight, zoom-speed and others as well. The particular control saved under each camera preset is a function of the parameters available on a per camera basis.

Preset Location Storage Options

This feature allows the user to store 14 camera presets in the ProductionVIEW Precision Camera Controller or have the option of storing 6 camera presets (1 through 6) in the camera and 8 presets (7 through 14) in the Precision Camera Controller for the Sony EVI series cameras and BRC-300. For the BRC 700 series cameras and Panasonic AW-HE100/120, all 14 presets can be stored in the camera.

The 3-Axis Joystick:

Within the menus, the 3-axis joystick is programmable for pan, tilt and zoom direction control. The zoom-in/zoom-out, tilt-up/tilt-down and pan-left/pan-right commands can be inverted on all 3-axis to customize control of the PTZ cameras attached to Precision Camera Controller.

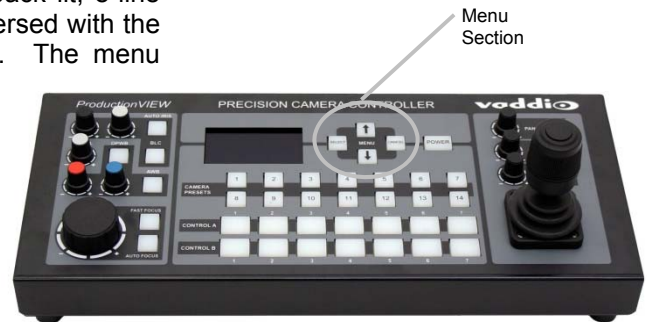
LCD Screen:

The LCD screen displays the menu structure, as well as information in real time as buttons are pressed, or buttons pushed on the controller.

Note: The LCD is covered with a thin protective film, please remove this film carefully.

ProductionVIEW PRECISION CAMERA CONTROLLER Menu Structure

The ProductionVIEW Precision Camera Controller has a back lit, 8-line LCD that displays the system menus. The menus are traversed with the up and down arrows buttons, select and cancel buttons. The menu structure is as follows:



- 1st Screen**
- ProductionVIEW PC
- V01.00.0X (software version 0X)
- Rescan Cameras
- Cam Search Menu
- Default Camera
- Default Preset

- Rescan Cameras**
- >Select
- >Start - Rescans control ports 1 through 7 to find the cameras connected

- Cam Search Menu**
- >Select
- >All Ports: (select search method – Auto, Sony, Canon, Panasonic)
- >Port 01: (select search method – Auto, Sony, Canon, Panasonic)
- >Port 02: (select search method – Auto, Sony, Canon, Panasonic)
- >Port 03: (select search method – Auto, Sony, Canon, Panasonic)
- >Port 04: (select search method – Auto, Sony, Canon, Panasonic)
- >Port 05: (select search method – Auto, Sony, Canon, Panasonic)
- >Port 06: (select search method – Auto, Sony, Canon, Panasonic)
- >Port 07: (select search method – Auto, Sony, Canon, Panasonic)

NOTE: When using Panasonic cameras, it is necessary to select Panasonic to speed up the recognition of the cameras when ProductionVIEW HD is turned on.

- Default Camera (Automatic and Start-up Modes)**
- >Select
- > 01 – 07
- Selects camera 1 through 7 as the default camera (default is 01)

- Default Preset (Automatic and Start-up Modes)**
- >Select
- > 01 – 14
- Assigns camera preset 1 through 14 as Default Preset on the default camera (default is 01)

- CCU Mode**
- >Select
- >All Ports: (Select method – Direct Cam Ctrl or CCU)
- >Port 01: (Select method – Direct Cam Ctrl or CCU)
- >Port 02: (Select method – Direct Cam Ctrl or CCU)
- >Port 03: (Select method – Direct Cam Ctrl or CCU)
- >Port 04: (Select method – Direct Cam Ctrl or CCU)
- >Port 05: (Select method – Direct Cam Ctrl or CCU)
- >Port 06: (Select method – Direct Cam Ctrl or CCU)
- >Port 07: (Select method – Direct Cam Ctrl or CCU)

NOTE: When Vaddio Quick-Connect CCUs are used with ProductionVIEW Precision Camera Controller, CCU mode disables the CCU functions on the Precision Camera Controller, allowing the user to control these functions from the Quick-Connect CCU)



Pan Dir Menu (Pan Direction Menu)

- >Select
 - >All Ports: Normal or Invert (default is Normal) Inverts the Joystick Pan Direction (Inverted - left = right)
 - >Port 01: Normal or Invert
 - >Port 02: Normal or Invert
 - >Port 03: Normal or Invert
 - >Port 04: Normal or Invert
 - >Port 05: Normal or Invert
 - >Port 06: Normal or Invert
 - >Port 07: Normal or Invert
 - >Return to Main
 - >Select Returns to Main Menu

Tilt Dir Menu (Tilt Direction Menu)

- >Select
 - >All Ports: Normal or Invert (default is Normal) Inverts the Joystick Tilt Direction (Inverted - up = down)
 - >Port 01: Normal or Invert
 - >Port 02: Normal or Invert
 - >Port 03: Normal or Invert
 - >Port 04: Normal or Invert
 - >Port 05: Normal or Invert
 - >Port 06: Normal or Invert
 - >Port 07: Normal or Invert
 - >Return to Main
 - >Select Returns to Main Menu

Zoom Direction

- >Select
 - >Normal or Invert (default is Normal)
Inverts the Joystick Zoom Direction (Inverted - Clockwise twist = zoom out)

Camera Select Bus

- >Select
 - > Control A
 - > Control B
 - Assigns Control Bus A or B to select cameras for Pan/Tilt/Zoom control

Preset Pan Speed

- >Select
 - >01 – 24
Sets the Pan Speed on all cameras between camera presets (24 is fastest) (default is 18)
(This parameter does not affect the Pan Speed or sensitivity of the Joystick)

Preset Tilt Speed

- >Select
 - >01 – 20 (default is 15)
Sets Tilt Speed on all cameras between camera presets (20 is fastest)
(This parameter does not affect the Tilt Speed on the Joystick)

Preset Zoom Speed

- >Select
 - >01 – 07 (default is 6)
Sets Zoom Speed on all cameras between camera presets (20 is fastest)
(This parameter does not affect the Zoom Speed on the Joystick)

System Menu

- >Select
 - >Serial Input
 - >Select
 - >Yes or No
Turns on or off serial input (default is Yes or On)



System Menu (continued)

- >Serial Echo
 - >Select
 - >Yes or No
Turns Serial Echo on or off (default is Yes or On)

- >Serial Info
 - >Select
 - >On or Off
Reports button pushes on front panel out the serial port (default is off)
(Does not report joy stick position)

- >Panel Lights
 - >Select or Cancel
 - >00 through 50
Panel Light Brightness (all lights - 50 is the brightest) (default is 25, off is 00)

- >Clear Memory
 - >Select
 - >Start

- >Clear Presets
 - >Select
 - >Start

Note: Clears only local presets in Precision Camera Controller, not in camera presets.

- >Power Up Preset
 - >Select
 - >Home Camera
 - >Select - Upon power up, all cameras will go to their home position
 - >Preset 14
 - > Select - Upon power up, all cameras will go to Preset 14

- >Preset Location
 - >Local
 - >6 InCam 8 Local
In "Local" mode, the ProductionVIEW stores all 14 presets internally
In "6 InCam 8 Local" mode, the presets 1 through 6 will be stored in the cameras.
Presets 7 through 14 will be stored in the Precision Camera Controller.

Note: The "6 InCam 8 Local" mode allows for switching video sources when Sony cameras are moving to preset locations. Since Presets are stored in camera, the system does not have to wait for position feedback before allowing another command to be entered.

- >Dual Link
 - >Select
 - >On or Off

Notes: In Dual Link mode, an external video switcher may not be connected to the RS-232 port. Both Precision Camera Controllers must be set to "Control A" under Camera Select Bus.

- >Video Switcher
 - >Select
 - >None
Edirol 4H, 3S
Innovation by Isis
User Defined (for future use)

- >Transition Time (External)
 - >Select
 - > (0.0 to 4.0 seconds)

- >Tally Outputs
 - >Select
 - >Active High
Active Low



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 EN 55103-1/2 standards for Emissions and Immunity and meets the requirements for E4 - Controlled EMC 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 2004/108/EC

- EN 55103-1** Electromagnetic Compatibility - Emissions
- EN 55103-2** Electromagnetic Compatibility - Immunity
- EN 55022A** Conducted and Radiated Emissions
- EN 61000-3-2** Limits for Harmonic Current Emissions
- EN 61000-3-3** Limitation of voltage fluctuation
- EN 61000-4-2** Electrostatic Discharge
- EN 61000-4-3** Radiated Immunity
- EN 61000-4-4** Electrical Fast Transients
- EN 61000-4-5** Surge Immunity
- EN 61000-4-6** Conducted Immunity
- EN 61000-4-8** Power Frequency Magnetic Field
- EN 61000-4-11** Voltage Dips, Interrupts and Fluctuations
- Annex A of EN 55103-2** 1996 Magnetic Field Immunity



WARRANTY INFORMATION:

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

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. Please see Vaddio's Service Terms and Conditions at vaddio.com for specific details and policies.

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 team. 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 outside 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, 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.

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 or liquid type substances onto the device.
- Keep this device away from food or liquid.
- For smears or smudges on the devices, wipe with a clean, soft cloth.
- Do not use any abrasive pads or caustic chemicals at any time on any Vaddio equipment.

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)
- In inclement weather
- Dry environments with an excess of static discharge
- In outer space (under normal circumstances)
- Under severe vibration or in a prairie dog tunnel
- High humidity, condensing or wet environments or in a swimming pool
- In bad or really bad places

APPENDIX 1:

RS-232 Control

The ProductionVIEW PRECISION CAMERA CONTROLLER has six (7) discrete camera control ports which eliminates the need for daisy-chaining control cabling. With both the ProductionVIEW and ProductionVIEW PRECISION CAMERA CONTROLLER, all cabling configurations are home-run type or “star” wiring configurations. Each Channel will auto-configure the input channel for video signal and control for the camera attached.

Vaddio uses very simple control protocols to accomplish custom programming with the ProductionVIEW and ProductionVIEW PRECISION CAMERA CONTROLLER. The Communication Specification, API and Programming Language are listed below and definitions are listed on the next page thereafter.

Communication Specification

Communication Speed: 9600 bps (default)

Start bit: 1

Stop bit: 1

Data bits: 8

Parity: None

Female DB-9 Control Port Pin-outs

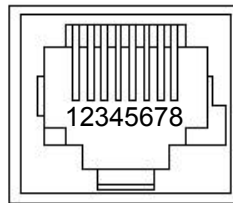
Pin 2: TXD

Pin 3: RXD

Pin 5: GND

Camera Control Ports 1 through 7 - RS-232 on RJ-45 Connectors:

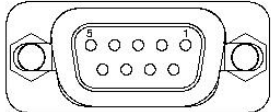
PIN#	Signal
1)	Unused
2)	Unused
3)	Unused
4)	Unused
5)	Unused
6)	GND
7)	TXD (to RXD of camera)
8)	RXD (from TXD of camera)



Appendix 2: RS-232 Control

The ProductionVIEW Precision Camera Controller has seven (7) discrete camera control ports which eliminates the need for daisy-chaining control cabling. With Precision Camera Controller, all cabling configurations are home run wiring configurations. Each Channel will auto-configure the input channel for control of the camera attached.

Vaddio uses simple control protocols to accomplish custom programming with the ProductionVIEW . The Communication Specification, API and Programming Language are listed below and definitions are listed on the next page. **Note: All commands must be followed by a carriage return.**

<p>Communication Specification Communication Speed: 9600 bps (default) Start bit: 1 Stop bit: 1 Data bits: 8 Parity: None No Flow control</p>	<p>Control Port - RS-232 on DB-9F Connector</p> <table border="1"> <thead> <tr> <th>PIN#</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>2)</td> <td>TXD</td> </tr> <tr> <td>3)</td> <td>RXD</td> </tr> <tr> <td>5)</td> <td>GND</td> </tr> <tr> <td colspan="2">All other pins - Unused</td> </tr> </tbody> </table> 	PIN#	Signal	2)	TXD	3)	RXD	5)	GND	All other pins - Unused	
PIN#	Signal										
2)	TXD										
3)	RXD										
5)	GND										
All other pins - Unused											



API and Programming Language
(Firmware Version V01.01.XX)

```

+-----+
|           Vaddio ProductionVIEW Precision Camera Controller           |
+-----+
| ?           - This Menu                                             |
+-----+----- System Access -----+
|Power        x- Power(On/Off)                                       |
|InCtIA       x- Control A (1-7)   |InCtIB       x- Control B (1-7)   |
|Camera       x- Switch to Camera(1-7) |AWB         x- AutoWhiteBal(On,Off)|
|Preset       x- Go to Preset(1-14)  |BLC         x-BacklightComp(On,Off)|
|Store        x- Store Preset(1-14)  |Rescan      - Rescan cameras      |
+-----+----- Joystick Pan, Tilt, Zoom-----+
|JPanDir      x,x-Port(0-7)Invert/Normal |JPanSpd     x,x-Port(0-7),Spd(1-24)|
|JTiltDir     x,x-Port(0-7)Invert/Normal |JTiltSpd    x,x-Port(0-7),Spd(1-20)|
|JZoomDir     x,x-Port(0-7)Invert/Normal |JZoomSpd    x,x-Port(0-7),Spd(0-7) |
+-----+----- Preset Pan, Tilt, Zoom-----+
|PanSpeed     x- Preset Pan Speed (1-24) |TiltSpeed   x-Preset Tilt Spd(1-20)|
|ZoomSpeed    x- Preset Zoom Spd (0-7)   |Home        - Home Camera          |
|PresetLoc    x- Store Preset (InCam/Lcl) |OnCamInit   x- (Home/Preset14)     |
+-----+----- Camera -----+
|Move         x,x- (Up/Down/Stop/Left/Right),Value |
|Zoom         x,x- (In/Out/Stop),Value |
|Iris         x,x- (Up/Down/Auto/Manual),Value |
|Focus        x,x- (Up/Down/Auto/Manual),Value |
+-----+----- System Setup and Utlities-----+
|SetDefault   x- Set Default Preset(1-14) |Tally       - Idle Tally(High/Low)|
|DefaultCam   x- Set Default Camera(1-7)  |Reset       - 'CPU'Reset          |
|DspCams      - List connected cameras    |SerialEcho  x- Echo Serial (On/Off)|
|Version      - Firmware Version          |SerialInfo  x- Status (On/Off)     |
|ClearAll     - Clear all presets         |Config      - List Config Settings|
+-----+

```

APPENDIX 2: COMMAND STRUCTURE DEFINITIONS

Command	Parameters	Description
AWB	AWB On/Off(cr)	Auto White Balance On/Off
BLC	BLC On/Off(cr)	Backlight Compensation On/Off
Camera	Camera [9](cr)	Select indicated camera (1-7)
ClearAll	ClearAll(cr)	Clear all presets
Config	Config(cr)	Display system configuration
DefaultCam	DefaultCam [9](cr)	Set default camera (1-7)
DspCams	DspCams(cr)	Display cameras connected(and Port)
Focus	Focus Up/Dn/Auto/Manual,[9] (cr)	Focus Up/Dn/Auto/Manual, Value
Home	Home(cr)	Home Camera
InCtlA	InCtlA [9] (cr)	Control A Bus buttons
InCtlB	InCtlB [9] (cr)	Control B Bus buttons
Iris	Iris Up/Dn/Auto/Manual,[9] (cr)	Iris change Up/Dn/Auto/Manual, Value
JPanDir	JPanDir [9],[9](cr)	Set Pan Direction by Port(0,1-7), Dir(Normal/Invert)
JPanSpd	JPanSpeed [9],[9](cr)	Set Pan Speed by Port (0,1-7), Speed(1-24)
JTiltDir	JTiltDir [9],[9](cr)	Set Tilt Direction by Port(0,1-7), Dir(Normal/Invert)
JTiltSpd	JTiltSpeed [9],[9](cr)	Set Tilt Speed by Port(0,1-7), Speed(1-20)
JZoomDir	JZoomDir [9],[9](cr)	Set Zoom Direction by Port(0,1-7), Dir(Normal/Invert)
JZoomSpd	JZoomSpeed [9],[9](cr)	Set Zoom Speed by Port(0,1-7), Speed(0-7)
Move	Move(Up/Down/Left/Right/Stop)(cr)	Move camera
OnCamInit	OnCamInit Home/Preset12(cr)	Set initialization preset Home camera or content of preset12
PanSpeed	PanSpeed [9](cr)	Set Preset Pan Speed
Power	Power On/Off(cr)	Power system On/Off
Preset	Preset [9] (cr)	Recalling a stored preset
PresetLoc	PresetLoc[Local/InCam] (cr)	Set Preset location 6 in cam 8 in system, All in system
Rescan	Rescan(cr)	Initiate Camera scan
Reset	Reset(cr)	Soft System reset
SerialEcho	SerialEcho On/Off(cr)	Serial Echo On/Off
SerialInfo	SerialInfo(On/Off)(cr)	Serial Information mode on/off
SetDefault	SetDefault [9](cr)	Set default Preset (1-12)
Store	Store [9](cr)	Store indicated preset on the current camera(1-12)
Tally	Tally High/Low(cr)	Non-selected(Idle) tally level
TiltSpeed	TiltSpeed [9](cr)	Set Preset Tilt Speed
Version	Version(cr)	Display System Version information
Zoom	Zoom (in/Out/Stop)(cr)	Zoom Camera
	ZoomSpeed	Set Preset Zoom Speed

GENERAL SPECIFICATIONS:

ProductionVIEW Precision Camera Controller	
Part Numbers:	999-5700-000 (North America) 999-5700-001 (International)
System I/O:	Seven (7) RS-232 Camera Control Ports on RJ-45 Connectors Two (2) Link Ports (In and Out) on RJ-45 One (1) RS-232 Control Port on DB-9F Seven (7) Tally Outputs - Group A, Seven (7) Tally Outputs - Group B One (1) Power Connector (Coaxial, Positive Center, 5.5mm OD x 2.5mm ID)
Compatible Cameras:	All Vaddio HD Series Cameras, Vaddio WallVIEW Packages, Model, REVEAL & CeilingVIEW Packages, Panasonic AW-HE100, AW-HE120 PTZ Camera, Sony EVI and BRC Series PTZ Cameras, Canon BU Series Cameras and XU Series Cameras
Joystick:	3-Axis, Hall-Effect, Non-contacting Type with Single Button
Internally Stored Presets:	98 (14 per PTZ camera attached)
Camera Control Parameters:	Iris, Gain, Detail, Red Gain, Blue Gain, Focus (for compatible cameras) Pan, Tilt and Zoom on Joystick Pan, Tilt and Zoom speed (for Joystick PTZ functions) Auto Iris, Backlight Compensation, One-Push White Balance, Auto White Balance, Fast Focus and Auto Focus on buttons. <i>Note: not all functions are compatible with all cameras</i>
LCD Display:	8-line backlit LCD display
Power Requirements:	18 VDC, 2.78 Amp Switching Power Supply
Weight:	5 lbs. (2.27kg) – approximate weight
Dimensions (H x W x D):	3.75" (95.25mm) H x 16" (406.4mm) W x 7" (177.8mm) D

NOTE: Specifications and pricing are subject to change without prior notice or obligation.



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