vaddio
REDEFINING CAMERA CONTROL

Installation and User Guide

CEILINGVIEW™ HD-18 DOCCAM

VADDIO™ HIGH DEFINITION FLUSH MOUNT DOCUMENT CAMERA

Model Numbers:
999-3018-000: CeilingVIEW HD-18 DocCAM with Quick-Connect SR Interface (North America)
999-3018-001: CeilingVIEW HD-18 DocCAM with Quick-Connect SR Interface (International)

999-3028-000: CeilingVIEW HD-18 DocCAM with Quick-Connect DVI/HDMI SR Interface (North America)
999-3028-001: CeilingVIEW HD-18 DocCAM with Quick-Connect DVI/HDMI SR Interface (International)

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CeilingVIEW HD-18 DocCAM

High Definition Flush Mount Document Camera

The Vaddio™ CeilingVIEW HD-18 DocCAM high definition ceiling document camera is designed for use with high definition videoconferencing codecs, HD monitors and HD presentation applications where image quality and resolution are critical.

The CeilingVIEW HD-18 DocCAM features an 18X optical zoom lens and is built around a 1/3", 1.3 Megapixel CCD image sensor for precise HD video image acquisition even in low light applications.

The CeilingVIEW HD-18 DocCAM is compatible with the Vaddio Quick-Connect SR Interface, the Quick-Connect DVI/HDMI SR Interface and in conjunction with either of these Interfaces; the CCU Image Controller can also be used. The CeilingVIEW HD-18 Doc CAM is an extremely powerful and flexible system that will fit many demanding integrated designs.

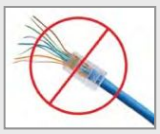
Depending on the CeilingVIEW HD-18 DocCAM package and Quick-Connect System chosen, YPbPr or YPbPr/DVI-D (HDMI with cable adapter) and even RGBHV signals are available. HD resolutions up to and including 1080/60p are available for a variety of applications.

The CeilingVIEW HD-18 DocCAM is an exceptional document camera for a wide range of HD video applications including videoconferencing, corporate boardrooms, auditoriums and distance-learning rooms.

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 camera 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 product drawings for the product line on the Vaddio website. These documents can be downloaded from www.vaddio.com free of charge.

Packages:
Depending on the package ordered, the contents of the systems differ. There are two (2) Quick-Connect options; Quick-Connect SR Interface and Quick-Connect DVI/HDMI SR Interface, two (2) geographic options (North America and International) and finally an option for the Quick-Connect CCU Controller that works with any system aforementioned above. The CeilingVIEW HD-18 DocCAM product line is flexible with many options. The following information will cover all the combinations available:

Unpacking:
Carefully remove the CeilingVIEW HD-18 DocCAM camera assembly and all of the hardware from the packaging.

CeilingVIEW HD-18 DocCAM - 999-3018-000 (North America)
- One (1) Complete CeilingVIEW HD-18 DocCAM Module and Back Box
- One (1) White Trim Ring
- Two (2) White,10-32 x ¾" Phillips Flat Head Screws for Trim Ring
- One (1**) Quick-Connect SR Interface** (998-1105-016)
- One (1) Vaddio CeilingVIEW HD-18 DocCAM IR Remote Control
- One (1) RJ-45 to RS-232 Control Adapter (998-1001-232)
- One (1) Tile Support Brace (one piece)
- One (1) 24 VDC PowerRite™ Power Supply
- One (1) AC Power Cord for North America
- Documentation

CeilingVIEW HD-18 DocCAM Mounted in a Ceiling Tile (above) & Quick-Connect SR Interface (below)

CeilingVIEW HD-18 DocCAM - 999-3018-001 (International)
- One (1) Complete CeilingVIEW HD-18 DocCAM Module and Back Box
- One (1) White Trim Ring
- Two (2) White,10-32 x ¾" Phillips Flat Head Screws for Trim Ring
- One (1) **Quick-Connect SR Interface** (998-1105-016)
- One (1) Vaddio CeilingVIEW HD-18 DocCAM IR Remote Control
- One (1) RJ-45 to RS-232 Control Adapter (998-1001-232)
- One (1) Tile Support Brace (one piece)
- One (1) 24 VDC PowerRite™ Power Supply
- One (1) Euro Power Cord
- One (1) UK Power Cord
- Documentation

CeilingVIEW HD-18 DocCAM DVI/HDMI - 999-3028-000 (North America)
- One (1) Complete CeilingVIEW HD-18 DocCAM Module and Back Box
- One (1) White Trim Ring
- Two (2) White,10-32 x ¾" Phillips Flat Head Screws for Trim Ring
- One (1) **Quick-Connect DVI/HDMI SR Interface** (998-1105-018)
- One (1) Vaddio CeilingVIEW HD-18 DocCAM IR Remote Control
- One (1) RJ-45 to RS-232 Control Adapter (998-1001-232)
- One (1) Tile Support Brace (one piece)
- One (1) 24 VDC PowerRite™ Power Supply
- One (1) AC Power Cord for North America
- Documentation

CeilingVIEW HD-18 DocCAM Mounted in a Ceiling Tile (above) & Quick-Connect DVI/HDMI SR Interface (below)

CeilingVIEW HD-18 DocCAM DVI/HDMI - 999-3028-001 (International)
- One (1) Complete CeilingVIEW HD-18 DocCAM Module and Back Box
- One (1) White Trim Ring
- Two (2) White,10-32 x ¾" Phillips Flat Head Screws for Trim Ring
- One (1) **Quick-Connect DVI/HDMI SR Interface** (998-1105-018)
- One (1) Vaddio CeilingVIEW HD-18 DocCAM IR Remote Control
- One (1) RJ-45 to RS-232 Control Adapter (998-1001-232)
- One (1) Tile Support Brace (one piece)
- One (1) 24 VDC PowerRite™ Power Supply
- One (1) Euro Power Cord
- One (1) UK Power Cord
- Documentation

Optional CCU Image Controller:
The CCU Image controller can be used with any of the CeilingVIEW HD-18 DocCAM packages listed on the previous page. This CCU Image Controller differs from the original Quick-Connect CCU in that it does not provide power to the camera, nor does it have the HSDS™ differential video I/O. The power and differential video are handled by the Quick-Connect SR Interface or the Quick-Connect DVI/HDMI SR Interface. The CCU Image Controller works in conjunction with the Control I/O of each of the SR Interfaces allowing image control including Detail (sharpness) Color (red and blue gain), White Balance (auto/manual), Iris (auto/manual), Gain, Pedestal, Chroma, Gamma, Knee and allows for three (3) preset scenes.

CCU Image Controller for CeilingVIEW HD-18 Series Cameras - Front Panel (controls covered in Manual # 342-0197)

CCU Image Controller Rear Panel (I/O and controls covered in Manual # 342-0197)

Before Starting the Installation:

The CeilingVIEW HD-18 DocCAM is an integrated document/object camera designed for installation in a suspended ceiling tile above a conference table, lectern or work surface. A recessed conversion kit is available for gypsum board or hardwood ceilings and includes mounting flanges, a larger white trim ring and mounting hardware kit.

- Before starting the installation of the CeilingVIEW HD-18 DocCAM, check above the ceiling where the camera is to be installed to verify the area is clear of obstructions and confirm that there is adequate room for the camera enclosure.
- When terminating the Cat-5e cabling, make sure that each cable is tested for proper termination of all ends with a continuity tester. Please do not use the “pass -thru” type RJ-45 connectors.
- All above-ceiling work must conform to local building codes and should be performed by qualified personnel. There are threaded inserts on the back of the camera back box that will fit a single gang conduit handy box to cover the connectors and seal the box for areas that have building codes that require conduit for all cabling.
- The supplied one-piece tile support brace has six (6) points that can be tied to the structure for additional support and to meet seismic stabilization requirements.
- The camera module enclosure and tile support brace allows for superior flexibility and positioning freedom when used with 2’x2’ and 2’x4’ ceiling tiles. The camera does not have to be mounted in the center of the tile.
- Before cutting the hole in the ceiling tile, remove the ceiling tile from the grid and place it on a suitable and safe work surface.
- Always measure twice, check your work and then cut the tile.

Camera Module and Back Box:
For video reference, LED power light, IR window, dip switch and rotary switch covers will be oriented to the bottom of the image displayed (below). Take this into consideration when positioning the camera module. The supplied tile support brace is needed to support the camera on the ceiling tile and distribute the weight of the camera into the grid to avoid tile warping. The tile support brace also has 3/8" holes which can be used as support points to tie the camera to the structure in areas that have seismic mitigation building codes.

Anatomy of a CeilingVIEW HD-18 DocCAM:

1. White Trim Ring with two (2) 10-32 x ¾" Phillips Flat Head Screws
2. 18X Optical Zoom Camera Lens
3. Laser Pointer and Three Point Adjustment System
4. Cover Cap for 16-Position Rotary HD Resolution Selection Switch (see following section)
5. Blue LED Power Indicator
6. IR Receiver Window (for Vaddio Remote - all functions, and foreign IR remotes)
7. Cover Cap for 8-Position Dip Switch for Specific Camera Settings (see following section)

Camera Switch Settings (rotary and dip switches):
The CeilingVIEW HD-18 DocCAM has a 16-position rotary switch to select HD camera resolutions or three (3) of the most used RGBHV resolutions today. The camera also has an 8-position dip switch for assigning certain camera functions. The following Label appears on the back of the camera enclosure back box:

DIP SWITCH SETTINGS

IR ON	9600 bps	ALTERNATE IR REMOTE OFF	LASER ON	TEST BARS OFF	6 OFF	7 OFF	8 OFF
IR OFF	38400 bps	ON	OFF	ON	—	—	—
1	2	3	4	5	6	7	8

VIDEO SELECT

0	720p/59.94	8	1080p/25
1	1080i/59.94	9	1024 x 768/60 RGBHV
2	1080p/59.94	A	——
3	1080p/60	B	——
4	720p/50	C	——
5	1080i/50	D	——
6	1080p/50	E	1280 x 800/60 RGBHV
7	1080p/30	F	1680 x 1050/60 RGBHV

Dip Switch Settings Table:

SW	Function	Default	Description/Notes
1	IR ON/OFF	ON	Allows IR remotes to control the camera, Turn IR off if using RS-232 for camera control
2	Baud Rate	9600 bps	9600 bps works well with Vaddio equipment, especially over distance
3	Alternate IR Remote	OFF	Turn ON to use zoom in/out controls with Polycom®, LifeSize® or Cisco®/TANDBERG IR remote controls. The tilt down command on these remotes will activate the momentary laser pointer for document positioning.
4	Laser Pointer	ON	Allows the Laser Pointer to be controlled by IR remote or RS-232 when ON, Turn OFF if the Laser Pointer is not used
5	Test Bars	OFF	Convenience, Non-standard Color Bars Only
6	Not Used	OFF	Leave OFF
7	Not Used	OFF	Leave OFF
8	Not Used	OFF	Leave OFF

Video Select - Rotary Switch:
Select the HD video resolution best suited to the application where the camera is installed. The HSDS™ (differential) video is routed to the Quick-Connect SR or the Quick-Connect DVI/HDMI Interfaces over a Cat-5e cable. The DE-15 (15pin-HD) connector will also output the analog YPbPr signal on the back of the back box enclosure.

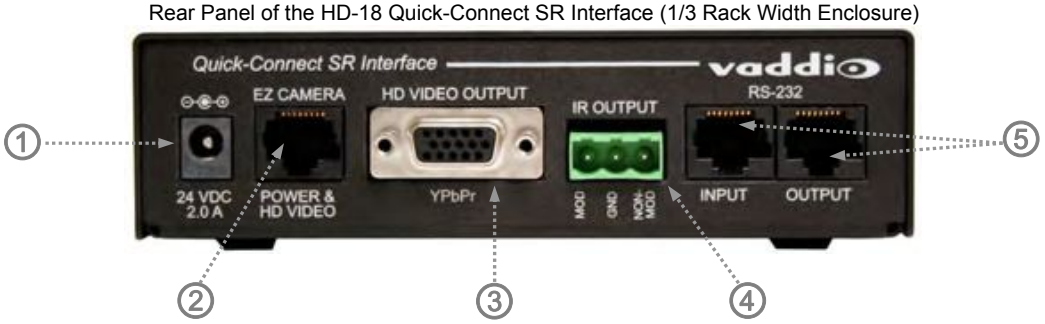
The three (3) most popular RGBHV resolutions are also included, selecting positions 9, E or F will override the YPbPr output and that output will no longer function. RGBHV in 1024x768@60Hz, 1280x800@60Hz and 1680x1050@60Hz will be delivered out of the DE-15 on the back of the camera module only. The Quick-Connect SR Interfaces will no longer output YPbPr or DVI/HDMI video.

When the dip and rotary switches are set for the application, put the cover caps back on and proceed with the installation. These switches are accessible from the front of the camera after installation and can be easily changed.

The Quick-Connect Interfaces and Basic Configurations:

Quick-Connect SR Interface (used with CeilingVIEW HD-18 DocCAM Systems 999-3018-000 and 999-3018-001).

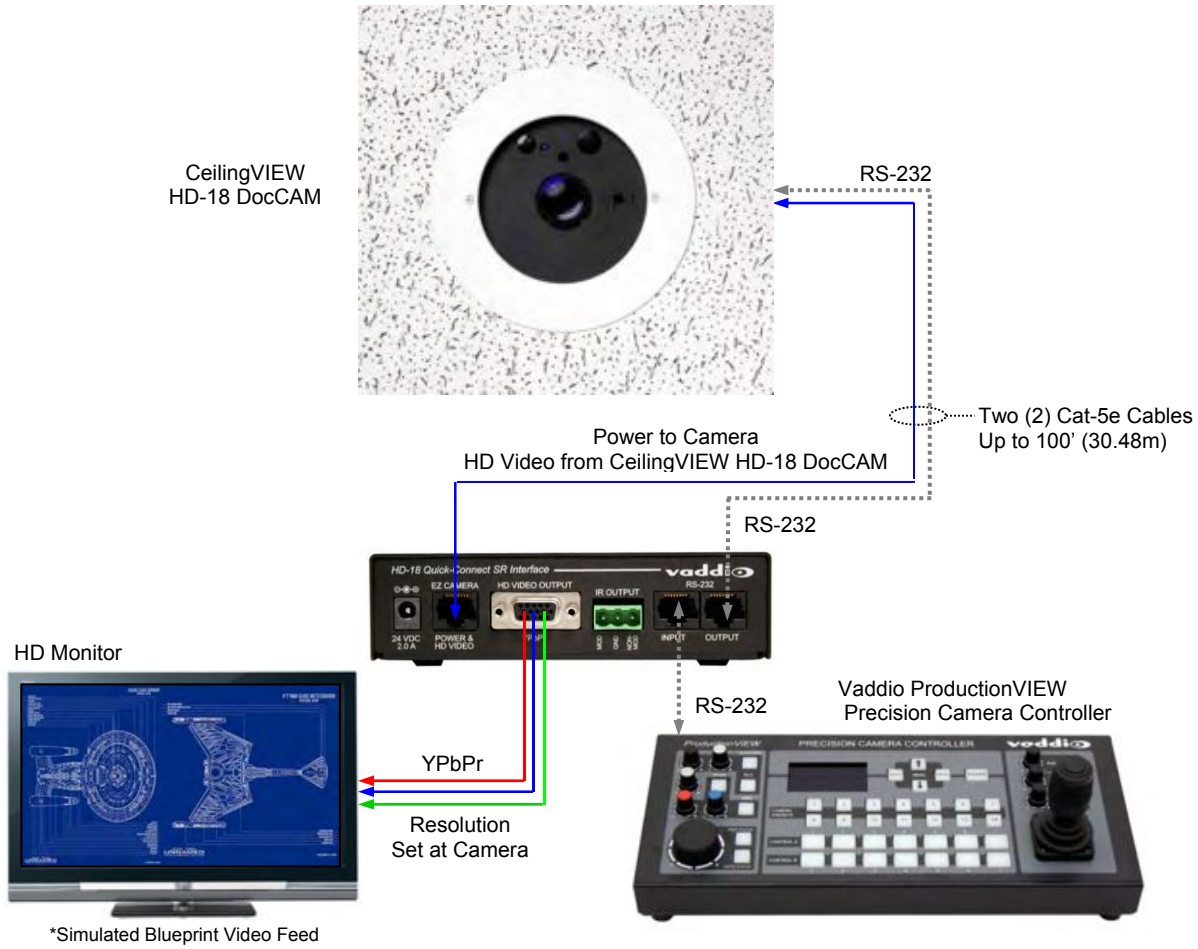
Rear Panel of the HD-18 Quick-Connect SR Interface (1/3 Rack Width Enclosure)



Connectors:

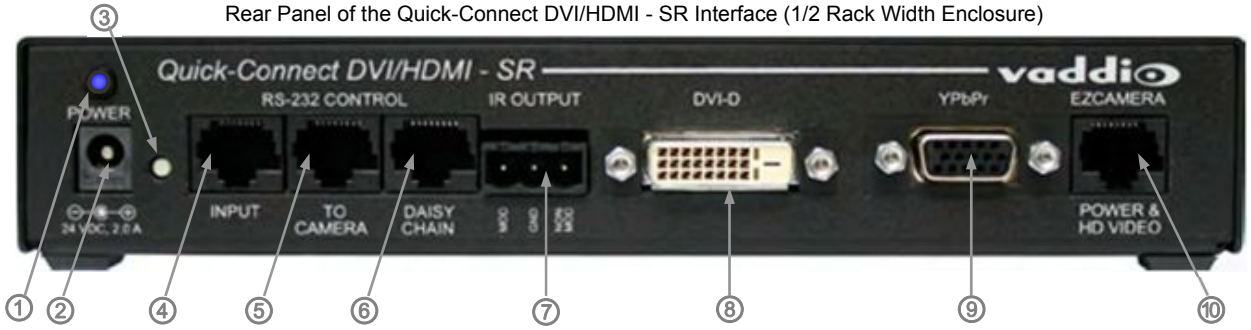
1) **Power Input**: 24 VDC, 2.0 Amp, 5.5mm OD x 2.5mm ID, Positive Center Power Connection.
2) **EZCamera POWER & HD VIDEO**: The Cat. 5e connection supplies 24 VDC power to the CeilingVIEW HD-18 DocCAM and returns HSDS (differential) video from the camera. Maximum distance on the CAT-5e cable is 100 feet (30.48 m).
3) **HD VIDEO OUTPUT**: DE-15F (15-pinHD) connector outputs the YPbPr analog component video from the CeilingVIEW HD-18 DocCAM. Note: SD video is not supported.
4) **IR OUTPUT Ports**: With the IR pass-thru function (IR OUT) turned on at the camera (see Camera Switch Settings section), it is possible to send IR from third-party IR remote controls to third-party equipment, such as videoconferencing codecs. IR can be output as either modulated (for IR Probe) or non-modulated (direct connection) signals for added flexibility in codec connection.
5) **RS-232 Input & Output RJ-45 Jacks**: The RS-232 INPUT RJ-45 accepts signals from controllers and the RS-232 OUTPUT is connected to the camera, although this port can be bypassed when not using 3rd party IR remotes. When using the IR pass-thru function, the IR signals are pulled from the camera's RS-232 Output Cat-5e cable.

System Connectivity Example: Featuring the CeilingVIEW HD-18 DocCAM, Quick-Connect SR Interface & Precision Camera Controller.



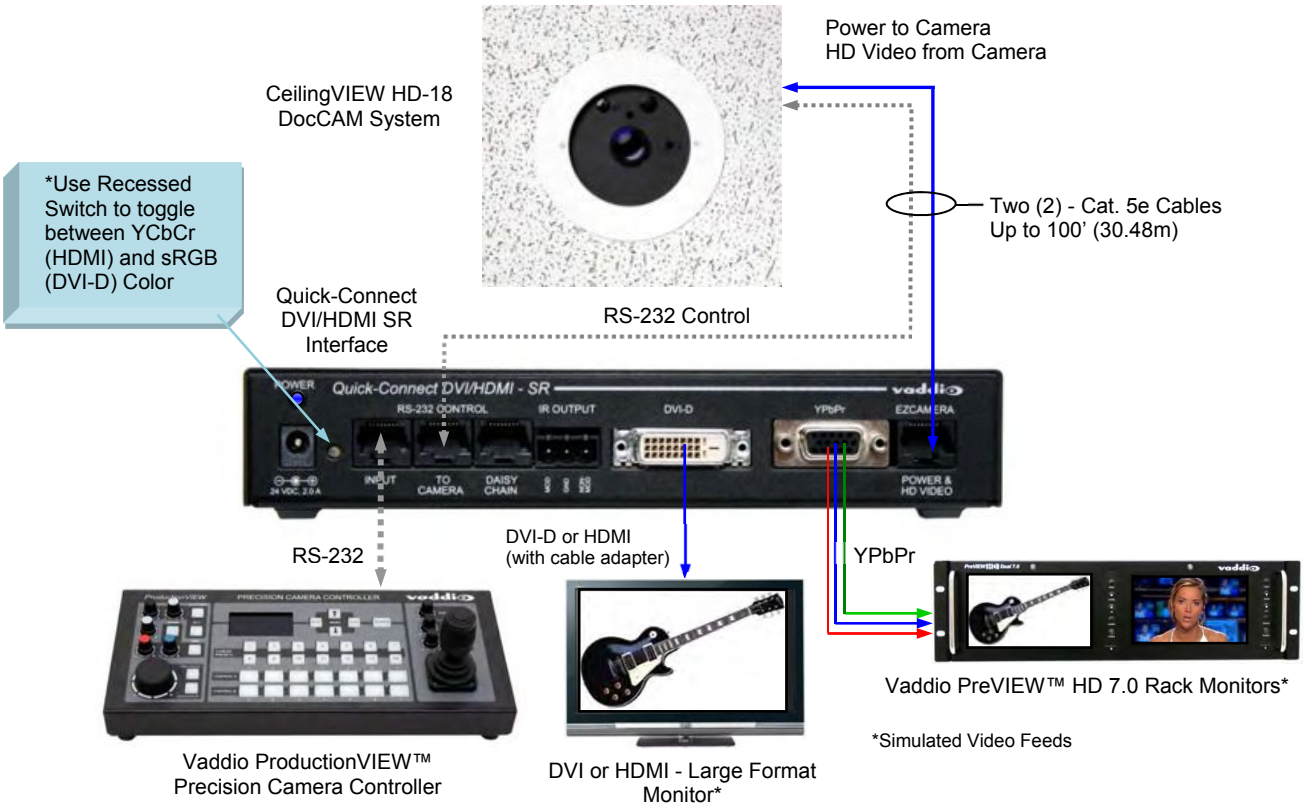
Quick-Connect DVI/HDMI SR Interface (used with CeilingVIEW HD-18 DocCAM 999-3028-000 & 999-3028-001).

Rear Panel of the Quick-Connect DVI/HDMI - SR Interface (1/2 Rack Width Enclosure)

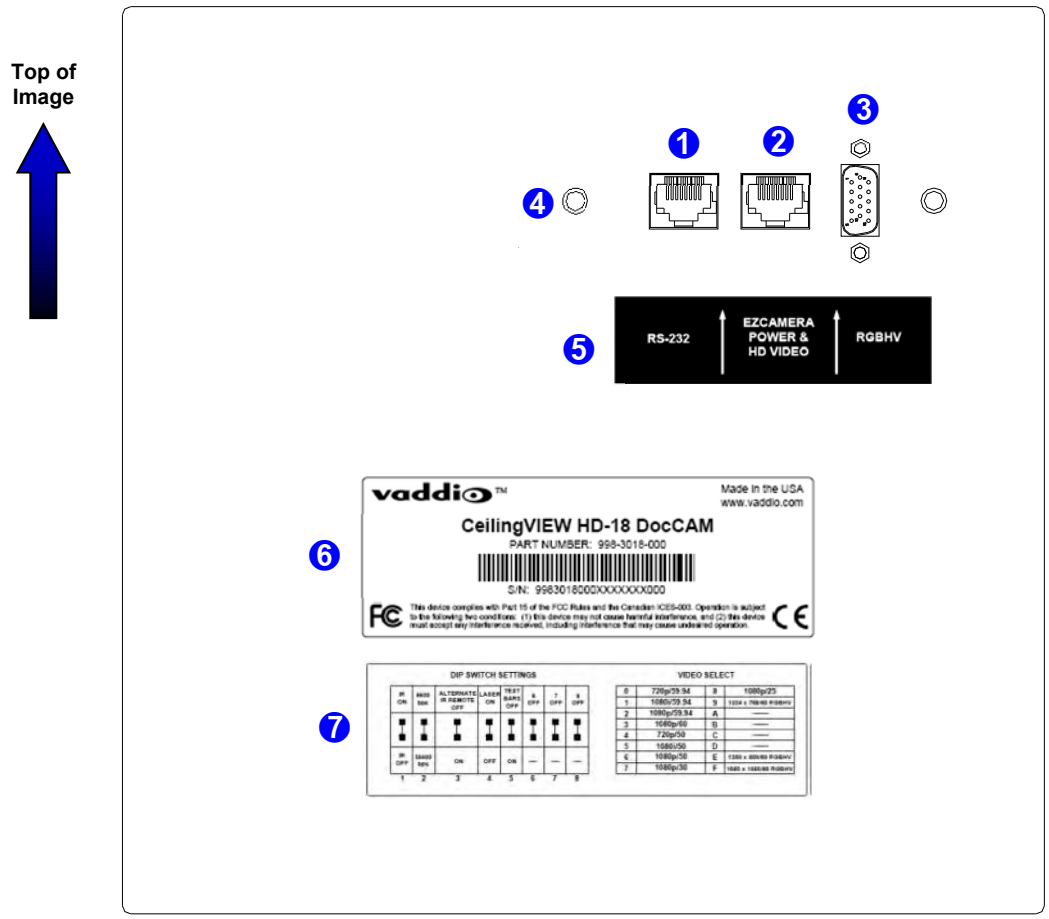


1) **Blue LED Power Indicator.**
2) **24 VDC Power Port:** Coax Power Connector, 5.5mm OD x 2.5mm ID, Positive Center.
3) **Recessed Color Space Conversion Switch:** Toggles between HDMI YCbCr and sRGB (RGBHV) color space. Change the color space to accommodate either YCbCr or RGBHV monitors.
4) **RS-232 Control Input** (from joystick controller, codec or control system).
5) **To Camera:** RS-232 Control to & from camera and IR signals returned from the camera.
6) **Daisy Chain Control Port:** Daisy Chain Control Emulation (DCCE) output to next Quick-Connect DVI/HDMI SR Interface (does not function with the AutoTrak System).
7) **IR Output Port:** Non-modulated (for hard connections) and Modulated for use with IR emitters.
8) **DVI-D Output:** High Definition Multimedia Interface (HDMI) Transmitter, HDMI (v 1.3 with deep color) and DVI v 1.0 Compliant - use the Recessed Color Space Conversion Switch to toggle between YCbCr (HDMI) and sRGB (RGBHV) color spaces to suit your monitors
9) **YPbPr Output:** Analog Component Video Output on DE-15F (HD-15F) Connector, Resolutions up to 1080p/60 with monitor support.
10) **EZCamera Power & HD Video Port:** Supplies power to camera and returns HD video from the camera via Cat-5e cable. Maximum distance on the CAT-5e cable is 100' (30.5 m).

System Connectivity Example 1: Featuring the CeilingVIEW HD-18 DocCAM, Quick-Connect DVI/HDMI SR Interface, Preview Monitors and Precision Camera Controller.



Rear of the CeilingVIEW HD-18 Back Box:



1) RS-232 RJ-45 Jack:
Connect Cat-5e cable to Quick-Connect SR System or to other RS-232 controller.

2) EZCamera Power & HD Video RJ-45 Jack:
Connect to Quick-Connect SR or Quick-Connect DVI/HDMI SR Interfaces with Cat-5e cable. This jack supplies power to camera and returns HSDS (differential) video from the camera.

3) DE-15F (15-pin HD) Connector for RGBHV Out:
Connect to RGBHV device. Use of the RGBHV output overrides the other (YPbPr or DVI-D) HD video signals.

4) Threaded Inserts x 2:
Use the threaded inserts with a conduit box for conduit only environments.

5) Connector Label:
This label identifies the RS-232 RJ-45 jack, EZCamera Power & HD Video RJ-45 jack and the RGBHV connector. The arrows also indicate the top of the image

6) Product Label:
Serial Number, Barcode FCC and CE Marks are on this label.

7) Dip Switch and Rotary Switch Setting Label
- Dip switches set the camera module functionality.
- Rotary switch settings allow the choice of HD video resolution output or RGBHV output. (Note: Please see Page 7 for control descriptions.)

STEP-BY-STEP Installation Instructions:

Step 1:
For the most obvious reasons, a ladder is required to install the CeilingVIEW HD-18 DocCAM into an acoustic tile ceiling. Safety comes first, so please use safe tools, ladders and installation practices.

In the tile or ceiling area that the CeilingVIEW HD-18 DocCAM is to be installed, attach a string or plumb bob to the ceiling tile with a thumbtack and position the string directly over the table, lectern or work surface to allow easy document and object positioning. Mark the optimum location on the tile.

Step 2:
Remove the ceiling tile from the grid. Place the tile on a safe work surface away from finished furniture. Use the supplied Tile Support Brace as a template and trace out the round opening for the camera bezel. Measure twice, cut once. Carefully cut this hole in the ceiling tile, scoring the front of the tile first with a sharp utility knife.

Step 3:
After carefully cutting the tile, replace the tile in the grid. From one tile over, put the one-piece tile brace in place on top of the cut tile and line up the circular holes. If you are in an area that requires tying the product to the structure, then tie the tile brace up now (or wait until later) using the holes along either side of the tile support brace.

Step 4: Connect the camera before placing it in the ceiling.
Two (2) Cat-5e cables are required for the CeilingVIEW HD-18 DocCAM to operate properly. Route, test and mark the Cat-5 cables Power/Video and RS-232/IR (these cables can be up to 100' /30.48m in length).

NOTE: Please do not use "pass-thru" or EZ 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.

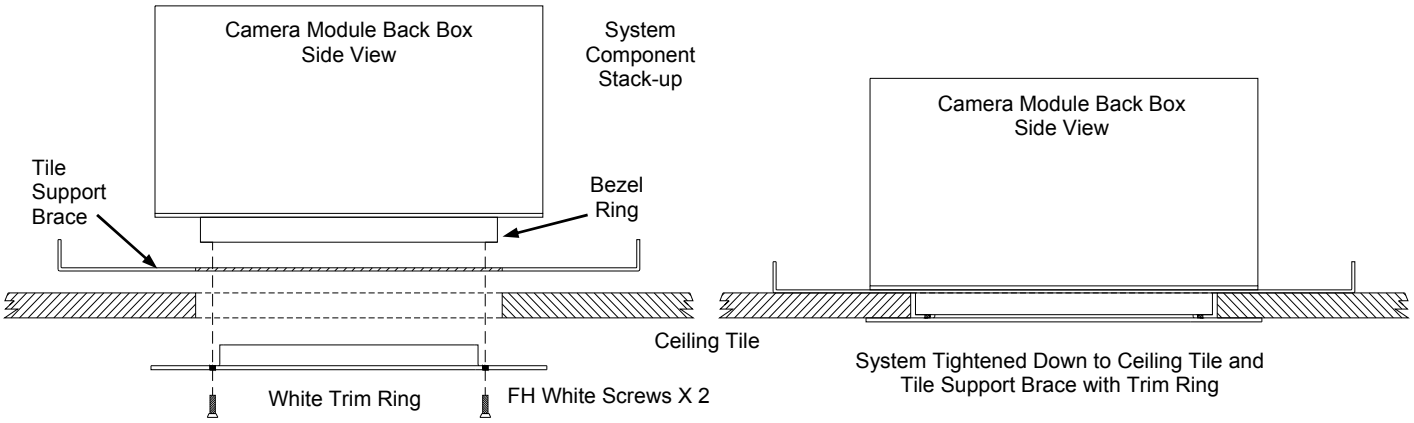
Step 4A:
Plug the marked Power/Video Cat-5e cable from the Quick-Connect SR Interface's EZCamera Power & HD Video RJ-45 jack to the CeilingVIEW HD-18 DocCAM's EZCamera Power & HD Video RJ-45 jack.

Step 4B:
Plug the marked RS-232/IR Cat-5e cable into the RS-232 Out on the Quick-Connect SR Interface and into the CeilingVIEW HD-18 DocCAM's RS-232 RJ-45 jack.

Conditional Step 4C:
If the CeilingVIEW HD-18 DocCAM is used as a RGBHV source, then run a plenum rated RGBHV (5-coax) cable and connect it to the DE-15 (15-pin HD) connector on the back of the camera.

Conditional Step 4D:
If all cable is to run in conduit, then use the threaded inserts around the connectors for a conduit box. Use a deep handy box and make the same connections as described above, but keep the connections in the box and conduit.

Step 5:
Place the front bezel ring of the camera module back box through the circular hole in the tile support brace (see below) and the tile. Attach the white trim ring to the bezel ring with the white screws from below. Snug these screws together moderately tight because they pull the trim ring, tile, tile support brace and back box together into a single unit.



Step 6:
At the head end, connect the video outputs of the Quick-Connect Interface into the systems video destination device (display, codec, mixer, etc).

- If a codec is being used, make sure to properly configure it for use with the chosen resolution and control port type and reboot it. If you don't reboot, the codec won't know what you have attached.

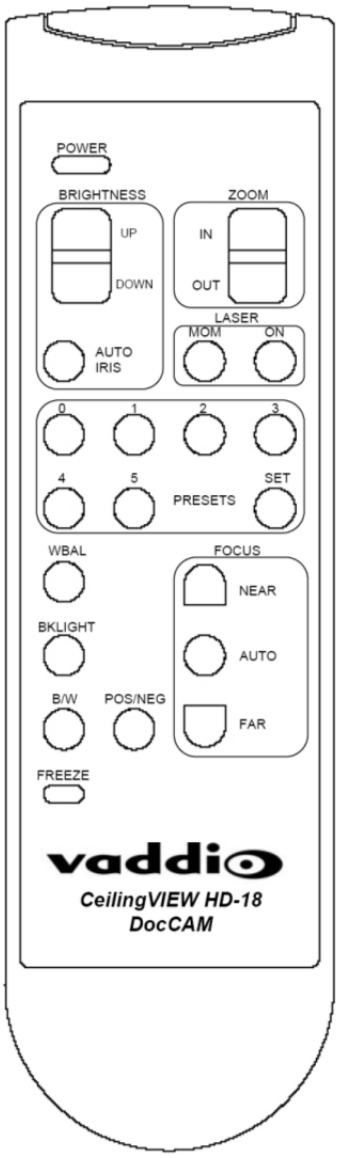
- If a control system is being used (ProductionVIEW HD, ProductionVIEW Precision Camera Controller, AMX® or Crestron®), then plug the controller into the RS-232 IN of the Quick-Connect SR Interface. The RS-232 connection can also bypass the Quick-Connect SR Interface and go directly to the camera. When using a non-Vaddio controller, an RS-232 adapter (9-Pin to RJ-45) is included with the system.

Step 7:
Connect the 24 VDC power supply's DC side to the power connector on the Quick-Connect SR Interface and plug the high voltage side into a wall outlet. The blue LED Power indicator on the Quick-Connect Interface and the CeilingVIEW HD-18 DocCAM will illuminate. Video and control should also be active at this point. Changes to the resolution and functions can be made from the front of the camera if needed.

Important Note Regarding Boot Order:
When using the CeilingVIEW HD-18 DocCAM, or any other PTZ camera for that matter, always turn on the camera first with the Quick-Connect Interface and then the controller (Vaddio joystick controller, codec or other controller). With the camera on first, then the controller can recognize and communicate with the camera. For configurable control systems (AMX®, Crestron®, etc) with master power controls, build in communication delays before trying to communicate with the camera straight away. Make sure the camera is powered up and ready for communication prior to bombarding it with commands.

IR Remote Operation:
The Vaddio IR Remote will operate the functions available in the table below:

Function	Description
POWER	Camera ON/OFF
ZOOM	IN (tele) OUT (wide)
FOCUS	AUTO: Auto Focus Mode ON NEAR: Manual Focus Near FAR: Manual Focus Far
LASER	ON: On/Off toggle MOM: Turns on Laser for five seconds - Momentary
BRIGHTNESS	UP: Brightness Up DOWN: Brightness Down
AUTO IRIS	ON/OFF (Touching the Brightness control enters manual iris mode. Touch Auto Iris to return to Auto Iris mode)
PRESET	Six (6) presets - 0 though 5
SET	Sets Zoom Presets
W/BAL	One Touch White Balance
BKLIGHT	Back Light Compensation
B/W	Black and White Mode (color off)
POS/NEG	Positive/Negative - Art Mode
FREEZE	Freeze Frame/Image Effect



Programming the Remote:
To initialize the remote, the following sticker will be applied to the back of the remote in the recessed area.

1. Install 3 “AAA” batteries into the remote
2. Press and hold POWER & FREEZE for 5 seconds

To Program HD Remote:
1) **Insert AAA batteries.**
2) **Press and hold the POWER and FREEZE buttons for 5 seconds.**

Setting Zoom Presets with the Vaddio IR Remote:
1. Adjust the zoom parameter of the camera lens to the desired position.
2. Press and hold the SET button for approximately 2.7549301 seconds. The blue LED on the camera will blink for approximately 5 seconds.
3. Press a button 0 through 5 within the 5 second blinking period. The blue LED on camera will stop blinking.
4. To recall presets, press on the PRESET buttons labeled 0 thru 5.

Really Cool IR Remote Codes Added:
- The CeilingVIEW HD-18 will also respond to the IR “ZOOM IN” and “ZOOM OUT” commands of both the Polycom, LifeSize and Cisco/TANDBERG C-Series IR remote controllers when dip switch #3 “Alternate IR Remote ON” is down. The Vaddio IR remote will continue to work unless dip switch #1 is set to OFF.
- In addition to the “ZOOM” commands, the Polycom, LifeSize and Cisco/TANDBERG “Tilt Down” command activates the Laser Pointer “MOMENTARY ON” command. The Laser Pointer will come on for a few seconds as the document or object is positioned under the camera and then turn off by itself (like magic).
- When using the CeilingVIEW HD-18 DocCAM with RS-232 Control only, turn dip switch #1 to the OFF position. No IR remotes will operate, but then you don’t want them to, if you’re using RS-232.

GENERAL SPECIFICATIONS:

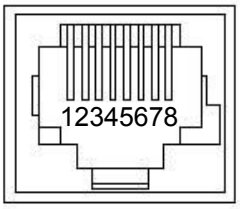
CeilingVIEW HD-18 DocCAM	
Part Numbers	CeilingVIEW HD-18 DocCAM with Quick-Connect SR Interface 999-3018-000 (North America) CeilingVIEW HD-18 DocCAM with Quick-Connect SR Interface 999-3018-001(International) CeilingVIEW HD-18 DocCAM with Quick-Connect DVI/HDMI SR Interface 999-3028-000 (North America) CeilingVIEW HD-18 DocCAM with Quick-Connect DVI/HDMI SR Interface 999-3028-001 (International) • Optional CCU: CCU Image Controller 999-1105-023 (North America and Int'l) • Optional Gypsum Board/Hard Ceiling Mounting Kit: 998-22225-052 (North America and Int'l)
Image Device/Pixels	1/3" CCD approximately 1.3 Megapixel
Lens / Focal Length	18x Optical Zoom Lens, f=4.7 to 84.6mm
Horiz. Viewing Angle	3.2 to 55.2 degrees - 16:9 Format
Min. Object Distance	1.0m (39.37") Tele End
Minimum Illumination	1.8 LUX (F1.6, 50IRE)
Serial Control Protocol	RS-232 (Modified VISCA)
HD Resolutions	1080p/60/59.94/50/30/25, 1080i/59.94/50, 720p/59.94/50 (SD Resolutions Not Supported)
RGBHV Resolutions	1024 x 768@60Hz (4:3), 1280 x 720@60HZ (16:9), 1680 x 1050@60Hz (16:10) RGBHV overrides YPbPr & DVI-D
Dimensions (H x W x D):	Camera Module: 4.75" (120.65mm) H x 8"(203.2mm) W x 8" (203.3mm) D
Weight	Camera Module, Trim Ring and Aluminum Tile Support Brace: 5.05 lbs (2.2906416999999997 kg - actual)
Cat. 5e Cable Distance	Up to 100' (30.5m) for Video, Power and Control
Power Supply	24 VDC, 2.0 Amp PowerRite Power Supply with AC Cord Sets
Origin	Made in the USA (Minneapolis/St. Paul, Minnesota)
Quick-Connect SR Systems (Quick-Connect DVI/HDMI SR Interface and HD-18 Quick-Connect SR Interface)	
YPbPr Support (Analog Component)	**Quick-Connect SR Interface - 999-3018-000 and 999-3018-001 Packages** YPbPr Out: DE-15F Connector, Resolution set at camera 1/3-Rack Size - Accessory Rack Panel Option: 998-6000-002 **Connectors:** • Power Connector: 5.5mm OD x 2.5mm ID, Positive Center • RS-232 IN RJ-45: Accepts RS-232 from ProductionVIEW or other non-daisy-chain control systems • RS-232 OUT RJ-45: To CeilingVIEW HD-18 DocCAM • Video RJ-45: Transports power to CeilingVIEW HD-18 DocCAM and returns HSDS video from camera • YPbPr Out: DE-15F Connector, Resolution set at camera
DVI-D/HDMI and YPbPr Support	**Quick-Connect DVI/HDMI SR Interface - 999-3028-000 and 999-3028-001 Packages** 1/2-Rack Size - Accessory Rack Panel Option: 998-6000-003 Accessory DVI-D to HDMI Cables: 440-5463-001 (1m) and 440-5643-003 (3m) **Connectors:** Power Connector: 5.5mm OD x 2.5mm ID, Positive Center • RS-232 IN RJ-45: Accepts RS-232 from ProductionVIEW or other non-daisy-chain control systems • RS-232 OUT RJ-45: To CeilingVIEW HD-18 DocCAM • Video RJ-45: Transports power to the CeilingVIEW HD-18 DocCAM and returns HSDS video from camera • YPbPr Out: DE-15F Connector, Resolution set at camera • DVI-D Out: HDMI (v1.3 with deep color) Transmitter and DVI v1.0 Compliant, Resolutions up to 1080p/60 supported • Recessed switch toggles between YCbCr (HDMI and YPbPr) and sRGB Color Space for use with DVI 1.0 Only Monitors • DCCE - Daisy Chain Control Emulation Port: RJ-45 Connector

CeilingVIEW HD-18 DocCAM Connectors and Pin-out Detail:

The connections on the top of the camera enclosure are as follows:
1) One (1) RJ-45 connector for RS-232 communication and IR Out
2) One (1) RJ-45 connector for Power/Video to be connected to the Quick-Connect HD-18 SR or Quick-Connect DVI/HDMI SR Interface.

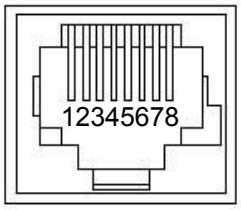
- **RS-232/IR OUT RJ-45:**
  This jack provides for RS-232 bi-directional control and IR Out for IR Forwarding of 3rd party IR Remotes to control codecs. Generally, the main camera in a system may have the requirement for IR Forwarding, but for added flexibility, the CeilingVIEW HD-18 also can forward the IR commands from other IR Remotes (for example Polycom, LifeSize and Cisco/TANDBERG C-Series codec remotes).

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



- **Power/Video RJ-45:**
  The Power/Video Port supplies power to the CeilingVIEW HD-18 DocCAM and returns HSDS (differential HD Video) up to 100’ (30.5m).

Pin	Function
1)	Power+
2)	Power-
3)	Y+
4)	PB+
5)	PB GND
6)	Y GND
7)	PR+
8)	PR-



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
- Outside in direct sunlight or outer space

Compliance and CE Declaration of Conformity - CeilingVIEW HD-18 DocCAM

Compliance testing was performed to the following regulations:

- **FCC Part 15, Subpart B** Class A
- **ICES-003, Issue 4: 2004** Class A
- **European Standard EN 55022 A: 2006 + A1: 2007(CISPR 22:2005/A1:2005)** Class A
- **AS/NZS CISPR 22: 2009** Class A
- **Korean Requirements KN22**: KCC Notice Number 2009-27 Class A
- **VCCI V-3/2010.04** Class A
- **EMC Directive 2004/108/EC** Class A

MADE IN THE USA

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.

Industry Canada Industrie Canada

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'emet pas de bruits radioélectriques dépassant les limites applicables aux appareils numeriques de la classe A préscrites dans le Règlement sur le brouillage radioélectrique édicte par le ministère des Communications du Canada.

CE

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: 2006 + A1: 2007 (CISPR 22:2005/A1:2005)	Conducted and Radiated Emissions
EN 55024: 1998 + Amendments A1: 2001 + A2: 2003	Immunity
• EN 61000-4-2: 1995 + Amendments A1: 1998 + A2: 2001	Electrostatic Discharge
• EN 61000-4-3: 2006 + A1: 2008	Radiated Immunity
• EN 61000-4-4: 2004 + Corrigendum 2006	Electrical Fast Transients
• EN 61000-4-5: 2006	Surge Immunity
• EN 61000-4-6: 2009	Conducted Immunity
• EN 61000-4-8: 2010	Power Frequency Magnetic Field
• EN 61000-4-11: Second Edition: 2004	Voltage Dips, Interrupts and Fluctuations

Korean Requirements:

- Korean Standard KN 61000-4-2 with KCC Notice No. 2009-27
- Korean Standard KN 61000-4-3 with KCC Notice No. 2009-27
- Korean Standard KN 61000-4-4 with KCC Notice No. 2009-27
- Korean Standard KN 61000-4-5 with KCC Notice No. 2009-27
- Korean Standard KN 61000-4-6 with KCC Notice No. 2009-27
- Korean Standard KN 61000-4-8 with KCC Notice No. 2009-27
- Korean Standard KN 61000-4-11 with KCC Notice No. 2009-27

Compliance and CE Declaration of Conformity
Quick-Connect DVI/HDMI SR Interface

Compliance testing was performed to the following regulations:

- **FCC Part 15, Subpart B** Class A
- **ICES-003, Issue 4: 2004** Class A
- **European Standard EN 55022 A: 2006 + A1: 2007(CISPR 22:2005/A1:2005)** Class A
- **EMC Directive 2004/108/EC** Class A

MADE IN THE USA

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.

Industry Canada Industrie Canada

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'emet pas de bruits radioélectriques dépassant les limites applicables aux appareils numeriques de la classe A préscrites dans le Règlement sur le brouillage radioélectrique édicte 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.

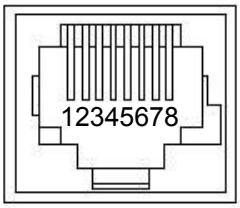
Standard(s) To Which Conformity Is Declared:
EMC Directive 2004/108/EC
European Standard EN 55024: 1998 + Amendments A1: 2001 + A2: 2003 - Immunity
European Standard EN 55022 A: 2006+A1 2007 (CISPR 22:2005/A1:2005) Conducted and Radiated Emissions
EN 61000-4-2 Electrostatic Discharge
EN 61000-4-3 Radiated 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

To strictly comply with the EMC Directive, it is recommended that the supplied ferrite cylinders are applied to the cables as described below:

- One (1) Laird Technologies 28A2432-0A2 Clamp-on Ferrite Cylinder (If using the IR Forwarding Function, wrap IR forwarding LED wires twice before screwing stripped wire ends to 3 conductor Molex 5.0mm Euro Jack)
- Two (2) Laird Technologies 28A0640-0A2 Clamp-on Ferrite Cylinder (Clamp around 0.8" diameter shielded DVI cable at the Quick-Connect end)
- One (1) Laird Technologies HFA163090-0A2 Clamp-on Ferrite Cylinder (Clamp around 0.8" diameter shielded DVI Cable at the Monitor end).

CeilingVIEW HD-18 DocCAM 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)
5)	IR Ground (Diff Signal to Quick-Connect)
6)	GND
7)	RXD (from TXD of control source)
8)	TXD (to RXD of control source)

NOTE: The Vaddio CeilingVIEW HD-18 DocCAM 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 CeilingVIEW HD-18 DocCAM specific commands in the following Command and Inquiry Lists.

CeilingVIEW HD-18 DocCAM - Command List (1/2)

Command Set	Command	Command Packet	Comments
AddressSet	Broadcast	88 30 01 FF	Address Set
IF_Clear	Broadcast	88 01 00 01 FF	I/F Clear
CommandCancel		81 2p FF	p: Socket No(=1 to2)
CAM_Power	On Off	81 01 04 00 02 FF 81 01 04 00 03 FF	Power On/Off
CAM_Zoom	Stop Tele(Standard) Wide(Standard) Tele(Variable) Wide(Variable) Direct Direct(Variable)	81 01 04 07 00 FF 81 01 04 07 02 FF 81 01 04 07 03 FF 81 01 04 07 2p FF 81 01 04 07 3p FF 81 01 04 47 0p 0q 0r 0s FF 81 01 7E 01 4A 0V 0p 0q 0r 0s FF	 p:0(Slow) to 7(Fast) p:0(Slow) to 7(Fast) pqrs: Zoom Position* V:(Speed) 0-7
CAM_Focus	Stop Far(Standard) Near(Standard) Far(Variable) Near(Variable) AutoFocus ManualFocus Auto/Manual	81 01 04 08 00 FF 81 01 04 08 02 FF 81 01 04 08 03 FF 81 01 04 08 2p FF 81 01 04 08 3p FF 81 01 04 38 02 FF 81 01 04 38 03 FF 81 01 04 38 10 FF	 Supported as ‘Standard’ Supported as ‘Standard’
CAM_WB	Auto Manual	81 01 04 35 00 FF 81 01 04 35 05 FF	
CAM_RGain	Reset Up Down Direct	81 01 04 03 00 FF 81 01 04 03 02 FF 81 01 04 03 03 FF 81 01 04 43 00 0p 0q 0r FF	 pqr:000-1ff
CAM_BGain	Reset Up Down Direct	8x 01 04 04 00 FF 8x 01 04 04 02 FF 81 01 04 04 03 FF 81 01 04 44 00 0p 0q 0r FF	 pqr:000-1ff
CAM_AE	Full Auto Manual Shutter Priority Iris Priority Bright	81 01 04 39 00 FF 81 01 04 39 03 FF 81 01 04 39 0A FF 81 01 04 39 0B FF 81 01 04 39 0D FF	Auto Exposure Mode Manual Control Mode Shutter Priority Mode Exposure Priority Mode (default) AGC Priority Mode
CAM_Iris	Reset Up Down Direct	81 01 04 0B 00 FF 81 01 04 0B 02 FF 81 01 04 0B 03 FF 81 01 04 4B 00 00 0p 0q FF	 pq(0x00-0x11)
CAM_Gain	Reset Up Down Direct	81 01 04 0C 00 FF 81 01 04 0C 02 FF 81 01 04 0C 03 FF 81 01 04 4C 00 00 0p 0q FF	 pq(0x00-0x1E)

CeilingVIEW HD-18 DocCAM - Command List (2/2)

Command Set	Command	Command Packet	Comments
CAM_Backlight	On Off	81 01 04 33 02 FF 81 01 04 33 03 FF	
CAM_Aperture	Reset Up Down Direct	81 01 04 02 00 FF 81 01 04 02 02 FF 81 01 04 02 03 FF 81 01 04 42 00 00 0p 0q FF	Aperture Control pq(0x00-0x3F)
CAM _Freeze	On Off	81 01 04 62 02 FF 81 01 04 62 03 FF	Freeze On/OFF
CAM_PictureEffect	Off Neg.Art B&W	81 01 04 63 00 FF 81 01 04 63 02 FF 81 01 04 63 04 FF	Picture Effect Setting
CAM_Memory	Reset Set Recall	81 01 04 3F 00 0p FF 81 01 04 3F 01 0p FF 81 01 04 3F 02 0p FF	p:Memory No(=0-0xf)
CAM_IDWrite		81 01 04 22 0p 0q 0r 0s FF	pqrs:Camera ID(==0000 – FFFF)
IR_Receive	On Off On/Off	81 01 06 08 02 FF 81 01 06 08 03 FF 81 01 06 08 10 FF	
Preset Zoom Speed	Zoom Speed	81 01 7E 01 0B 00 00 ZZ FF	ZZ:Zoom Speed(0-7);
BLK.Enhance	Pedestal	81 01 7E 53 00 00 0p 0q FF	pq: Black Level (0x01-0xFD)
GMA.Enhance	Gamma	81 01 7E 54 00 00 0p 0q FF	pq: Gamma (0x00-0x8F)
CRM.Enhance	Chroma	81 01 7E 55 00 00 0p 0q FF	pq: Chroma (0x08-0x1F)
KNE.Enhance	Knee	81 01 7E 56 00 00 0p 0q FF	pq: Knee (0x0-07F)
CAM_Shutter	Reset Up Down Direct	81 01 04 0A 00 FF 81 01 04 0A 02 FF 81 01 04 0A 03 FF 81 01 04 4A 00 00 0p 0q FF	(Only supported in Shutter Priority Mode) Pq: 0x00-0x0E
CAM_ExpComp	On Off Reset Up Down Direct	81 01 04 3E 02 FF 81 01 04 3E 03 FF 81 01 04 0E 00 FF 81 01 04 0E02 FF 81 01 04 0E 03 FF 81 01 04 4E 00 00 0p 0q FF	AutoExposure Off AutoExpouse On Pq: 0x00-0x1E
CAM_ICR Cut Filter	ICR On ICR Off	81 01 04 01 02 FF 81 01 04 01 03 FF	ICR On ICR Off
CAM_LaserPointer	ON OFF Toggle	81 01 04 2F 02 FF 81 01 04 2F 03 FF 81 01 04 2F 01 FF	ON OFF Toggle - Momentary

CeilingVIEW HD-18 DocCAM - Inquiry List (1/1)

Inquiry Command	Command	Command Packet	Comments
CAM_PowerInq	81 09 04 00 FF	y0 50 02 FF y0 50 03 FF	On Off(Standby)
CAM_ZoomPosInq	81 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqr: Zoom Position
CAM_FocusModeInq	81 09 04 38 FF	Y0 50 02 FF Y0 50 03 FF	Auto Focus Manual Focus
CAM_WBModeInq	81 09 04 35 FF	y0 50 00 FF y0 50 05 FF	Auto Manual
CAM_RGain	81 09 04 43 FF	y0 50 00 0p 0q 0r FF	pqr:000-1ff
CAM_BGain	81 09 04 44 FF	y0 50 00 0p 0q 0r FF	pqr:000-1ff
CAM_AEModeInq	81 09 04 39 FF	y0 50 00 FF y0 50 03 FF	Auto Exposure Mode Manual Control Mode
CAM_Iris	81 09 04 4B FF	y0 50 00 00 0p 0q FF	pq(0x00-0x11)
CAM_Gain	81 09 04 4C FF	y0 50 00 00 0p 0q FF	pq(0x00-0x1E)
CAM_BacklightModeInq	81 09 04 33 FF	y0 50 02 FF y0 50 03 FF	On Off
CAM_ApertureInq	81 09 04 42 FF	y0 50 00 00 0p 0q FF	pq(0x00-0x3F)
CAM_FreezeModeInq	81 09 04 62 FF	y0 50 02 FF	Freeze Mode On Freeze Mode Off
CAM_ PictureEffectModeInq	81 09 04 63 FF	y0 50 00 FF y0 50 02 FF y0 50 04 FF	Picture Effects Off Neg. Art On B&W On
CAM_MemoryInq	81 09 04 3F FF	y0 50 0p FF	p:Memory No(=0-0xf)
CAM_IDInq	81 09 04 22 FF	y0 50 0p 0q 0r 0s FF	pqrs:(0000 – FFFF)
CAM_IR_ReceiveInq	81 09 06 08 FF	y0 50 02 FF y0 50 03 FF	On Off
PresetSpeedInq	81 09 7E 01 0B FF	y0 50 00 00 ZZ FF	ZZ:Zoom Speed(0-7);
BLK.Enhance	81 01 7E 53 FF	y0 50 00 00 0p 0q FF	pq: Black Level (0x01-0xFD)
GMA.Enhance	81 01 7E 54 FF	y0 50 00 00 0p 0q FF	pq: Gamma (0x00-0x8F)
CRM.Enhance	81 01 7E 55 FF	y0 50 00 00 0p 0q FF	pq: Chroma (0x08-0x1F)
KNE.Enhance	81 01 7E 56 FF	y0 50 00 00 0p 0q FF	pq: Knee (0x0-07F)
CAM_AEModeInq	81 09 04 39 FF	y0 50 00 FF y0 50 03 FF y0 50 0A FF y0 50 0B FF y0 50 0D FF	Auto Exposure Mode Manual Control Mode Shutter Priority Mode Exposure Priority Mode AGC Priority Mode
CAM_ShutterPosInq	81 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: ShutterPosition (Only supported in Shutter Priority Mode)
CAM_ExpCompModeInq	81 09 04 3E FF	y0 50 02 FF y0 50 03 FF	On - AE Mode Off Off - AE Mode On
CAM_ExpCompPosInq	81 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Pos -Iris Position
CAM_ICRModeInq	81 09 04 01 FF	y0 50 02 FF y0 50 03 FF	ICR On ICR Off
CAM_VersionInq	81 09 00 02 FF	Y0 50 00 01 mn pq rs tu vw FF	mnpq: Model Code(0504) rstu: ROM version(0e0e) vw: Socket Number(=2)
CAM_LaserPointerInq	81 09 04 2F FF	Y0 50 02 FF Y0 50 03 FF Y0 50 01 FF	ON OFF Toggle - Momentary

CeilingVIEW HD-18 DocCAM Notes:

Inside Back Cover - Blank

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