Installation Guide for

PrimeSHOT 20 HDMI

PTZ Camera

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Overview

This guide covers the PrimeSHOT™ 20 HDMI PTZ camera:

- PrimeSHOT 20 HDMI (black), North America – 999-30420-000
- PrimeSHOT 20 HDMI (white), North America – 999-30420-000W
- PrimeSHOT 20 HDMI (black), Europe and UK – 999-30420-001
- PrimeSHOT 20 HDMI (white), Europe and UK– 999-30420-001W
- PrimeSHOT 20 HDMI (black), Australia and New Zealand – 999-30420-009
- PrimeSHOT 20 HDMI (white), Australia and New Zealand – 999-30420-009W
- PrimeSHOT 20 HDMI (black) with HDMI Extenders, North America – 999-30420-300
- PrimeSHOT 20 HDMI (white) with HDMI Extenders, North America – 999-30420-300W
- PrimeSHOT 20 HDMI (black) with HDMI Extenders, Europe and UK – 999-30420-301
- PrimeSHOT 20 HDMI (white) with HDMI Extenders, Europe and UK – 999-30420-301W
- PrimeSHOT 20 HDMI (black) with HDMI Extenders, Australia and New Zealand – 999-30420-309
- PrimeSHOT 20 HDMI (white) with HDMI Extenders, Australia and New Zealand – 999-30420-309W

What's in this Guide

This guide covers:

- Unpacking the camera
- Tips for a successful installation
- Instructions for installing the camera mount
- Information on connecting and mounting the camera
- Camera power-on

Complete product information is available in the **Integrator's Complete Guide to the PrimeSHOT 20 HDMI PTZ Camera**.

Features

- PTZ camera for medium to large venues such as houses of worship and lecture theaters
- 2.12 Megapixel effective, native 1080p/60 full HD image sensor
- 20x optical zoom, 55° horizontal field of view (wide end)
- Simultaneous HDMI 1.3, S-Video, and IP streaming outputs
- Precise pan and tilt movements at up to 90° per second
- Presenter-friendly IR remote control
- Integration-ready Telnet or serial RS-232 control
- Full administrative control via web interface; manage the camera remotely while monitoring the stream separately

Unpacking the Camera

Make sure you received all the items you expected.

Caution

Always support the camera's body when lifting or moving it. Lifting the camera by its head or mounting arm will damage it.

999-30420-000 – PrimeSHOT 20 HDMI (black), North America

999-30420-000W – PrimeSHOT 20 HDMI (white), North America

999-30420-001 – PrimeSHOT 20 HDMI (black), Europe and UK

999-30420-001W – PrimeSHOT 20 HDMI (white), Europe and UK

999-30420-009 – PrimeSHOT 20 HDMI (black), Australia and New Zealand

999-30420-009W – PrimeSHOT 20 HDMI (white), Australia and New Zealand

- PrimeSHOT 20 HDMI camera
- Thin Profile Wall Mount with mounting hardware
- Vaddio IR Remote Commander
- 12 VDC, 3.0 Amp power supply with AC cord set(s)
- EZCamera RS-232 control adapter
- Quick-Start Guide

999-30420-300 – PrimeSHOT 20 HDMI (black) with HDMI Extender, North America

999-30420-300W – PrimeSHOT 20 HDMI (white) with HDMI Extender, North America

999-30420-301 – PrimeSHOT 20 HDMI (black) with HDMI Extender, Europe and UK

999-30420-301W – PrimeSHOT 20 HDMI (white) with HDMI Extender, Europe and UK

999-30420-309 – PrimeSHOT 20 HDMI (black) with HDMI Extender, Australia and New Zealand

999-30420-309W – PrimeSHOT 20 HDMI (white) with HDMI Extender, Australia and New Zealand

- PrimeSHOT 20 HDMI camera
- Thin Profile Wall Mount with mounting hardware
- Vaddio IR Remote Commander
- 12 VDC, 3.0 Amp power supply with AC cord set(s)
- EZCamera RS-232 control adapter
- Quick-Start Guide
- C2G HDMI Extender Transmitter unit
- C2G HDMI Extender Receiver unit
- 5VDC 1.0A Extender power supply with regional plugs, quantity 2
- 1 ft (0.3 m) HDMI cable
- C2G HDMI Extenders User Booklet

A Quick Look at the Camera

This section covers the physical features of the camera.

Front of the Camera

Camera and Zoom Lens: The PrimeSHOT 20 HDMI camera features a 20x optical zoom lens.

IR sensor: Receives signals from the IR remote. Make sure there's nothing directly in front of the camera base, and point the remote at the camera.

Status light: The multi-colored LED indicates the camera's current state. This light can be turned off.

- Blue – Camera is active
- Red – Tally
- Purple – Standby mode or booting
- Yellow – Firmware update is in progress
- Blinking red – Video mute is on (UC color scheme only)
- Blinking yellow – Motor out of calibration
- Blinking purple – Error

Note

By default, the camera's status light is active during normal operation; however, it can be configured to remain off when the camera is powered up. The camera may be sending video even if the indicator light is off.

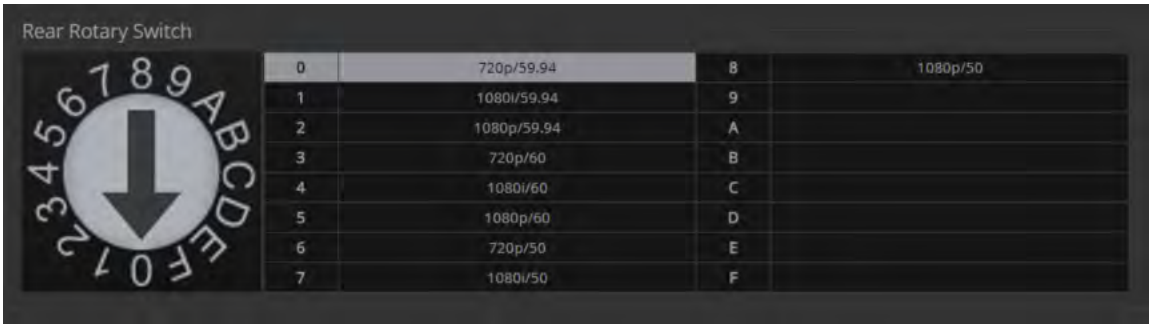
Back of the Camera

From left to right:

- **Power connector** – Connect the 12 VDC, 3 A power supply shipped with the camera.
- **Rotary switch** – Select the video output resolution.
- **Ethernet connector** – Connect to the network.
- **RS-232 connector** – Optional. Connect to a camera controller to manage the camera.
- **S-Video connector** – S-Video output; can be set to NTSC or PAL.
- **HDMI connector** – HDMI 1.3 video output.

Video Resolution Setting

Use the rotary switch on the back of the camera to set the desired HDMI output resolution.



The S-Video output can be set to PAL or NTSC in the administrative interface (see Setting Other Camera Behaviors). Default is NTSC.

Installation

This section covers:

- Selecting the location for the camera
- Installing the mount
- Connecting the camera
- Mounting the camera

Before You Install the Camera

- Choose a mounting location that will optimize camera performance. Consider camera viewing angles, lighting conditions, line-of-sight obstructions, and in-wall obstructions where the camera is to be mounted.
- Ensure that the camera body can move freely and will normally point away from the ceiling and lights. The camera will not perform well if it is pointed toward a light source such as a light fixture or window.
- Follow the installation instructions included with the camera mount.

Don't Void Your Warranty!

Caution

This product is for indoor use. Do not install it outdoors or in a humid environment without the appropriate protective enclosure. Do not allow it to come into contact with any liquid.

Use only the power supply included with this product. Using a different one will void the warranty, and could create unsafe operating conditions or damage the product.

Do not install or operate this product if it has been dropped, damaged, or exposed to liquids. If any of these things happen, return it to Vaddio for safety and functional testing.

Cabling Notes

Note

Use standard RJ-45 connectors and a good crimping tool. Do not use pass-through RJ-45 connectors. Poorly crimped connectors can damage the connectors on the product, cause intermittent connections, and degrade signal quality. Test cable pin-outs and continuity before connecting them.

Intact – will make reliable contact with cable connector

Damaged – Bent contact fingers will NOT make reliable contact with cable connector

Pro Tip

Label all cables at both ends.

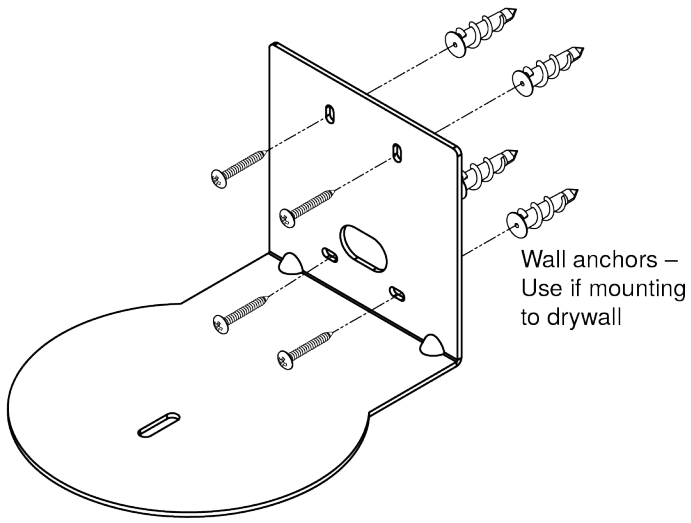
Installing the Thin Profile Wall Mount

The PrimeSHOT 20 HDMI camera is shipped with a Thin Profile Wall Mount. Other mounting options are available as well. Contact us if you don't have the camera mount you need.

You can install the camera wall mount to a 2-gang wall box or directly to the drywall.

- If you mount it to drywall, use the wall anchors provided with the wall mount.
- If you mount it to a wall box, use the cover plate screws supplied with the wall box.

If you install the camera wall mount to drywall, use the wall anchors provided with the mount.



About Ceiling-Mounted Cameras

If you use an inverted mount, set the camera's Image Flip soft DIP switch ON.

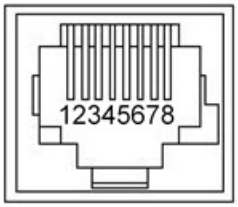
Basic Connection Diagram

The Quick-Start Guide for the PrimeSHOT 20 HDMI PTZ Camera provides additional information.

RS-232 Serial Communication

The RS-232 serial port (RJ-45, color-coded blue) on the camera's back panel enables third-party control.

Parameter	Value
Communication Speed	9600 bps (default)
Number of start bits	1
Number of stop bits	1
Number of data bits	8
Parity	None
Flow control	None



Connector pin-out:

- Pin 1: Not used
- Pin 2: Not used
- Pin 3: Not used
- Pin 4: Not used
- Pin 5: Not used
- Pin 6: GND
- Pin 7: RXD (from TXD of control source)
- Pin 8: TXD (to RXD of control source)

Caution:
Check Cat-5 cables for continuity before using them. Using the wrong pin-out may damage the camera system and void the warranty. Pro tip: Label your cables.

Installing the Camera

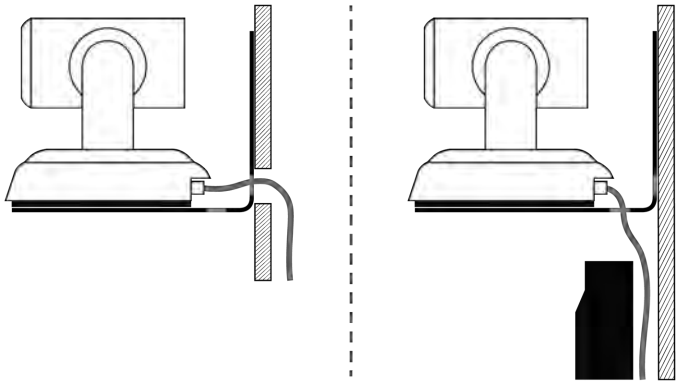
Caution
Before you start, be sure you can identify all cables correctly. Connecting a cable to the wrong port can result in equipment damage.

Caution:
Check Cat-5 cables for continuity before using them. Using the wrong pin-out may damage the camera system and void the warranty. Pro tip: Label your cables.

1. Verify that you have set the switch on the back of the camera to the desired video resolution.
2. Route the cables through the opening in the mounting shelf and connect them to the camera.

   Caution:
   Use the power supply shipped with the camera. Using a different power supply will damage the camera and void the warranty, and may create an unsafe operating condition.

3. Place the camera on the mount.



4. Attach the camera to the mount using the mounting screw supplied with the camera.

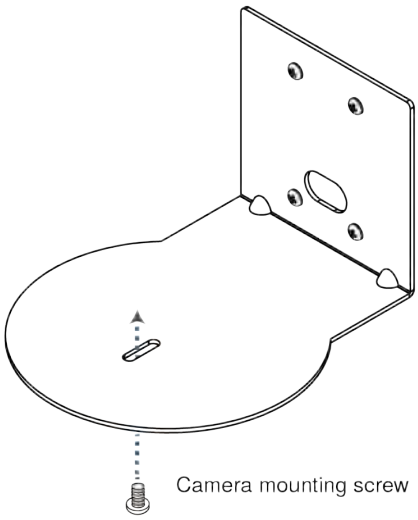


Image for illustration only; not to scale. Camera and mount details may differ.

Note
If the camera is jostled or bumped, it may require a pan-tilt reset.

Powering Up the Camera

Connect camera power.

The camera will initialize and move. This will take a few seconds. When an image is available, the camera is ready to accept control information.

Status Light

The light in the camera's base indicates its current state.

- Blue – Camera is active
- Purple – Standby mode or booting
- Yellow – Firmware update is in progress
- Blinking red – Video mute is on (UC color scheme only)
- Blinking yellow – Motor out of calibration
- Blinking purple – Error

Caution

Do not remove power or reset the camera while the indicator is yellow, showing a firmware update in progress. Interrupting a firmware update can make the camera unusable.

Note

By default, the camera's status light is active during normal operation; however, it can be configured to remain off when the camera is powered up. The camera may be sending video even if the indicator light is off.

Next Steps

The camera is now ready to configure and use. This information is available in the **Configuration and Administration Guide for the PrimeSHOT 20 HDMI PTZ Camera**. It is also included in the **Complete Manual for the PrimeSHOT 20 HDMI PTZ Camera**.

Operation, Storage, and Care

For smears or smudges on the product, wipe with a clean, soft cloth. Use a lens cleaner on the lens. Do not use any abrasive chemicals.

Keep this device away from food and liquids.

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

- Temperatures above 40°C (104°F) or below 0°C (32°F)
- High humidity, condensing or wet environments
- Inclement weather
- Severe vibration
- Between converging tectonic plates
- Dry environments with an excess of static discharge

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

Compliance Statements and Declarations of Conformity

Compliance testing was performed to the following regulations:

FCC Part 15 (15.107, 15.109), Subpart B	Class A
ICES-003, Issue 54: 2012	Class A
EMC Directive 2004/108/EC	Class A
EN 55032: 2015	Class A
EN 55024: November 2010	Class A
KN22 2008 (CISPR 22: 2006)	Class A
KN24 2008 (CISPR 24: 1997 + A1: 2000 + A2: 2002)	Class A
IEC 60950-1:2005 (2nd Edition); Am 1: 2009 + Am 2: 2013	Safety
EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 + A2: 2013	Safety

FCC Part 15 Compliance

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

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by Vaddio can affect emission compliance and could void the user's authority to operate this equipment.

ICES-003 Compliance

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

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

European Compliance

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

Standard(s) To Which Conformity Is Declared:

CE

EMC Directive 2004/108/EC	
EN 55022: December 2010	Conducted and Radiated Emissions
EN 55024: November 2010	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: 2004	Voltage Dips, Interrupts and Fluctuations
KN22 2008 (CISPR 22: 2006)	Conducted and Radiated Emissions
KN24 2008 (CISPR 24: 1997 + A1: 2000 + A2: 2002)	IT Immunity Characteristics
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
IEC 60950-1: 2005 (2nd Edition); Am 1: 2009 + Am 2: 2013	Safety
EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12: 2011 + A2: 2013	Safety

Warranty Information

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

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

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

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

Vaddio Technical Support: Vaddio technicians will determine and discuss with the customer the criteria for repair costs and/or replacement. Vaddio Technical Support can be contacted by email at support@vaddio.com or by phone at one of the phone numbers listed on support.vaddio.com.

Return Material Authorization (RMA) number: Before returning a product for repair or replacement request an RMA from Vaddio's technical support. Provide the technician with a return phone number, e-mail address, shipping address, product serial numbers and original purchase order number. Describe the reason for repairs or returns as well as the date of purchase. See the General RMA Terms and Procedures section for more information. RMAs are valid for 30 days and will be issued to Vaddio dealers only. End users must return products through Vaddio dealers. Include the assigned RMA number in all correspondence with Vaddio. Write the assigned RMA number clearly on the shipping label of the box when returning the product. All products returned for credit are subject to a restocking charge without exception. Special order product are not returnable.

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

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

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

Photo Credits

This guide may include some or all of these photos.

European Space Agency (ESA) astronaut Samantha Cristoforetti, a Flight Engineer with Expedition 42, photographs the Earth through a window in the Cupola on the International Space Station
By NASA - https://blogs.nasa.gov/ISS_Science_Blog/2015/03/06/women-in-space-part-two-whats-gender-got-to-do-with-it/, Public Domain, https://commons.wikimedia.org/w/index.php?curid=38834990

Carl Sagan, Bruce Murray, Louis Friedman (founders) and Harry Ashmore (advisor), on the occasion of signing the papers formally incorporating The Planetary Society
By credit NASA JPL - JPL, Public Domain, https://commons.wikimedia.org/w/index.php?curid=1180927

Main Control Room / Mission Control Room of ESA at the European Space Operations Centre (ESOC) in Darmstadt, Germany
By European Space Agency - ESOC flickr, Credit: ESA - Jürgen Mai, CC BY-SA 3.0-igo, https://commons.wikimedia.org/w/index.php?curid=36743173

Expedition 42 on orbit crew portrait, International Space Station, Mar. 7, 2015 – Barry Wilmore (Commander) Top, Upside down, to the right cosmonaut Elena Serova, & ESA European Space Agency Samantha Cristoforetti. Bottom center US astronaut Terry Virts, top left cosmonauts Alexander Samokutyaev and Anton Shkaplerov.
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European Space Agency astronaut Luca Parmitano, Expedition 36 flight engineer, outside the International Space Station
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Chris Cassidy, Luca Parmitano, and Karen Nyberg, ISS, 2013. Photo Credit: NASA

Nicolas Altobelli, Rosetta Scientist at ESA's European Space Astronomy Centre, Villanueva de la Cañada, Madrid, Spain
By European Space Agency - Nicolas Altobelli talks to the media, CC BY-SA 3.0-igo, https://commons.wikimedia.org/w/index.php?curid=36743144

Andrea Accomazzo, ESA Rosetta Spacecraft Operations Manager, providing a live update from the Main Control Room at ESA's European Space Operations Centre, Darmstadt, Germany during the Rosetta wake-up day.
By European Space Agency - Live update from the Main Control Room, CC BY-SA 3.0-igo, https://commons.wikimedia.org/w/index.php?curid=36743150

Sleeping goose
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Visit us at support.vaddio.com for firmware updates, specifications, drawings, manuals, technical support information, and more.
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In British Columbia, Milestone AV Technologies ULC carries on business as MAVT Milestone AV Technologies ULC.
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