

# CLEARVIEW™ HD-20

## High Definition Integrated Robotic PTZ Camera

The remarkable Vaddio™ ClearVIEW HD-20 high definition integrated robotic PTZ camera features a 20X optical zoom lens and is built around a 6.49mm diagonal (1/2.8 Type) high-speed CMOS image sensor with a total of 3.27M pixels for truly precise and clean HD video image acquisition.

In the past, CMOS image sensors in PTZ robotic cameras were light hungry with less clarity than CCD image sensor technology. But in order to get a 1920x1080 high definition signal out of the CCD sensor, extra signal processing and scaling was required to produce HD video at those resolutions. Today, using an increased pixel aperture size, high frame rate, high signal to noise and column-parallel A/D conversion method, the resolution, saturation and the sensitivity of the CMOS sensor are increased. The HD-20 achieves improved picture quality even in low light environments requiring a minimum illumination of just 1.6 LUX.

The HD-20 is smaller and more compact than the preceding ClearVIEW HD-18, and as important aside, the HD-20, does not replace the HD-18, but instead complements it, adding to the breadth and depth of the Vaddio camera product line. Significant improvements include a 20X, 11-element glass, motorized zoom lens, slip-clutch system and the new rugged HD platinum-metallic silver color.

The HD-20 outputs HD video in both analog component (YPbPr) and HDMI formats in resolutions of 1080/60i, 1080/50i, 720/60p, 720/50p, 1080/30p and 1080/25p. The HD-20 is an exceptional camera for a wide range of HD video applications such as houses of worship, corporate boardrooms, live events and distance-learning.



## WHAT'S INCLUDED

The ClearVIEW HD-20 includes the following items:

- ClearVIEW HD-20 HD PTZ Camera
- Vaddio IR Remote Commander
- RJ-45 to RS-232 Control Adapter
- 12 VDC PowerRite™ Power Supply
- Documentation

### High Definition Camera

The ClearVIEW HD-20 is a high definition output camera and has resolutions of 720p, 1080i and 1080p available. The HD-20 does not support SD output resolutions.

### Precision Motors

High-torque, micro stepper motors provide for extremely smooth panning and tilting of the camera. Recalled preset camera positions are highly accurate across the entire pan and tilt range. A smooth slip-clutch mechanism has been included to further enhance movement. The HD-20 is invertible as well, with no frame loss, for ceiling mount applications.

### Easy Integration

Using a common RS-232 protocol (VISCA®) the ClearVIEW HD-20 is easily integrated for use with videoconferencing codecs and control systems such as Crestron® and AMX®. And of course, the HD-20 is compatible with all Vaddio camera controllers.

## TECHNICAL FEATURES

### Analog Component and HDMI Outputs:

The ClearVIEW HD-20 has simultaneous YPbPr (analog) and HDMI (digital) video outputs (same resolution) on the rear of the camera for use in A/V presentation environments and videoconferencing applications.

### Quick-Connect Compatibility

The HD-20 is compatible with the HD-18 Quick-Connect - SR Interface, the Quick-Connect DVI/HDMI - SR Interface and the Quick-Connect CCU in different packages.

## TECHNICAL FEATURES (CONTINUED)

### HiLD Glass Lens

The HD-20 is equipped with a HiLD (High Index Low Dispersion) 11-element glass lens for improved images and reduced chromatic aberrations. In short, the image looks really, really good.

### Advanced Digital Signal Processing

The HD-20 has an advanced DSP which captures the original colors of the subject matter such as faces, clothing, and objects accurately.

## TECHNICAL IMAGES

### Rear Panel Connections (left to right):



- 12 VDC Coaxial (EIAJ-04) Power Connection
- HD Video Select Rotary Switch
- 10-Position Dip Switch for Camera Settings
- RJ-45 Jack for RS-232 Communication and IR out to Quick-Connect SR Systems
- HDMI Digital Video Output
- YPbPr Analog Component Output on DE-15
- RJ-45 Jack for EZPower HD Video for use with Quick-Connect SR Systems
- Blank Slot Card Cover (covers slot when no slot cards are present)

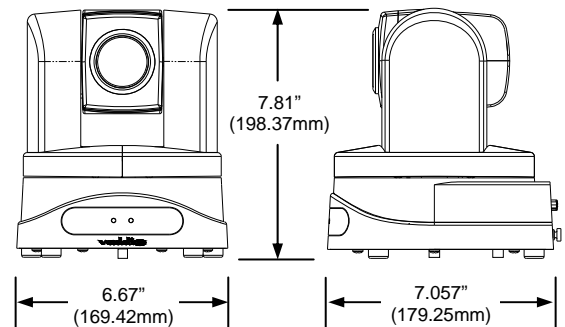
### Advanced CMOS Image Sensor

The HD-20 uses the 1/3" (or more correctly 6.49mm diagonal, 1/2.8 Type) Exmor® CMOS image sensor which is the newest technology available for CMOS sensors. The image sensor is high speed, high frame rate and low noise while requiring a minimum illumination of only 1.6 LUX.

### Made in the USA

The ClearVIEW HD-20 HD PTZ camera is made in the USA, at Vaddio, in the greater Minneapolis, Minnesota area.

### ClearVIEW HD-20 Dimensions\*:



\*Detailed dimensional drawings are available at [vaddio.com](http://vaddio.com)

## TECHNICAL SPECIFICATIONS

ClearVIEW HD-20 HD PTZ Camera	
Part Numbers	ClearVIEW HD-20 999-6950-000 (North America) ClearVIEW HD-20 999-6950-001 (International)
Image Device	6.49mm diagonal (1/2.8 Type) Exmor High-speed CMOS Image Sensor
Picture Elements	3.27M pixels (Effective)
HD Resolutions	1080/60i, 1080/50i, 720/60p, 720/50p 1080/30p and 1080/25p (SD Resolutions Not Supported)
Lens	20x Optical Zoom Lens with HiLD™ (High Index Low Dispersion) Glass, F1.6 Wide to F3.5 Tele, 11-Elements in 9-Groups
Focal Length	F=4.7mm wide to 94mm tele
Horizontal Viewing Angle	2.9 to 55.2 degrees - 16:9 Format
Video S/N Ratio	>50 dB
Invertible	Yes - Without Frame Delay
Minimum Illumination	1.6 LUX (F1.6, 50IRE)
Serial Control Protocol	RS-232 (Modified VISCA)
Pan Range	Pan: +170 degrees to -170 degrees, Tilt: +90 degrees to -30 degrees
Min. Object Distance	Wide End: .01m wide end, Tele end: 1.0m
Preset Positions	16 (internal), 6 recalled via IR Remote
Image Control	Red & Blue Gain, Detail, Chroma, Gamma, Pedestal, Iris, and Gain (available through RS-232 control)
Tally Light	Available through RS-232 Control
Connectors	<ul style="list-style-type: none"> <li>• 12 VDC Power Input: EIAJ-04 Coaxial Power Connector</li> <li>• HD Video Outputs: YPbPr on DE-15 (D-Sub 15-pin HD), HDMI</li> <li>• RS-232/IR Out: RJ-45 Jack (RS-232 Communication and IR Out (with Quick-Connect -SR Interfaces)</li> <li>• EZ Power HD Video: RJ-45 Jack, for use with HD-18 Quick-Connect - SR Interface or Quick-Connect DVI/HDMI - SR Interface. Supplies power to the camera and returns HD video from the camera to the Quick-Connect - SR Systems.</li> </ul>
HD Video Select	16-Position Rotary Switch: Used to set HD Video Resolution Output
Camera Settings	10-Position Dip Switch: Settings for IR Select, Baud Rate 9600, Image Flip, Unpublished Functions
Accessory Slot Cards	EZIM HD-SDI Slot Card PN# 998-6900-007 EZIM CCU Slot Card PN# 999-6900-006 - For Use with Quick-Connect CCU Only
<b>General Information</b>	
Operating Temperature	32° to 104° F (0° to 40° C)
Power Consumption	Maximum 25 watts (without accessory card)
Dimensions (H x W x D)	7.81" (198.37mm) x 6.67" (169.42mm) x 7.057" (179.25 mm)
Weight	5.6 lbs. (2.63083592 kg.)