

# HUAWEI Camera 200 HD Video Camera V600R019C00

## Product Description

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# About This Document

## Purpose

This document describes the positioning, features, application scenarios, and technical specifications of the Camera 200.

## Intended Audience






This document is intended for:

- Pre-sales engineers
- Technical support engineers
- Enterprise administrators
- End users

## Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol Conventions

	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.
	Calls attention to important information, best practices, and tips. NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

## Change History

Issue	Date	Description
01	2019-08-07	This issue is the first official release.
02	2019-11-28	This issue is the second official release.

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# 1 Product Positioning and Features

## 1.1 Product Positioning

This document is for Huawei video conferencing HD Camera 200, hereby referred to as the Camera 200.

The Camera 200 is an HD camera with the following features:

- Industry UHD videos
- Compatible with 4K30 fps, 4K25 fps, 1080p60, 1080p50 fps, 1080p30 fps, and 1080p25 fps
- Industry-leading video processing technology
- Automatic white balance (AWB)
- Automatic exposure (AE)
- Auto focus (AF)

The Camera 200 can work with other Huawei's video conferencing endpoints for diversified and integrated HD video conferencing solutions and full-service video conferencing applications.

The Camera 200 features a built-in lens and a silver-coated, solid-aluminum framework and integral sleeve that effectively protect the lens from collision and dust. Its contemporary look and sleek exterior project professionalism and reliability.

Figure 1-1 shows the front and Rear view of the Camera 200.

**Figure 1-1** Front and rear view of the Camera 200



The Camera 200 works with Huawei Box video conferencing endpoints and supports HD video in the 4K30 fps, 4K25 fps, 1080p60 fps, 1080p50 fps, 1080p30 fps, and 1080p25 fps formats. It works with Huawei CloudLink Meeting Client and supports HD video in 720p30 format. It also provides:

- An HDMI HD video port to connect to Huawei HD video conferencing endpoints and output HD video images
- A USB 3.0 HD video port for Huawei CloudLink Meeting Client

## 1.2 Product Features

### 1.1.1 4K30 fps UHD Camera

The Camera 200 output format defaults to 1080p 60fps for high resolution images. It supports diversified video formats (4K30 fps, 4K25 fps, 1080p60, 1080p50 fps, 1080p30 fps, and 1080p25 fps) for diverse video conferencing scenarios. It is an optimal choice for an HD video conference.

- It uses expert circuit design and the latest video enhancement algorithms for HD quality and fluency to make images with the same resolution as other cameras clearer. The camera provides an exceptional visual experience.
- It uses a highly effective algorithm for video noise reduction and a filtering solution for 3D dynamic video to reduce sensor noise. The HD video camera removes noise even in low light conditions, preserving image clarity. Compared with similar products, the Camera 200 provides better adaptability to varying light levels.

### 1.2.1 Panoramic Shooting with Ultra-Wide 80° Angle

The vertical angle of view and horizontal angle of view of the Camera 200 are 80 ° and 50 °, respectively. No other wide-angle lens accomplishes the same level of panoramic shooting for detailed displays of large conference rooms and screens.

### 1.2.2 12x Optical Zoom and Dynamic Exposure Control

The Camera 200 can focus on distant scenes or objects and provide high-quality visuals with a high-performance AF lens for 12x optical zoom.

- The unique dynamic exposure extender (DEE) control algorithm, which is based on the human visual system (HVS), guarantees correct exposures and sense of depth.
- The sensor supports a wide dynamic range (WDR) for clear images, especially when a prominent contrast exists between shaded and lit areas.

### 1.2.3 Simple Configuration and Maintenance

The Camera 200 with built-in OSD configuration is easy to configure and maintain. It supports Huawei Touch for independent camera control in HD conferences.

### 1.2.4 Perfect Control

The user-friendly HD video camera uses AWB, AE, and AF functions for intelligent image processing. These features automatically produce images with optimal exposure, focus, and colors.

The electric pan-tilt-zoom (PTZ) of the Camera 200 provides quick and quiet movements, high-precision positioning, and a wide-angle field of view.

The powerful PTZ mechanism supports a maximum panning:

- Speed of 80 °per second
- Angle of 220 °(±110 °)

It supports a maximum tilting:

- Speed of 28 °per second
- Angle of 60 °(±30 °)

With these features, the camera can complete a 220 °horizontal movement within 2.75 seconds and a 60 °vertical movement within 2.5 seconds.

## 1.2.5 Loss-Free HD Output Ports

The Camera 200 HDMI and USB ports provide connections without resolution loss.

- The HDMI port works with Box HD video conferencing endpoints and output HDMI 1.4 signals.  
4K resolution: up to 4K30 fps  
1080p resolution: up to 1080p60 fps
- The USB port supports a resolution of up to 1080p30. Working with Huawei CloudLink Meeting Client, it supports a resolution of up to 720p30 fps in a video conference.

## 1.2.6 Inverted Installation

The Camera 200 supports inverted installation and is activated by button. It has its own gravity sensor, and the OSD menu defaults to automatic mode. Consequently, the camera can be inverted and placed on a ceiling to output images with the correct orientation for convenient installation and usability.

## 1.2.7 Transmission of Infrared Signals and VISCA Remote Control Protocol

The Camera 200 can transmit infrared signals from the remote control (RC) of a TEX0 endpoint. Placement of a video conferencing endpoint behind another object may block or disrupt these infrared signals. However, users can align the RC to the camera lens and perform operations such as menu setting on the video conferencing endpoint for convenient endpoint use and maintenance.

The Camera 200 also provides a VISCA port for remote PTZ control, camera presets, exposure indexes, video output formats, denoising parameters, and other advanced parameters for endpoints. Consequently, the HD camera and the videoconferencing endpoint work as a perfect combination.

The RJ45 port on the Camera 200 is connected to the video conferencing endpoint through a VISCA cable. The VISCA cable is extendable using another cable for the connection between the Camera 200 and the endpoint if they are placed separately. The distance between them should not exceed 30 m.



# 2 Product Overview and Application

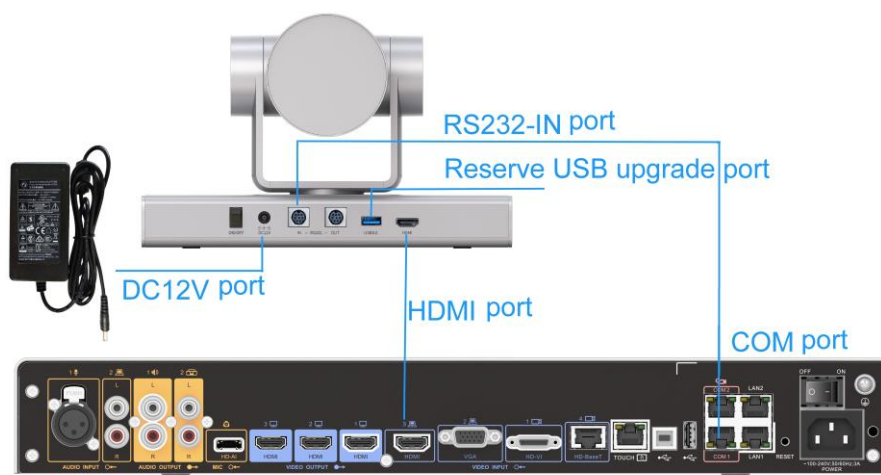
## 1.1 Overview

The HD video camera should be used with Huawei Box and Huawei CloudLink Meeting for superior 4K, 720p, or 1080p HD video conferencing solutions.

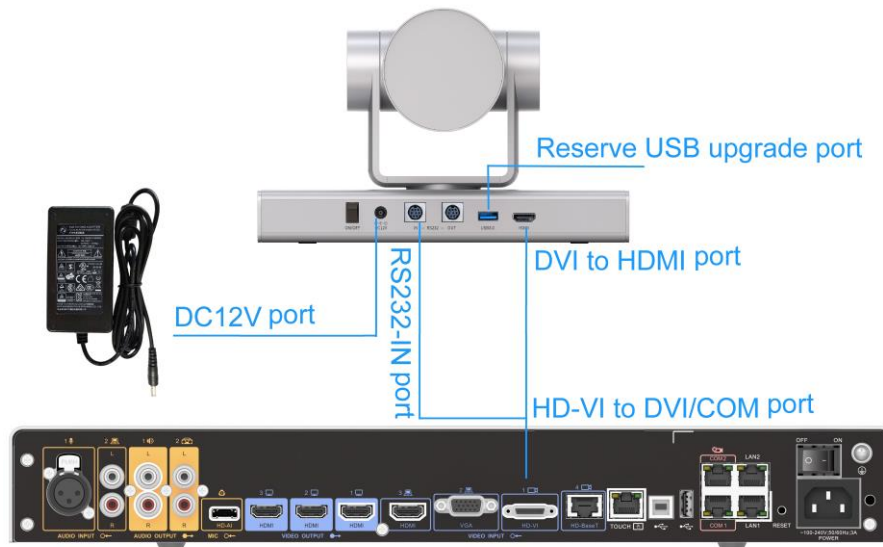
## 2.1 Application Scenario

The Camera 200 connects to Huawei Box endpoints directly with HDMI cables or HDMI cables connected by adapter as needed.

**Figure 2-1** Connection between Camera 200 and Box 500 using HDMI cables



**Figure 2-2** Connection between Camera 200 and Box 500 using HDMI cables by adapter



The Camera 200 features:

- 1080p60 or 4K resolutions with the video conferencing endpoints of Huawei Box for a superior HD conference experience
- HDMI 1.4 and USB 3.0 output ports
- Clear and high-quality visuals of distant scenes or objects with 12x optical zoom
- Inverted installation for placement on ceilings
- Advanced image algorithms for HD images with less noise and unprecedented quality

# 3 Technical Specifications

## 1.1 Technical Specifications of the Camera 200

Category	Item	Specifications
Lens	Imaging component	8.51-megapixel and 1/2.5-inch SONY IMX274 image sensor
	Optical zoom	12x
	Focal length and aperture	Focal length: $f = 3.85\text{--}43.06 \text{ mm} \pm 5\%$ Aperture: $F1.8\text{--}F3.56 \pm 5\%$
Video	Output video formats	<p>HDMI output format</p> <ul style="list-style-type: none"> <li>4K model: 4K30, 4K25, 1080p60, 1080p50, 1080p30, and 1080p25</li> <li>1080p model: 1080p60, 1080p50</li> </ul> <p>USB 3.0 supports:</p> <p>MJPEG: 1920 × 1080p30, 1280 × 720p30, 1024 × 576p30, 960 × 540p30, 800 × 448p30, 640 × 360p30, and 320 × 176p30</p> <p>YUY2: 1920 × 1080p30, 1280 × 720p30, 960 × 540p30, 640 × 360p30, 640 × 480p30, and 320 × 176p30</p> <p>H.264: 1920 × 1080p30, 1280 × 720p30, 1024 × 576p30, 960 × 540p30, 800 × 448p30, 640 × 360p30, and 320 × 176p30</p> <p>NV12: 1920 × 1080p30, 1280 × 720p30, 960 × 540p30, 640 × 360p30, 640 × 480p30, and 320 × 176p30</p>
	Maximum horizontal field of view	80 °
	Maximum vertical field of view	50 °
	Minimum illumination	3 Lux (F1.8, 50 IRE)

Category	Item	Specifications
		IRE = Institute of Radio Engineers
	Shutter speed (s)	1/25s to 1/10000s
	Local camera presets	254 (Using serial port command, set and select the preset which is saved in the camera)
PTZ	Pan	Range: $\pm 110^\circ$ Speed: 1.7°/s (Tele) to 80°/s (Wide) Repositioning accuracy: $\pm 0.1^\circ$
	Tilt	Range: $\pm 30^\circ$ Speed: 0.7°/s (Tele) to 28°/s (Wide) Repositioning accuracy: $\pm 0.1^\circ$
Automatic adjustment	Automatic white balance (AWB)	Auto, manual, and one-push
	Automatic exposure (AE)	Auto, manual, aperture priority, shutter priority, and brightness priority
	Automatic focus (AF)	Auto, manual, and one-push
Infrared remote control	Infrared signal reception	Control distance: 7 m Vertical angle: $\pm 45^\circ$ Horizontal angle: $\pm 45^\circ$
Power and power supply	Input voltage	100–240 V AC, 50 Hz or 60 Hz
	Output voltage	12 V DC
	Power	Operating: $\leq 12$ W Hibernation: $\leq 3$ W
Physical specifications	Control port rate	9600 baud
	Operating temperature	0 °C to 40 °C
	Operating humidity	10% to 90% (non-condensing)
	Operating height	$\leq 5000$ m (16,404 ft)
	Dimensions (H ×W ×D)	249 mm (H) x 139 mm (W) x 155 mm (D)
	Weight (unpacked)	1.92 kg

### 3.1 Hardware Port Specifications

Port	Description	Standards Compliance
Video output	1 HDMI OUT port for connecting to Box video conferencing endpoints	HDMI 1.4b
	1 USB 3.0 OUT port compatible with USB 2.0 and connected to the Huawei CloudLink Meeting PC client	UVC 1.1 protocol
Communications control input	1 RS232-IN port	VISCA
Communications control output	1 RS232-OUT port	VISCA
Power port	1	DC12V female socket

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# 4 Acronyms and Abbreviations

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Acronyms and Abbreviations	Full Form
TE	Telepresence Endpoint
OSD	On-screen display
AWB	Automatic White Balance
AE	Automatic Exposure
AF	Automatic Focus
720P	1280 × 720 resolution
1080p	1920 × 1080 resolution
4K	3840 × 2160 resolution