



Specification of HC-5TK12D



Series: Camera Series

Product model: HC-5TK12D

Version: v1.2

Shenzhen Horion Intelligent Technology Co., Ltd

<http://www.horion.com>



Special Instructions

- Due to the influence of product configuration and manufacturing process, there may be differences in the actual body size/body weight. Please refer to the actual product for the accurate information.
- The product illustrations in this specification are for reference only. The actual product effects (including but not limited to appearance, color, and size) may vary slightly. Please refer to the actual product for the accurate information.
- To ensure the accuracy of the information, we reserve the right to revise the written descriptions, pictures, and other contents without prior notice. All adjustments aim to match the actual performance and specifications of the product.
- The performance of the product may be affected by the usage environment, including but not limited to factors such as temperature, humidity, altitude, etc. It is recommended to use the product under the officially recommended environmental conditions.
- The product comes with a warranty card, which, together with the purchase receipt, shall serve as a valid basis for warranty. Free repair services can be enjoyed within the warranty period (excluding damages caused by force majeure or improper use).



1. Product features

The HC-5TK12D integrates a panoramic camera, close-up camera, and directional microphone array into one system. Leveraging professional voice localization and 4K image analysis technology, it achieves AI-powered binocular tracking with voice positioning. The system enables real-time, precise automatic tracking, freeing meeting participants from manual operations and allowing complete focus on communication. This represents an intelligent new experience for medium-to-large conference rooms.

- **4K Ultra HD Imaging:** Equipped with an 8.5-megapixel high-performance SONY CMOS image sensor, it supports a maximum resolution of 4K (3840 × 2160) with an output frame rate of up to 30 fps. This delivers exceptionally clear and lifelike ultra-high-definition video, accurately capturing facial expressions and movements for superior image clarity and detail.
- **Optical Zoom Lens:** 12x 80.5° optical zoom lens.
- **Intelligent Framing:** Equipped with a high-speed processor and built-in face detection algorithm, it automatically identifies participants and delivers optimal framing.
- **Intelligent Voice-Activated Tracking:** Integrated 6-element omnidirectional microphone array with smart sound source localization algorithm enables real-time speaker tracking. Voice-activated tracking can be enabled/disabled as needed.
- **Advanced Auto-Focus Technology:** Proprietary auto-focus algorithm delivers rapid, precise and stable focus performance.
- **High SNR with Low Noise:** Low-noise CMOS sensor ensures superior signal-to-noise ratio. Advanced 2D/3D noise reduction technology effectively minimizes noise while maintaining exceptional image clarity.
- **Versatile Video Output Interfaces:** Supports HDMI, USB 3.0, and wired LAN interfaces; features PoE power supply capability. USB 3.0 supports dual-stream encoding.
- **Comprehensive Audio/Video Compression Standards:** Video: YUY2, MJPEG, H.264, H.265, NV12 formats (MJPEG/H.264/H.265 support 3840×2160@30fps);
Audio: AAC, MP3, G.711A compression.
- **Audio Input Interface:** Supports AAC, MP3, G.711A encoding (AAC/MP3 support 16k/32k/44.1k/48kHz sampling rates).
- **Built-in Gravity Sensor:** Enables automatic PTZ flip functionality for simplified installation.



- **Multi-Network Protocol Support:** ONVIF, GB/T 28181, RTSP, RTMP, VISCA OVER IP, IP VISCA, RTMPS, SRT protocols; RTMP push mode for seamless streaming server integration (Wowza, FMS); RTP multicast mode supported.
- **Control Interface:** RS232-IN.
- **Multi-Control Protocol Compatibility:** VISCA, PELCO-D, PELCO-P protocols with auto-identification capability.
- **Ultra-Silent PTZ Mechanism:** High-precision stepper motor with advanced motion controller ensures smooth low-speed operation with near-zero noise emission (<25dB).
- **Low-Power Sleep Mode:** Energy-saving sleep/wake function with <400mW power consumption in standby.
- **Multi-Preset Configuration:** Supports 255 presets (10 directly accessible via remote control).

2. Main Specifications

2.1 Overview

Close-up Lens Specifications	
Imaging Sensor	1/2.8-inch High-Quality CMOS Sensor
Effective Pixels	8.29 MP、16: 9
Video Signal	HDMI: 4KP30、4KP25、1080P30、1080P25、1080P29.97; USB3.0: Main Stream: YUY2/NV12: 1920×1080/1280×720/1024×576/800×600/800×448/640× 360/480×270/320×180@30/25fps; MJPG/H264: 3840*2160/1920×1080/1600×896/1280×720/1024×576/960× 540/800×600/800×448/720×576/720×480/640×360/640× 480/480×270/352×288/320×240@30/25/20/15/10/5fps;
Lens Zoom	12x Optical zoom
Field of View	Horizontal: 7.6° (Tele) - 80.5° (Wide)
Aperture Range	F1.8 ~ F2.9
Digital Zoom	X15



Minimum Illumination	0.5Lux(F1.8, AGC ON)
Noise Reduction	2D & 3D digital noise reduction
White Balance	Auto/Manual/One-push/Specified color temperature
Focus Mode	Auto/Manual/One-push
Exposure Control	Auto/Manual/Shutter Priority/Aperture Priority/Brightness Priority
Shutter Speed	1/25 ~ 1/20000
Backlight Compensation	On/Off
Dynamic range	Off/Level 1-8
Video Adjustment	Brightness/Hue/Saturation/Contrast/Sharpness/B&W mode/Gamma Curve
SNR	> 50dB
Panoramic Lens Specifications	
Viewing Angle	110.2°\101.8°\69.5° (D\H\V)
Aperture	F2.0±5%
Focal Length	1.89mm
AI Function Specifications	
Intelligent Framing	Built-in high-speed processor with face detection algorithm automatically identifies participants and optimizes framing, with effective framing distance up to 6-7 meters.
Speaker Tracking	Integrated 6-element omnidirectional mic array with smart sound localization algorithm enables real-time speaker tracking (voice-activated mode configurable), supporting pickup distance up to 6-7 meters.
Interface Specifications	
Product Interface	HDMI, LAN(POE supported), USB3.0, LINE-IN, RS232-IN, DC12V power input, power switch
Video output interface	HDMI、LAN、USB3.0
Video Compression Formats	LAN interface supports: H.264, H.265 USB 3.0 interface supports: MJPG, H264, YUY2, NV12
Audio Input Interface	3.5mm stereo line input
Audio Output Interface	HDMI, LAN, USB3.0



Audio Compression Formats	AAC、MP3、G.711A
Network Interface	10/100Mbps auto-sensing Ethernet port (PoE supported), with audio/video output capability
Network Protocols	RTSP, RTMP, ONVIF, GB/T28181, VISCA OVER IP, IP VISCA, RTMPS, SRT; Supports remote firmware upgrade/reboot/reset)
Control Interface	RS232-IN
Serial Communication Protocols	VISCA/Pelco-D/Pelco-PS; Support baud rate 115200/38400/9600/4800/2400
USB Protocaols	UVC (Video) , UAC (Audio)
Powe Interface	HEC3800 power socket (DC12V)
Power Adaptor	Input AC110V~AC220V; Output DC12V/2.5A
Input voltage	DC12V±10%
Input Current	<1A
Power Consumption	<12W
PTZ Specifications	
Pan Range	-110° ~ +110°
Tilt Range	-30° ~ +30°
Pan Speed	0.1°/s ~ 100°/s
Tilt Speed	0.1°/s ~ 70°/s
Preset speed	Pan: 78.8°/s, Tilt: 31.7°/s
Preset Positions	Up to 255 user-defined presets (10 accessible via remote control)
Other Specifications	
Storage Temperature	-10°C ~ +60°C
Storage Humidity	20% ~ 95%
Operating Temperature	-10°C ~ +50°C
Operating Humidity	20% ~ 80%
Size	258mm×172mm×169mm(L*W*H)
Weight	Approx. 1.54kg
Environment	Indoor



Accessories	Power adapter, RS232 control cable, USB cable, Remote control, User manual, Mounting bracket
-------------	--

