

Video Tracking System



Video Tracking System

Video Tracking System	2
TMX-0404SDI2 4x4 High Definition Digital Video Tracking Matrix Switcher (SD/HD/3G).....	2
TMX-0808SDI2 8x8 High Definition Digital Video Tracking Matrix Switcher (SD/HD/3G).....	3
HCS-9316HDN HD Videoconference Camera (with remote control, black).....	5
HCS-3316HDN_G HD Videoconference Camera (with remote control, gray).....	7
HCS-3316ZJ Tripod (for HCS-3316HDB and HCS-3316HDN camera).....	8
HCS-3316CK Camera Control Keypad ((Used with TMX-0404SDI2/ TMX-0808SDI2/ TMX-M8/ TMX-M16)).....	8
HCS-4215/50 Video Control Software Module (used with HCS-4100/50 series).....	9
HCS-8215 Video Control Software Module (used with HCS-8300 series).....	9
HCS-4515 Video Control Software Module (used with HCS-4800 series).....	10
HCS-8515 Video Control Software Module (used with HCS-8600 series).....	10

TMX-0404SDI2

4x4 High Definition Digital Video Tracking Matrix Switcher



Features

- Routing: 4x4 High Definition Digital Video Tracking Matrix Switcher
- Video interface: BNC female
- Data rates : 143 Mbps~2.97 Gbps
- Compatible with SMPTE 259 M, SMPTE 292 M, SMPTE 344 M, SMPTE 424 M and DVB-ASI (270 Mbps)
- Input equalization and clock recovery, output pre-emphasis
- RS-232 control, supporting RS-232 protocols, for connection with central control system
- Two RS-422 control port with built-in professional camera control protocols, a variety of professional cameras like TAIDEN HCS-3316HDNB, SONY, PELCO and Panasonic can be controlled
- One TAINET interface for connection with TAIDEN conference system
- One RJ45 interface for TCP/IP connection
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Data rates.....143 Mbps ~ 2.97 Gbps
 Data types.....8 bit or 10 bit
 Compatible standards.....SMPTE 259 M, SMPTE 292 M, SMPTE 344 M, SMPTE 424M, DVB-ASI (270 Mbps)

Video input

Connectors.....4 × BNC female
 Input level.....0.7 V - 1.2 Vp-p
 Input cable equalization.....Typical equalization cable length (RG60/ Ø1.0 mm standard cable)
 50 m@2.97 Gbps(odd channel)
 60 m@2.97 Gbps(even integer channel)
 90 m@1.485 Gbps
 Nominal level.....0.8 Vp-p
 Impedance.....75 Ohm
 Return loss.....20~30 dB@5 MHz to 1.5 GHz

Video output

Connectors.....4 × BNC double-decker female
 Nominal level.....0.8 V ± 7%
 Output level.....0.5 V - 1.6 Vp-p
 Impedance.....75 Ohm
 Return loss.....≥15 dB@5 MHz to 1.5 GHz
 DC offset.....± 100 mV with no offset at input
 Jitter.....20~30 ps@HD/3G rate
 40~60 ps@SD rate
 Rise and fall time (20~80%).....SD: 600 ps
 HD/3G: 100 ps

Control

To central control system:

COM (RS-232).....RS-232, 9 pin female D connector
 COM1.....Baudrate: 115200, data: 8 bits, stop: 1 bit, no parity
 RJ45.....TCP/IP
 TAINET.....Baudrate: 19200, to main unit
 RS422.....Baudrate: 9600, to dome camera
 RS232.....Baudrate: 9600, to control keypad

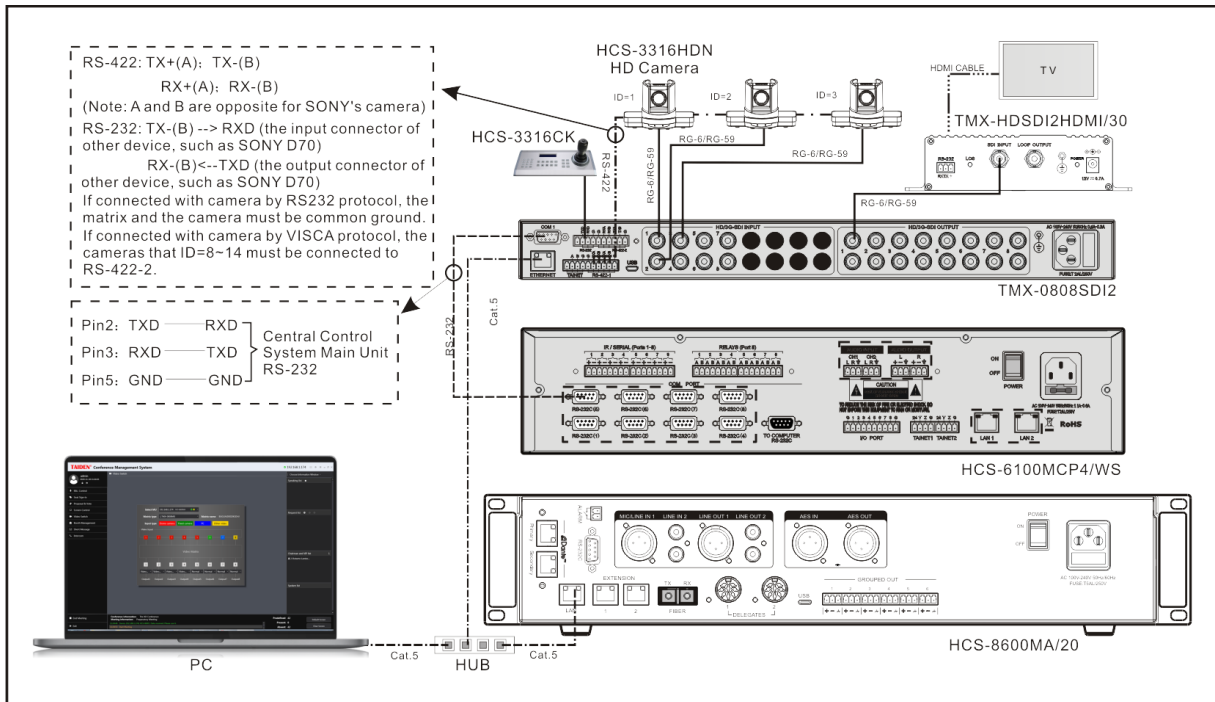
General specs

Power supply.....AC 100 V - 240 V, 50 Hz / 60 Hz
 Temperature.....Operating: 0 °C to + 50 °C;
 storage: -20 °C to + 70 °C
 Humidity.....Storage and operating: 10% to 90%
 Dimensions h x w x d (mm).....43 x 483 x 208
 (1U high, full rack width)
 Weight.....2.7 kg
 Color.....Gray (PANTONE 425 C)
 Mean time between failures.....30,000 hours

Ordering Information

TMX-0404SDI2.....4x4 High Definition Digital Video Tracking Matrix Switcher (SD/HD/3G)

System Connection



HCS-9316HDN HD Videoconference Camera



Features

- **Quiet PTZ:** By adopting high accuracy Algorithm for PTZ Control, Precise location($\pm 0.1^\circ$), it works extremely quiet and moves smoothly and very quickly to designated position.
- **Superb high-definition image:** It employs high quality CMOS sensor. Resolution is up to 1920x1080 with frame rate up to 60 fps.
- **Low noise and High SNR:** Low Noise CMOS effectively ensure high SNR of camera video.
- **Advanced 2D/3D noise reduction technology** is also used to further reduce the noise, while ensuring image sharpness.
- **20X optical zoom lens and 12x zoom lens:** fast, accurate and stable auto-focus lens with up to 20x optical zoom.
- **Full HD multi-format video output:** It provides HDMI signal output, HD-SDI signal output and IP signal output
- **RS-232C/RS485 (optional) remote control (VISCA protocol/Pelco-D/ Pelco-P):** remote high-speed communication control of all camera settings and pan/tilt/zoom operations using the RS-232C/RS485 (optional) interface. Multiple cameras can be connected via RS-232 cascade interface (VISCA protocol)
- **Multiple address settings:** set the local address via the Menu/VISCA serial command
- **255 presets positions:** the 255 positions can be pre-set through the serial port, including level, tilt and zoom for presetting, and the preset data can be saved even when the camera is powered down and turned off.
- **Multi-functional remote control:** equipped with an easy-to-use remote control, in addition to the basic settings, as well as the level, tilt, zoom, etc. to control, but also through the remote control to call out the menu to set the relevant parameters of the camera.
- **Optional camera reversal function:** support the camera backwards, and can be installed through the OSD menu or send a serial command to change the way.
- **OSD menu function:** rich OSD menu, you can control the Chinese and English OSD menu by remote control

HCS-9316HDN camera for enterprise, education and telemedicine applications with 20x optical zoom and a high frame rate of 60FPS. Users get HD video by connecting to HDMI cables and coaxial video cables. The advanced servo control algorithm enables accurate positioning, smooth and quiet PTZ control. The wide angle lens of the camera can easily cover everyone in the room during video conferencing. It supports 255 preset positions.

SONY's sensitive EXMOR CMOS image sensor ensures exquisite full HD images and high horizontal resolution. High frame rate operation of up to 60FPS ensures natural and clear picture quality, even for the moving object.

It also provides HD-SDI and HDMI interfaces that can output 60FPS frame rate, and can automatically receive VISCA commands and PELCO-P/D protocol commands. You can choose to use RS232 or RS485 interface for connection.

Technical Specifications

Electrical

Image sensor	1/2.8-type HD CMOS sensor
Effective pixels	Five mega pixels, 16:9
Video format	1080P60/50/30/25/59, 1080i/60/50/59, 720P60/50/59
Zoom magnification	20x Optical + 12x digital
Lens zoom	20x optical zoom lens, f=4.7-94 mm
Viewing angle	2.9° (narrow angle) - 62° (wide angle)
Minimum illumination	0.1Lux
White balance	Auto/Indoor/Outdoor/ATW/Manual/Custom
Focus	Auto/Manual
Aperture	F1.6-F9.6
Shutter	1/1-1/100000
SNR	> 52 dB
HD video interface	HDMI, HD-SDI (3G), IP
Control signal interface	8 core mini DIN
Control signal format	Start bit: 1 bit, data bit: 8 bits, stop bit: 1 bit Baud rate: 115200/9600/4800/2400bps
Encoding format	H.264Baseline, Main Profile, High profile H.265 Mainfile MJPEG
Image resolution	Master stream: 1920*1080@30fps, 1280*720@30fps Secondary stream: 720*576@30fps, 640*480@30fps
Video compression bitrate	32kbps-16Mbps continuously adjustable, support CBR/VBR
Subtitle Overlay	Support channel name, date and time, stream information superimposed, superimposed position adjustable
Data Storage	Video, picture files
Storage mode	Manual, automatic
Protocol	TCP/IP, UDP, RTP, RTSP, RTCP, HTTP, DNS, DDNS, DHCP, FTP, NTP, PPPOE, SMTP, UPNP
ONVIF protocol	Standard ONVIF protocol
Client view	Support IE6.0 and above browsers

Power adapter.....AC100V-AC240V to DC12V/1.5A
 Input voltage.....DC12V(DC11.5-DC12.5V)
 Power consumption.....15W (max)
 Mechanical properties.....Pan: ±170°; Tilt: -30° to~90°
 Pan speed: 1-100°/sec; Tilt speed: 1-60°/sec
 Preset speed: Pan:100°/sec, Tilt: 60°/sec
 Preset position accuracy: 0.1°
 Preset position.....255 (TAIDEN conference management software
 can preset, clear and recall 64 preset positions)
 Pan/Tilt control mode.....Servo motor control
 Use environment.....Indoor
 Storage temperature.....-10℃ to +60℃
 Operating temperature.....0℃ to +45℃

Mechanical

Dimension (W X H X D)..... 155 mm X 186 mm X 172 mm
 Color.....Black
 Weight.....1.3 kg

Ordering Information

HCS-9316HDN.....HD Videoconference Camera
 (with remote control, black)

HCS-3316HDN HD Videoconference Camera



Features

- **Dedicated HD videoconference camera**
- **Built-in 1/2.8-type HD CMOS image sensor with 5M pixels, 20x zoom lens, providing 240x zoom ratio (20x optical plus 12x digital)**
- **Broadcast quality full HD image up to 1080p60**
- **Wide dynamic range, high S/N ratio and 2D/3D noise reduction algorithm reproducing clear images in poorly-illuminated environment**
- **H.265/H.264 video coding and G7.11/G7.26 audio coding for 1080p baseband streaming**
- **Reliable, fast and quiet PTZ operation**
- **Simultaneous transmission of 3G-SDI, HDMI and IP full HD video**
- **Versatile connectivity supports for VISCA or PELCO-D protocols via RS-485/RS-232, which allows for efficient remote camera control**
- **10M/100M adaptive Ethernet port, for video and audio stream output and control data interaction**
- **Fast and stable 240x zoom (20x optical 12x digital) auto-focus lens**
- **Built-in conversion lens for wide viewing angle (61°)**
- **Support up to 64 presets, pan, tilt and zoom values can be saved even after reboot**

HCS-3316HDN can deliver high quality video signals simultaneously through two HD video outputs. It also boasts of rapid, smooth and silent PTZ operation thanks to its direct drive motor. The camera covers a wide shooting range, with a wide pan range of 300° (±150°) and a tilt range of 120° (-30° to +90°). Both pan and tilt speeds are variable within the range of 0.1° to 200° and 0.1° to 150° respectively. Conference rooms everywhere are making the transition to HD and it makes this change effortless.

This unique camera employs a 1/2.8-type HD CMOS image sensor with five mega effective pixels and can be used in combination with any number of codecs and other systems to produce high-quality, high-resolution images. With its wide field of view, built-in 20x optical zoom lens, 16:9 aspect ratio video and high-speed, quiet pan/tilt operation, the camera can cover subjects across wide space with minimal disturbance. Combining convenient features such as auto focus/ auto exposure, 64-position presets, auto cruise, configurable scan mode, remote control, and external control via standard RS-485/232 interface, it is ideal for application

including videoconferencing, distance learning, corporate training, etc.

Technical Specifications

Electrical

Image sensor	1/2.8-type HD CMOS sensor
Effective pixels	Five mega pixels
Signal system	HD: 1080p60, 1080p50, 1080p30, 1080p25, 1080i60, 1080i50, 720p60, 720p50, 720p30, 720p25
Shutter speed	1/60 s - 1/10000 s (60Hz), 1/50 s - 1/10000 s (50Hz)
Minimum illumination	0.5 lux (50IRE, F1.6)
Horizontal viewing angle	61° (wide)
Lens	20x Optical + 12x digital
Noise reduction	2D/3D noise reduction algorithm
SNR	≥55 dB
Synchronous mode	Inter-sync
Back light	On/Off/Auto
Pan speed	0.1°/s - 200°/s
Tilt speed	0.1°/s - 150°/s
Pan angle	-170° to +170°
Tilt angle	-30° to +90°
Preset position	255
(TAIDEN conference management software can preset, clear and recall 64 preset positions)	
Preset precision	0.1°
Video output	HD-SDI, HDMI
Multiple video outputs	Simultaneous output of 2 HD video and 1 IP video
Ethernet interface	10M/100M adaptive Ethernet port
Control protocol	PELCO-D, VISCA
Control interface	RS-485, RS-232
Baud rate	2400/4800/9600/19200/38400 bps
Video coding standard	H.265, H.264
Main stream resolution	1920x1080, 1280x720
Sub stream resolution	720x576, 720x480, 960x540
Bitrate	variable (128k-8192kbps)/fixed
Frame rate	50Hz: 1-50fps, 60Hz: 1-60fps
Address range	0 ~ 255
Operating temperature	0°C ~ +50°C
Storage temperature	-20°C ~ +70°C
RH operating range	0 - 95% relative humidity (non-condensing environment)
Power supply	DC 12 V
Power consumption	<10 W

Mechanical

Installation	Tabletop or ceiling-mounting
Dimensions (h x w x d)	170 x 260 x 163 mm
Color	Gray (PANTONE Cool Gray 11C)

Ordering Information

HCS-3316HDN_G	HD Videoconference Camera (with remote control, gray)
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HCS-3316ZJ Tripod



Features

- Used for mounting HCS-3316HDN camera
- Max. adjustable height: 1.4 m
- Weight: 2.6 kg

Ordering Information

HCS-3316ZJ.....Tripod (for HCS-3316HDN camera)

HCS-3316CK Camera Control Keypad



Features

- Working with HD video conferencing camera HCS-3316HDN, and compatible with a variety of professional cameras, such as, SONY, VBLOSSOM, Polycom, CISCO, etc.
- Preset 6-16 image functions, such as, doom position, lens position, white balance, mirror, frozen, etc.
- LCD with backlight, to display information and tips
- Control interface: six axis control lever, 28 function keys with backlight
- Control protocols: VISCA, PELCO-P, PELCO-D

Technical Specifications

Electrical

Power supply.....DC 12 V/1 A
 Power consumption.....2.7 W
 Control protocol.....PELCO-P, PELCO-P, VISCA
 Connectors:
 Camera control.....RS232, RS485
 DVR control.....RJ45 (RS485)
 Computer control.....USB2.0

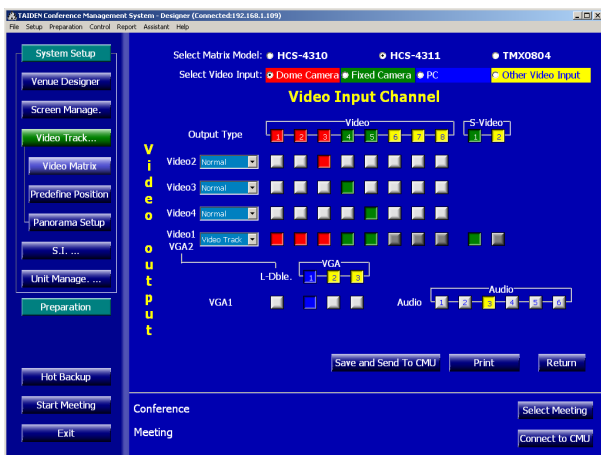
Mechanical

Installation.....Tabletop or ceiling-mounting
 Dimensions (h x w x d).....155 x 355 x 150 mm
 Weight.....1.5 kg (excl. power adapter)
1.9 kg (with power adapter)

Ordering Information

HCS-3316CK.....Camera Control Keypad
 (Used with TMX-0404SDI2/ TMX-0808SDI2/
 TMX-M8/ TMX-M16)

Video Control Module



Video matrix



Camera control

Ordering Information

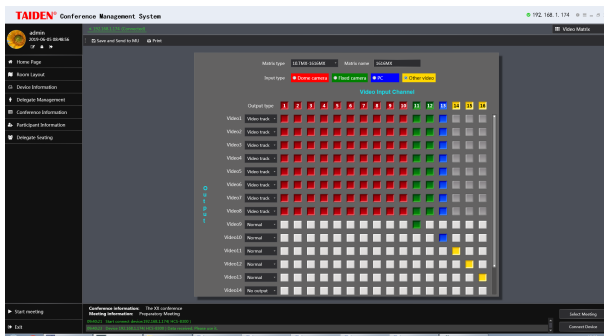
HCS-4215/50.....	Video Control Software Module (used with HCS-4100/50 series)
HCS-8215.....	Video Control Software Module (used with HCS-8300 series)

Functions

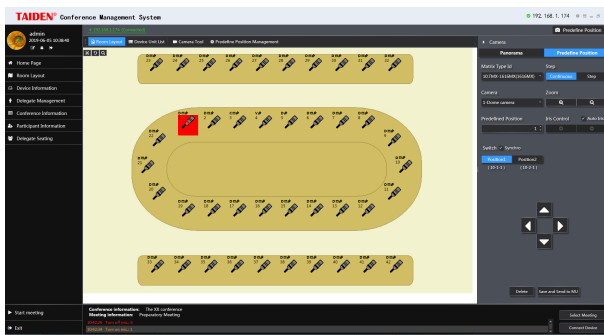
Carries out automatic video tracking when cooperating with camera and video switch unit.

- Set up video matrix: set input/output channels for computer, camera and other video apparatus according to the connections between video equipment and video switch unit. The configuration can be sent to the main unit for synchronization
- Video switch: switch among different input and output video signals according to the video matrix
- Camera control: adjust the camera preset for each seat/microphone and preset the panorama of the conference venue
- Cooperating with microphone management module to set and adjust the camera preset for each seat/microphone and to transmit speaker's video picture simultaneously to a hall display

Video Control Software



Video matrix



Camera control

Functions

Carries out automatic video tracking when cooperating with camera and video switch unit.

- Set up video matrix: set input/output channels for computer, camera and other video apparatus according to the connections between video equipment and video switch unit. The configuration can be sent to the Congress Main Unit for synchronization
- Video switch: switch among different input and output video signals according to the video matrix
- Camera preset: cooperating with microphone management Software to set and adjust the camera preset for each seat/microphone and to transmit speaker's video picture simultaneously to a hall display
- Camera control: preset the panorama of the conference venue

Ordering Information

HCS-4515.....Video Control Software
(used with HCS-4800 series)

HCS-8515.....Video Control Software
(used with HCS-8600 series)