

**Professional Audio & Video Recorder for Conference**

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## HCS-8316HDMI HDMI Encoder




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### Functions

- For encoding and network transmitting DVI/HDMI signal
- DVI/HDMI signal acquisition and encoding capability support 1920x1200@60 and backward compatibility, with frame rate of 1 to 30 adjustable
- Adopting DSP processing chip and embedded operating system, reliable due to immunity to network virus attacks
- With HDMI input interface, DVI input interface and Ethernet interface, input DVI/HDMI signal can be transmitted on IP network after encoding
- Supports stereo audio input, using the industry's most advanced audio algorithms and audio sampling frequency of 48 kHz, the audio input sensitivity is adjustable, with better sound quality
- Variety of control methods and MMI to facilitate administrator's and users' tasks
- Parameters can be set up from front panel without a computer, convenient for manual switching
- Supports multiple levels of user access rights
- Supports central control system for the management and operation of the equipment
- The ability of remote upgrading through network
- Widely used in multimedia broadcasting system for various occasions of DVI/HDMI signal acquisition, DVI/HDMI signal remote network transmission, dual stream transmission of video and conferencing, MMI monitoring

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### Technical Specifications

#### Electrical

Power supply.....AC 100 V - 240 V, 50 Hz / 60 Hz  
 Max. consumption.....10 W  
 Ethernet.....10 M/100 M/1000 M with autodetect  
 COM (RS-232).....RS-232, 9-pin female D connector  
 Audio input...LINE IN 1: XLR-type socket; LINE IN 2: RCA (L+R)  
 Audio output.....LINE OUT: RCA (L+R)

#### Mechanical

Mounting.....Tabletop or mounted in a 19" rack  
 Dimensions h x w x d...43 x 483 x 208 mm (1U high, full rack width)  
 Weight.....2.7 kg  
 Color.....Gray (PANTONE 425 C)

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### Ordering Information

HCS-8316HDMI.....HDMI Encoder

## HCS-8317 High Definition Digital AV Decoder



### Functions

- Used for multi-channel digital media signal decoding and output
- TAIDEN series of video equipment can access encoder or VCR through IP network to realize live or on-demand broadcasting, after decoding, videos can be displayed to display devices via HDMI or VGA output
- Cooperating with HCS-8300 series paperless multimedia congress system to display the picture of the multimedia congress terminal camera and to share desktop; also convenient for connecting to remote meeting
- With high-performance DSP chip and dedicated hardware platform, supports 1 channel HDMI video and 1 channel VGA signal synchronization decoding and display, and immune to network virus attack
- Supports 1 stereo audio decoder output
- Variety of control methods and MMI to facilitate administrator's and users' tasks
- Supports multiple levels of user access rights
- Visual, interactive, cooperative play function
- B/S architecture system management and user interface based on IE web browser
- Supports central control system for the management and operation of the equipment
- The ability of remote upgrading through network
- Convenient for the user to record/broadcast at different environments, can be widely used in the place of conference room, lecture hall, demonstration hall and leadership office
- 1U high, full rack width
- 2 x USB HOST interface for upgrade

### Technical Specifications

#### Electrical

Power supply.....AC 100 V - 240 V, 50 Hz / 60 Hz  
 Ethernet.....10 M/100 M with autodetect  
 Audio output.....RCA (L+R)  
 Resolutions..... 1280x720p@50/60 Hz; 1920x1080i@50/60 Hz;  
 1920x1080p@25/30/50/60 Hz; 1024x768@60 Hz;  
 1280x1024@60 Hz; 1366x768@60 Hz; AUTO  
 Video output.....1 channel HDMI, 1 channel VGA signal

#### Anlong audio

Output impedance.....≤100 Ω  
 Gain.....0 dB  
 Isolation.....≥75 dB  
 SNR.....≥80 dB

#### Mechanical

Mounting.....Tabletop or mounted in a 19" rack  
 Dimensions h x w x d...43 x 483 x 208 mm (1U high, full rack width)  
 Weight.....2.7 kg  
 Color.....Gray (PANTONE 425 C)

### Ordering Information

HCS-8317.....HD Digital AV Decoder

# 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 × w × d (mm).....43 × 483 × 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)





# TMX-1604SDI2

## 16x4 High Definition Digital Video Tracking Matrix Switcher



### Features

- **Routing: 16x4 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-3316HDN, 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 camera

#### General specs

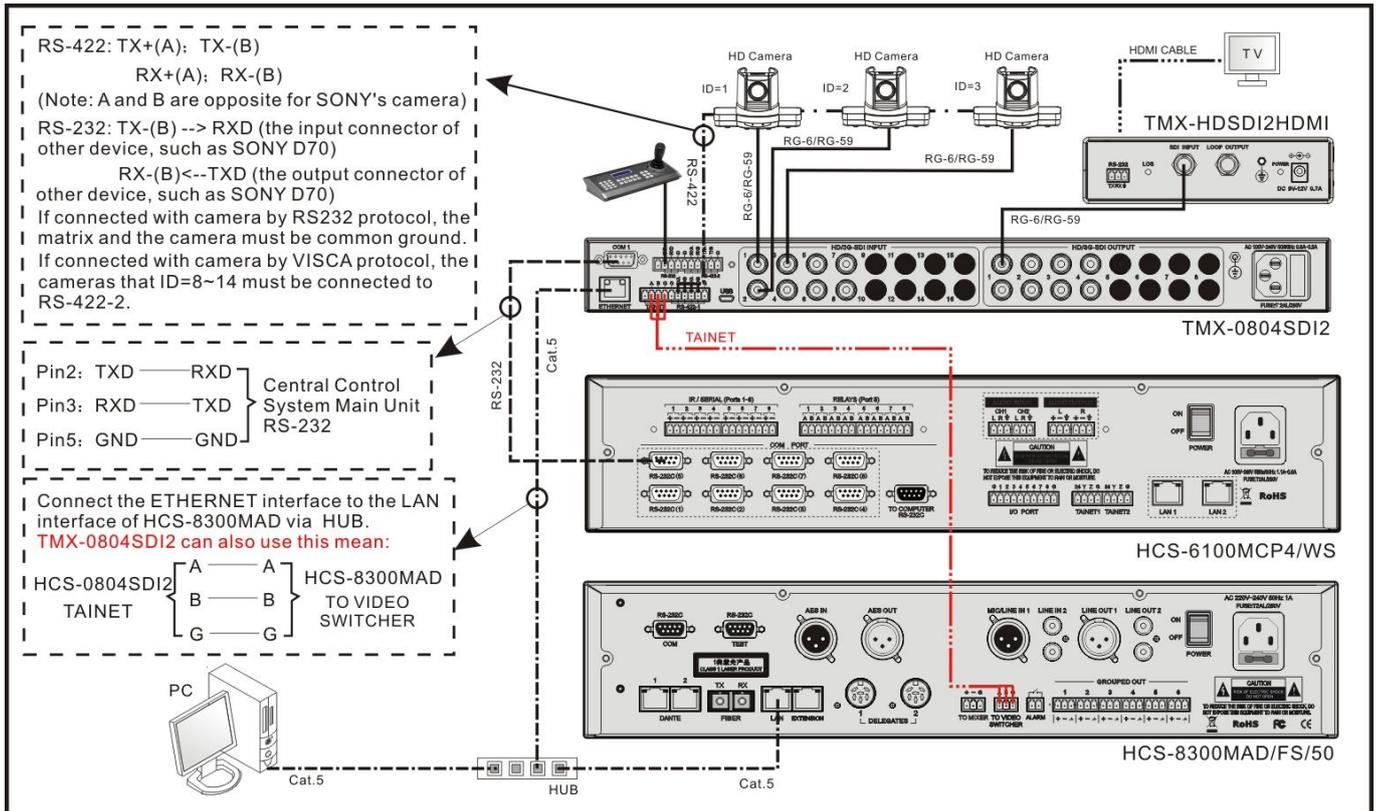
Power supply.....AC 100 V - 240 V, 50 Hz / 60 Hz  
 Temperature.....Operating: 0 °C to + 50 °C;  
 storage: -20 °C to + 70 °C  
 Humidity.....Storage and operating: 10% to 90%  
 Dimensions h × w × d (mm).....43 × 483 × 208  
 (1U high, full rack width)  
 Weight.....3.0 kg  
 Color.....Gray (PANTONE 425 C)  
 Mean time between failures.....30,000 hours

#### Ordering Information

TMX-0404SDI2.....16x4 High Definition Digital Video  
 Tracking Matrix Switcher (SD/HD/3G)



**System Connection**



## TMX-0104SDI 1x4 SDI Distribution Amplifier



### Technical Specifications

Input	1 SD/HD-SDI, 3G HD-SDI on a BNC connector
Output	4 SD/HD-SDI, 3G HD-SDI on BNC connectors
Max data rate	Up to 2.97 Gbps
Power supply	DC 9 V - 12 V, 0.3 A
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)	40 x 150 x 100
Weight	0.4 kg
Color	Gray (PANTONE 425 C)

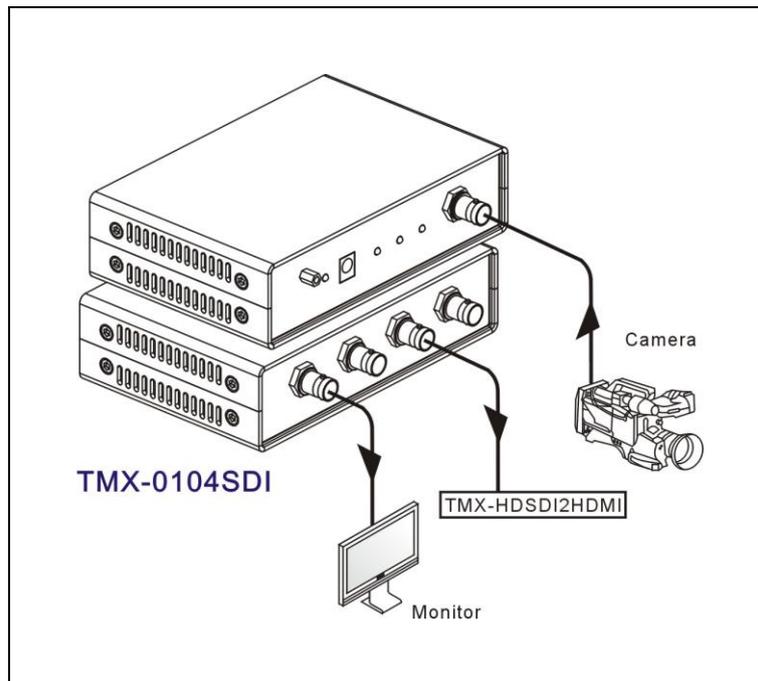
### Features

- For switching SDI input signal to 4 line output channels synchronously
- Routing: 1 x 4 SDI Distribution Amplifier
- Video interface: BNC female
- Data rates : 270 Mbps~2.97 Gbps

### Ordering Information

TMX-0104SDI.....1x4 SDI Distribution Amplifier

### System Connection



## TMX-HDSDI2HDMI/30 3G HD-SDI to HDMI Converter



### Features

- Transfers SDI input into HDMI signal as video output, and also into VGA signal at the same time, that is convenient for local monitor
- Mainly cooperates with HCS-3316HDN and SDI series matrix
- Output resolution is adjustable

### Technical Specifications

#### Video

Input.....1 SD/HD-SDI, 3G HD-SDI on a BNC connector  
 Output.....1 SD/HD-SDI, 3G HD-SDI loop on a BNC connector;  
 1 HDMI connector (unsupports CEC and HDCP),  
 1 VGA 15-pin HDF connector  
 Input/output data rate.....1.485 Gb/s and 2.97 Gb/s

#### Control

COM (RS-232).....3-pin Phoenix; baudrate: 9600,  
 data: 8 bits, stop: 1 bit, no parity

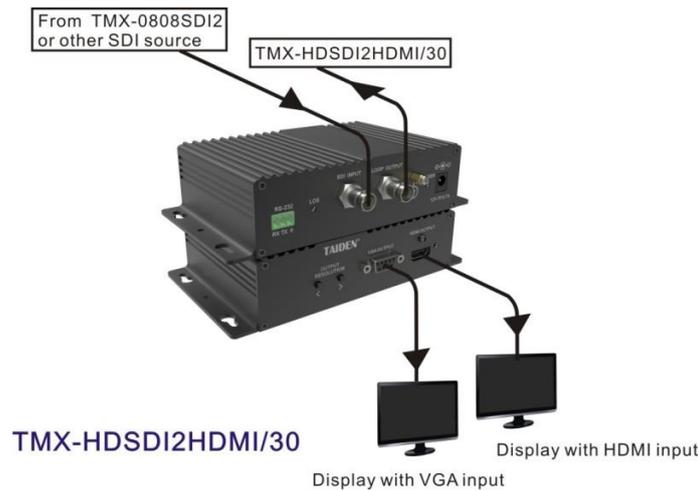
#### General specs

Power supply.....DC 9 V - 12 V, 0.7 A  
 Power consumption.....10 W  
 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).....41 x 168 x 116  
 Weight.....0.4 kg  
 Color.....Black (PANTONE 419 C)

### Ordering Information

TMX-HDSDI2HDMI/30.....3G HD-SDI to HDMI Converter

### System Connection



## TMX-HDMI/VGA2SDI HDMI/VGA to SDI Converter



### Features

- Transfers HDMI or VGA input into SDI or HDMI signal as digital audio and video output
- Mainly cooperates with HCS-3316HDN and SDI series matrix
- Panel button control , easy to switch manually

### Technical Specifications

#### Video

Input.....1 HDMI connector; 1 VGA 15-pin HDF connector  
 Output.....2 SD/HD-SDI, 3G HD-SDI on BNC connectors;  
 1 HDMI connector (unsupports CEC and HDCP)  
 Input/output data rate.....1.485 Gb/s and 2.97 Gb/s

#### Audio

Input.....1 3-pin Phoenix (L+R), unbalanced  
 Impedance.....≥10 kΩ  
 Normal input level.....7.4 dBu (1.8Vrms)  
 Max. Input level.....14.26 dBu (4Vrms)  
 Analog input sensitivity.....mute, 0 - 12 dB, step: 3 dB  
 Frequency response.....30 - 20 kHz (±4 dB)

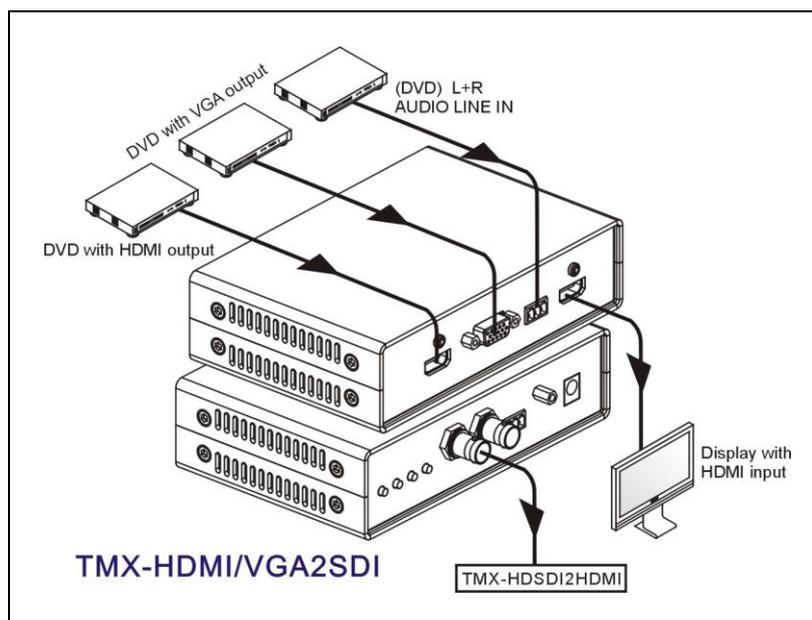
#### General specs

Power supply.....DC 9 V - 12 V, 1.2 A  
 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).....40 x 150 x 100  
 Weight.....0.4 kg  
 Color.....Gray (PANTONE 425 C)

### Ordering Information

TMX-HDMI/VGA2SDI.....HDMI/VGA to SDI Converter

### System Connection



## 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 G.711/G.7.26 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-8192kpbs)/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 (gray)

## HCS-3316ZJ Tripod




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### Features

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

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### Ordering Information

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

## HCS-3316CK Camera Control Keypad




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### 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

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### 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)

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### Ordering Information

HCS-3316CK.....Camera Control Keypad  
 (for TMX-xxxxSDI2 Series  
 HD Video Tracking Matrix  
 Switcher)



**Control**

Video track off:  
 COM (RS-232).....RS-232, 9 pin female D connector  
 COM1.....Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity  
 COM2.....Variable baudrate, data: 8 bits, stop: 1 bit, no parity

Video track on:  
 COM (RS-232).....RS-232, 9 pin female D connector  
 COM1.....Baudrate: 19200, to conference main unit;  
 1=A(RX+), 4=B(RX-), 5=GND  
 COM2.....NC  
 RJ45.....Baudrate: 9600, 1 = TX+, 2 = TX-, 3 = RX+, 6 = RX-,  
 RS422/RS485 to dome camera

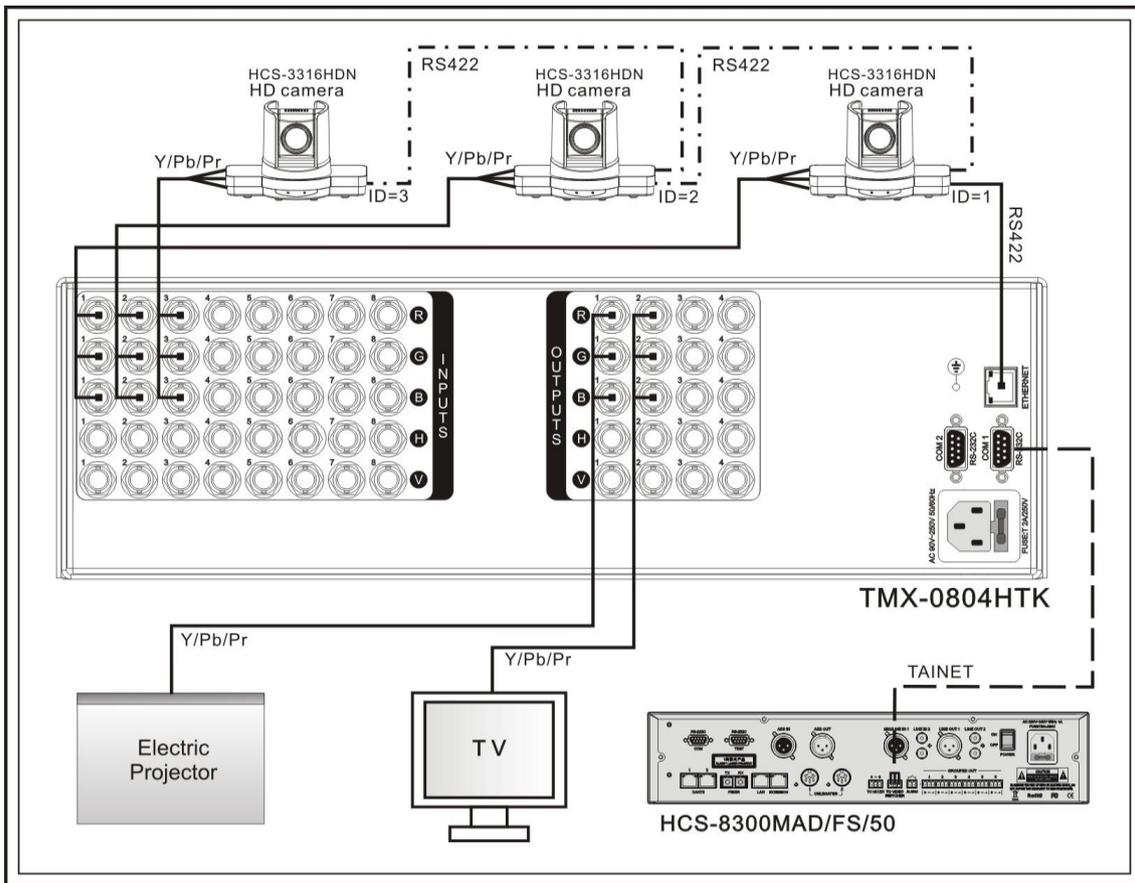
**General specs**

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).....132 x 478 x 310  
 (3U high, full rack width)  
 Weight.....5.1 kg  
 Color.....Gray (PANTONE 425 C)  
 Mean time between failures.....30,000 hours

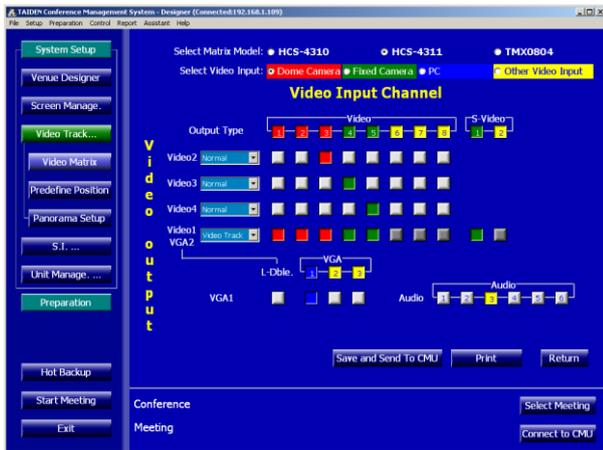
**Ordering Information**

TMX-0804HTK.....8x4 High Definition Video Tracking Matrix  
 Switcher, 450 M, Video on BNC Connectors

**System Connection**



## 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