

## Video Tracking System



**Video Tracking System**

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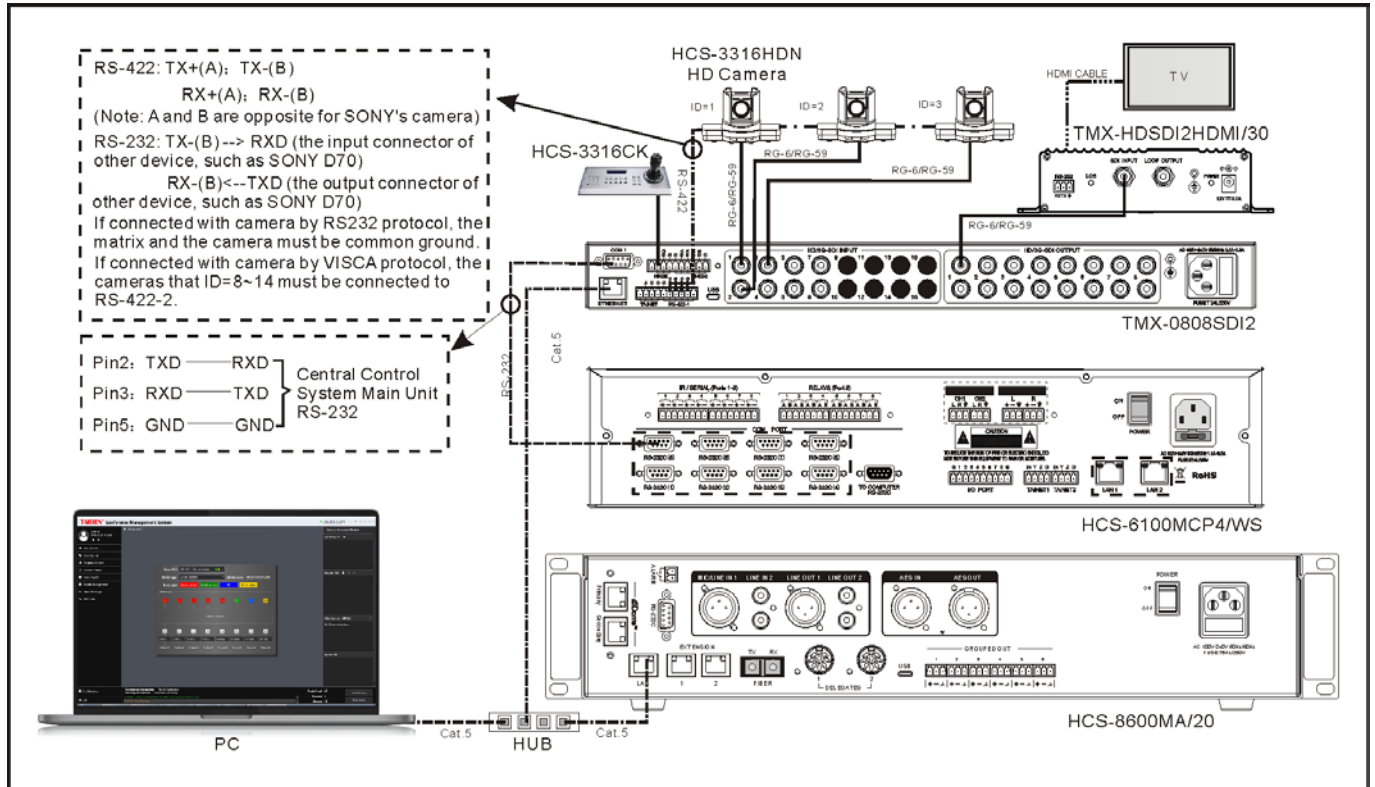








System Connection



# 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)

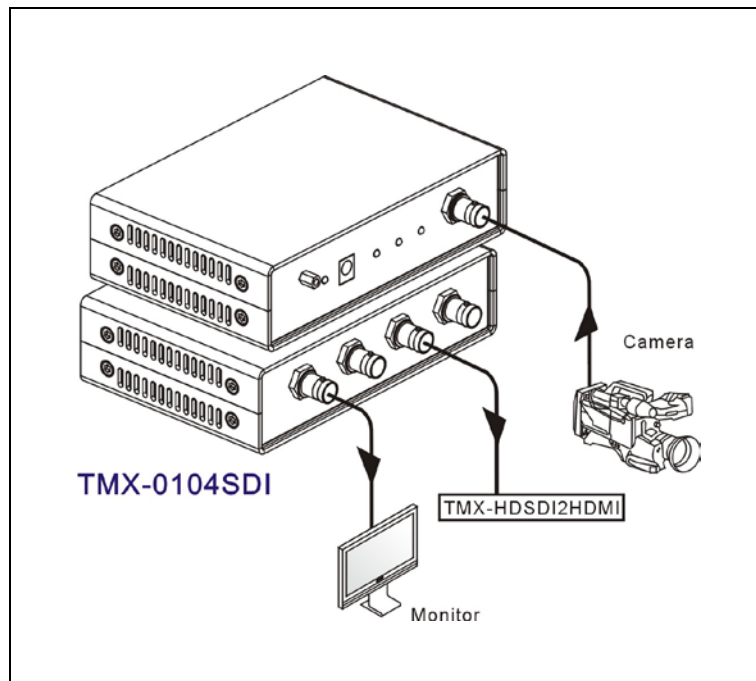
### Features

- 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

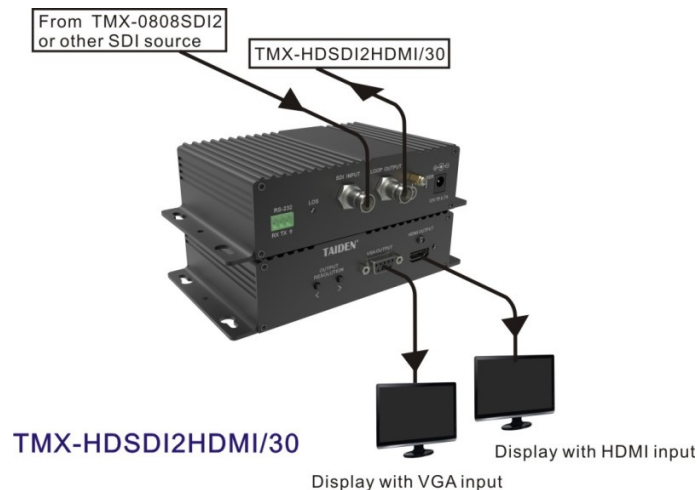
#### General specs

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)

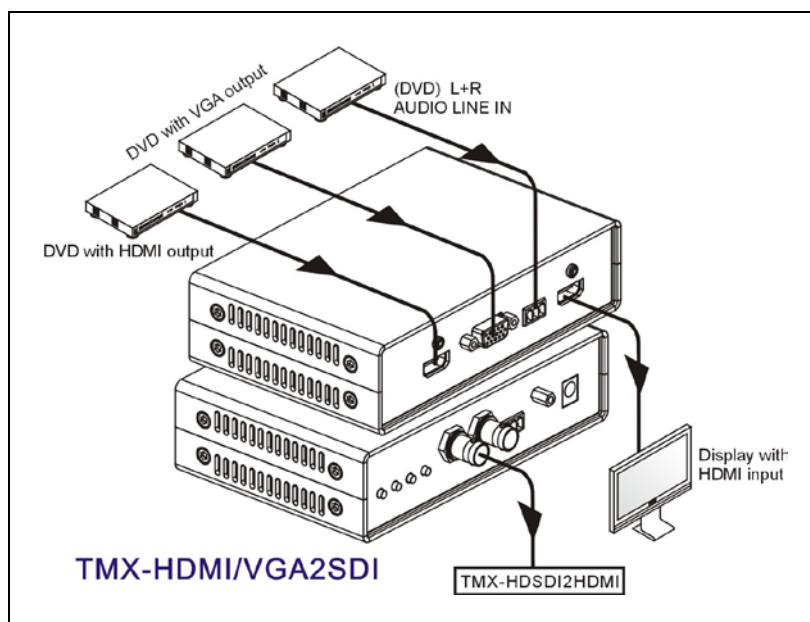
#### General specs

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 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 (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)

## TMX-0804HTK 8x4 High Definition Video Tracking Matrix Switcher



### Features

- Routing: 8x4 HD Video Tracking Matrix Switcher
- Video interface: BNCx5 female
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- RS-232 control, supporting RS-232 protocols
- One RS-422/485 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 RS-232 control port for connection with TAIDEN conference system
- 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
- 3U high, full rack width

### Technical Specifications

#### Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded; 0 ~ 10 MHz $\leq \pm 0.1$ dB; 0 ~ 100 MHz $\leq \pm 0.8$ dB
Crosstalk of channel	-53 dB @ 10 MHz, -45 dB @ 30 MHz, -37 dB @ 100 MHz
Crosstalk of lum and chroma	$\leq -80$ dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

#### Video input

Connectors	8 x 5 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of component video and S-video, and for composite video; 0.3 Vp-p for R-Y and B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

#### Video output

Connectors	4 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of component video and S-video, and for composite video; 0.3 Vp-p for R-Y and B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	$\pm 5$ mV with no offset at input
Switching type	RGB simultaneity

#### Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns



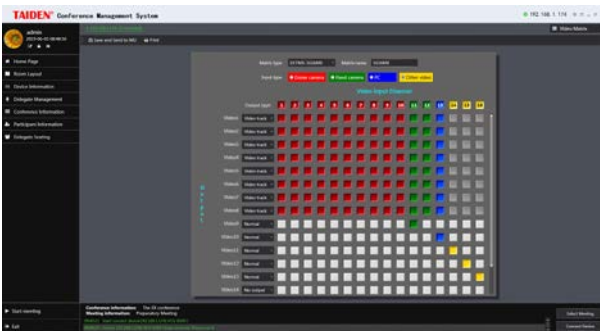
## Video Control Software



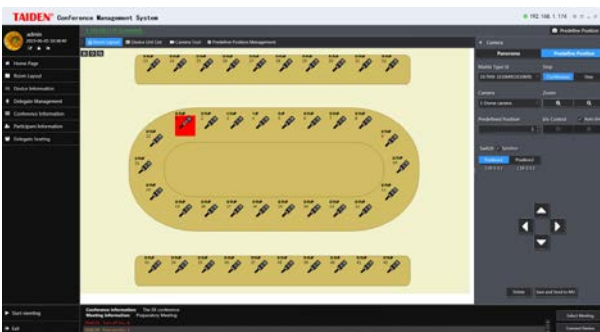
Video matrix of HCS-4215/50, HCS-8215



Camera control of HCS-4215/50, HCS-8215



Video matrix of HCS-4515, HCS-8515



Camera control of HCS-4515, HCS-8515

### 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 software to set and adjust the camera preset for each seat/microphone and to transmit speaker's video picture simultaneously to a hall display

### 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)
- HCS-4515.....Video Control Software  
(used with HCS-4800 series)
- HCS-8515.....Video Control Software  
(used with HCS-8600 series)