VNE-CS0332S
Video Wall Controller

Introduction

The video wall controller is mainly used for screen splicing control system, and is the core control device of the system. As a new-generation FPGA-based pure hardware image processing device, it adopts the dual data switching technology and the structure of main control board and service boards. It supports processing and transmitting large data, processing multiple high-definition and ultra-high-definition signals in real time, and managing multiple screens.

Features

Hardware Structure

- Adopts the standard rack design and operational-grade ATA chassis system.
- Adopts redundant power supply design, the intelligent fans for auto temperature adjustment, and 2 main control boards for expansion.
- Adopts the plug-in modular design and 11 slots for hot swappable service boards (11 slots for input and output boards).
- Adopts the 4.3-inch non-touch screen panel to allow you to view the device status information at any time.
- Provides the indicator lights to allow you to view the device online status and operating status.

Audio and Video Input

- Supports the video signal source input such as computers, video conference terminals, and ultra-high-definition (UHD) servers. Supports VGA, DVI, HDMI, 4K HDMI, and 4K DP signal input, and network signal source input such as network cameras and NVRs.
- Supports composite audio input and independent audio input. The audio input supports 16 bit, 48K Hz sampling, and dual channel.
- Supports YUV 444 in image collection and output with lossless image quality.
- Support ultra-high-definition fusion and up to sixteen 4K UHD signal access.
- Supports OSD on the input.
- Supports input image clipping to cut the black edge of the input image.

Audio and Video Output

- Supports DVI, HDMI, and 4K HDMI video signal output and the video signal output via network ports.
- Supports composite audio output and independent audio output.
- Adopts frame synchronization technology to ensure that the images of all output ports are completely synchronized to provide complete picture and smooth playback without stuttering, frame loss, tearing, or seams.

Video Decoding

- Supports using the installed decoding board to decode the signal sources of network cameras and NVRs.
- Supports main stream encoding, sub stream decoding, auto-switching to sub stream, and decoding exception prompt.
- Supports up to 256 decoding channels, and simultaneous decoding of 128 channels of 2 MP video to the video wall when the device is fully installed with service boards.
- Supports the mainstream decoding formats such as H.264, H.265, Smart264, Smart265, and MJPEG, and mainstream encapsulation formats such as PS, TS, ES, RTP, and HIK.
- Support 16 MP HD video decoding.

Video Wall Function

- Supports any large screen splicing of 40 screens for the 11-slot chassis and 88 screens for the 23-slot chassis when the device is fully installed with service boards.
- Supports window opening and floating windows.
- Support up to eight 4K signal source windows per screen and each signal source window can be divided into 1, 4, 6, 8, 9, and 16 windows.
- Supports displaying the image of a video wall on the connected screen(s) or previewing the image of a video wall on a client.
- Supports 8 background images. The resolution of each background image is 8K.
- Supports 8 video walls. Each video wall allows one background image.
- Supports up to 12 subtitles for the device, up to 3 subtitles for one video wall and configuration of different types of subtitles.
- Supports up to 128 scenes. You can customize the video wall layout and save it as a scene.
- Supports the auto-switching of up to 100 view groups via the HCP client. Supports auto-switching on a single window, on some windows, and on all windows. You can save all auto-switch resources in the scenes and customize the location, scene, and time in each view group.
- Supports double-clicking the sub-window to enlarge its window size and double-clicking the sub-window again to restore its original window size.
- Supports using the HCP client to capture images on the screen and display the captured images on the video wall when the decoding board is installed in the device.
- Supports the live view of network signal sources over RTP or RTSP.

Device Access and Control

- Supports using the network keyboard or serial port keyboard to control the device, and to realize sub-window changing, group operation and auto-switching, scene changing, PTZ control, and video wall playback.
- Supports using the ONVIF protocol to access the network source devices for decoding.
- Supports using the software to control LCD screens, including screen switch, screen signal source changing, and the adjustment on brightness, contrast, color, sharpness, picture horizontal position, and picture vertical position.
- Supports using the software to control LED screens, including screen switch and screen signal source changing.
- Supports PTZ control and movement of the cameras.

Maintenance Support

- Supports the access and operation via the control client and web client. The web browser should be IE 8, Chrome 45 and above.
- Supports the access and operation via the mobile client (Android or iOS).
- Supports NAT.
- Supports obtaining and configuring parameters remotely, importing parameters remotely, and exporting parameters remotely.
- Supports obtaining system running status and system logs remotely.
- Supports restarting the device remotely, restoring the default settings, and upgrading the device.
- Supports auto detection and alarm for failures and the device exception alarm function when the boards are online, including network disconnection, IP conflict, invalid access, temperature threshold exceeding, and fan exception.
- Supports user permission management. Different users are assigned with different permissions to use the specified resources and operate the specified video wall modules.
- Supports manual time sync or NTP time sync.

Specification

| Model		VNE-CS0332S
Device	Power Interface	100 VAC to 240 VAC, 50/60 Hz
	Dimensions (W × H × D)	442 mm × 354.8 mm × 447 mm (17.4 inch × 13.97 inch × 17.59 inch)
	Chassis Height	8 U
	Installed Power Supplies	2
	Power Consumption (Full Configuration)	≤ 1000 W
Chassis	Bus Type	10 GB network switching
	Slot Quantity	23 × service board slot + 2 × main control board slot
	Net Weight (Full Configuration)	≤ 57.54 kg (126.87 lb.)
	Gross Weight (Full Configuration)	≤ 105.81 kg (233.48 lb.)
Environment	Working Temperature	0 °C to 50 °C
	Working Humidity	10% to 90%
Main Control Board (DS-C30S-MCU)	Serial Interface	1 × Console port (RJ-45)
	USB Port	1 × USB 2.0
	Management Interface	1 × 10/100/1000 Mbps self-adaptive Ethernet port (RJ-45)
HDMI Input Board (DS-C30S-04HI)	Video Input Resolution	1024 × 768@60 Hz, 1280 × 1024@60 Hz, 1366 × 768@60 Hz, 1440 × 900@60 Hz, 1680 × 1050@60 Hz, 1280 × 960@60 Hz, 1600 × 1200@60 Hz, 1280 × 720p@50 Hz, 1280 × 720p@60 Hz, 1920 × 1080p@50 Hz, 1920 × 1080p@60 Hz, 1920 × 1200@60 Hz Custom resolution: width ranges from 800 to 2048, height ranges from 600 to 2560. Width must be a multiple of 4 and height must be a multiple of 2. Frame rate is 30 Hz or 60 Hz. When configuring 30 Hz frame rate, the resolution ranges from 1280 × 720 to 2048 × 1152. When configuring 60 Hz frame rate, the resolution ranges from 800 × 600 to 2048 × 1152.
	Video Input Interfaces	4
	Video Input Interface Type	HDMI 1.4
	Audio Input Interfaces	4
	Audio Input Interface Type	HDMI composite audio
VGA Input Board (DS-C30S-04VI)	Video Input Resolution	1024 × 768@60 Hz, 1280 × 1024@60 Hz, 1366 × 768@60 Hz, 1440 × 900@60 Hz, 1680 × 1050@60 Hz, 1280 × 960@60 Hz, 1600 × 1200@60 Hz, 1280 × 720p@50 Hz, 1280 × 720p@60 Hz, 1920 × 1080p@50 Hz, 1920 × 1080p@60 Hz, 1920 × 1200@60 Hz
	Video Input Interfaces	4
	Video Input Interface Type	VGA
	Audio Input Interfaces	4
	Audio Input Interface Type	Mini-DP to 4 channels of 3.5 mm

DVI Input Board (DS-C30S-04DI)	Video Input Resolution	1024 × 768@60 Hz, 1280 × 1024@60 Hz, 1366 × 768@60 Hz, 1440 × 900@60 Hz, 1680 × 1050@60 Hz, 1280 × 960@60 Hz, 1600 × 1200@60 Hz, 1280 × 720p@50 Hz, 1280 × 720p@60 Hz, 1920 × 1080p@50 Hz, 1920 × 1080p@60 Hz, 1920 × 1200@60 Hz Custom resolution: width ranges from 800 to 2048, height ranges from 600 to 2560. Width must be a multiple of 4 and height must be a multiple of 2. Frame rate is 30 Hz or 60 Hz. When configuring 30 Hz frame rate, the resolution ranges from 1280 × 720 to 2048 × 1152. When configuring 60 Hz frame rate, the resolution ranges from 800 × 600 to 2048 × 1152.
	Video Input Interfaces	4
	Video Input Interface Type	DVI-D
	Audio Input Interfaces	4
	Audio Input Interface Type	Mini-DP to 4 channels of 3.5 mm
4K HDMI Input Board (DS-C30S-02HI/4K)	Video Input Resolution	1920 × 1080P@60 Hz, 1920 × 1200@60 Hz, 3840 × 2160@30 Hz, 3840 × 2160@60 Hz, 4096 × 2160@30 Hz, 4096 × 2160@60 Hz Custom resolution: width ranges from 800 to 8192, height ranges from 600 to 8192. Width must be a multiple of 4 and height must be a multiple of 2. Frame rate is 30 Hz or 60 Hz. When configuring 30 Hz frame rate, the resolution ranges from 1920 × 1080 to 4096 × 2160. When configuring 60 Hz frame rate, the resolution ranges from 800 × 600 to 4096 × 2160.
	Video Input Interfaces	2
	Video Input Interface Type	HDMI 2.0
	Audio Input Interfaces	2
	Audio Input Interface Type	HDMI composite audio
4K DP Input Board (DS-C30S-02DPI/4K)	Video Input Resolution	1920 × 1080P@50 Hz, 1920 × 1080P@60 Hz, 1920 × 1200@60 Hz, 3840 × 2160@30 Hz, 3840 × 2160@60 Hz, 4096 × 2160@30 Hz, 4096 × 2160@60 Hz Custom resolution: width ranges from 800 to 8192, height ranges from 600 to 8192. Width must be a multiple of 4 and height must be a multiple of 2. Frame rate is 30 Hz or 60 Hz. When configuring 30 Hz frame rate, the resolution ranges from 1920 × 1080 to 4096 × 2160. When configuring 60 Hz frame rate, the resolution ranges from 800 × 600 to 4096 × 2160.
	Video Input Interfaces	2
	Video Input Interface Type	DP 1.4
	Audio Input Interfaces	2
	Audio Input Interface Type	DP composite audio
DVI Output Board (DS-C30S-04DO)	Video Input Resolution	1920 × 1200@60 Hz, 1600 × 1200@60 Hz, 1920 × 1080@60 Hz, 1680 × 1050@60 Hz, 1280 × 720@60 Hz, 1280 × 1024@60 Hz, 1024 × 768@60 Hz Supports LED screen, custom resolution output, and load-based output. The product of the length and width must be less than 2.6 MP.
	Video Input Interfaces	4
	Loading Capacity for Video Output to LED	2.6 MP loading per port, width in the range of 288 to 3840, height in the range of 288 to 2160.
	Video Input Interface Type	DVI-D
	Audio Input Interfaces	4
	Audio Input Interface Type	Mini-DP to 4 channels of 3.5 mm

HDMI Output Board (DS-C30S-04HO)	Video Input Resolution	1920 × 1200@60 Hz, 1600 × 1200@60 Hz, 1920 × 1080@60 Hz, 1680 × 1050@60 Hz, 1280 × 720@60 Hz, 1280 × 1024@60 Hz, 1024 × 768@60 Hz Supports LED screen, custom resolution output, and load-based output. The product of the length and width must be less than 2.6 MP.
	Video Input Interfaces	4
	Loading Capacity for Video Output to LED	2.6 MP loading per port, width in the range of 288 to 3840, height in the range of 288 to 2160.
	Video Input Interface Type	HDMI 1.4
	Audio Input Interfaces	4
	Audio Input Interface Type	HDMI composite audio
4K HDMI Output Board (DS-C30S-02HO/4K)	Video Input Resolution	4096 × 2160@60 Hz, 4096 × 2160@30 Hz, 3840 × 2160@60 Hz, 3840 × 2160@30 Hz, 2560 × 1600@60 Hz, 2560 × 1440@60 Hz, 1920 × 1200@60 Hz, 1920 × 1080@60 Hz Supports LED screen, custom resolution output, 60 Hz loading output, and 8.8 MP loading with width ranging from 288 to 7680 and height ranging from 288 to 4320.
	Video Input Interfaces	2
	Loading Capacity for Video Output to LED	8.8 MP loading per port, width in the range of 288 to 7680, height in the range of 288 to 4320.
	Video Input Interface Type	HDMI 2.0
	Audio Input Interfaces	2
	Audio Input Interface Type	HDMI composite audio
Decoding Board (DS-C30S-DEC)	Video Decoding Format	H.264, H.265, Smart264, Smart265, MJPEG
	Video Decoding Channels	32
	Video Decoding Capability	Supports decoding a maximum of 16 channels of 1080p@30 fps, 32 channels of 720p@30 fps, 4 channels of 8 MP, or 1 channel of 16 MP. Smart H.265/Smart H.264/H.264/H.265: 16 channels of 1080p@30 fps MJPEG: 2 channels of 1080p@30 fps
	Video Decoding Resolution	≤ 16 MP
	Audio Decoding Format	G711-A, G711-U, G722.1, G726-16/U, MPEG, AAC-LC

|	Max. Video Output Resolution	4K
LED Controller Board (DS-C30S-L104)	Video Output Interface Type	4 × mini-SAS to twenty 1 Gbps electrical port (RJ-45); 2 × 10 Gbps optical port
	Video Output Interfaces	20
	Video Output Resolution	Width: 144 to 8192 Height: 144 to 4320 Loading resolution ≤ 10.4 MP
	Loading Capacity for Video Output to LED	Loading ≤ 10.4 MP Width: 144 to 8192 Height: 144 to 4320
	Audio Output Interface Type	3.5 mm audio jack
	Audio Output Interfaces	1

Dimension

DS-C30S-S11
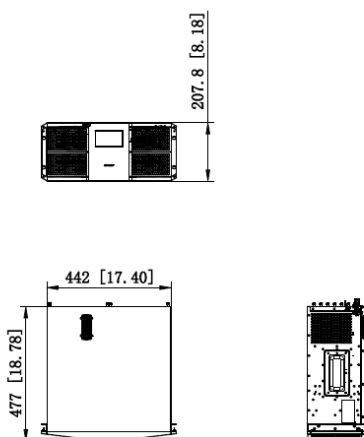
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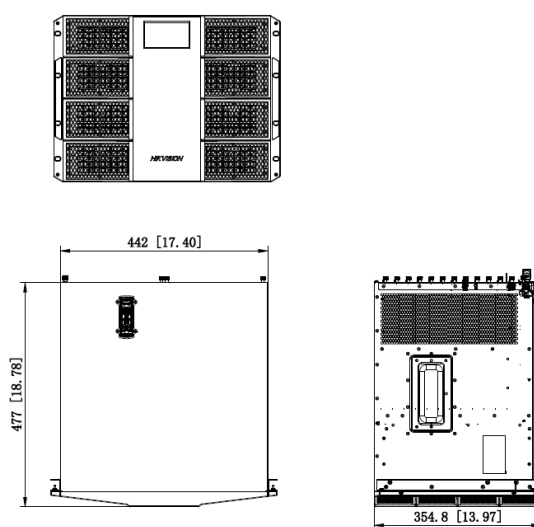
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