

DS-C60S

Video Wall Controller

Introduction

As a new-generation FPGA-based pure hardware image processing device, the DS-C60S video wall controller (hereinafter referred as the device) supports the input, processing, and output of multi-channel HD and ultra-HD signals. The device adopts the structure of main control board, input boards, and output boards to achieve multi-screen management. The device is mainly used for large screen splicing control system, and is the core control device of the system.

Features

Hardware Structure

- Adopts 2 U standard rack design and supports the mixed installation of input boards and output boards in some slots of the chassis.
- Adopts 1 fan, left air duct, and right air duct for ventilation.
- Adopts the plug-in modular design and hot swappable service boards to allow the flexible device extension and easy device maintenance.

Video Input

- Supports video input signal sources such as computers, video conference terminals, and ultra high definition servers. Supports DVI, HDMI, 4K HDMI, and 4K DP signal input, and custom resolution input.
- Supports composite audio input and independent audio input. The audio input supports 16 bit and 48 KHz sampling, and dual channel.
- Adopts RGB 888 image collection and output without image quality loss.
- Supports ultra-high resolution fusion and up to eight 4K ultra-HD signal access.
- Supports OSD on the input.
- Supports input image clipping to cut the black edge of the input image.

Video Output

- Supports DVI, HDMI, and 4K HDMI video signal output.
- The 2K board supports 4 channels of 1080p@60 Hz output, and the 4K board supports 2 channels of 4K output. Supports LCD output, LED output, and custom output resolution.
- Supports composite audio output.
- Adopts frame synchronization technology to ensure that the images of all output ports are completely synchronized, with complete picture and smooth playback, and without lag, frame loss, tearing, or splicing.

Video Wall Function

- Supports any large screen splicing of 16 screens when the device is fully installed with input and output boards.
- Supports window opening and floating windows. A single port supports window opening of any layer.
- Supports 1/4/6/8/9/16 window division.

- Supports 3 background images and 1 background image on a single video wall. The resolution is 1080p.
- Supports 3 video walls.
- Supports up to 9 subtitles for the whole device and up to 3 subtitles on a single video wall. Supports setting background color/transparency, font type/color/size/direction, and scrolling speed, and adding clock subtitles.
- Supports up to 128 preset scenes. The users can customize the video wall layout of each scene.
- Supports up to 128 plan auto-switch groups. Supports auto-switch 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 plan.
- Supports double clicking the sub-window to enlarge its window size and double clicking the sub-window again to restore its original window size.

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 scene changing.
- Supports using the software to control LCD screen, including screen switch, screen signal source changing, and the adjustment on brightness, contrast, color, sharpness, picture horizontal position, and picture vertical position.

Maintenance and Management

- Supports the access and operation via the control client and web client. The web browser should be Chrome 45 and higher version.
- Supports the access and operation via the mobile client (Android or iOS).
- 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.

Available Model

Chassis (Standard)		
Name	Model	Description
Chassis	DS-C60S-S6	6-slot chassis (2 input slots for input boards + 2 output slots for output boards + 2 mixed slots for input and output boards), 1 power supply, 1 main control board
Main control board	DS-C60S-MCU	1 debug serial port, 1 RS-485 serial port, 1 RS-232 serial port, 2 audio input ports, 4 audio output ports, one 10/100/1000 Mbps self-adaptive Ethernet port (RJ-45)
Service Board (Optional)		
Name	Model	Description
HDMI input board	DS-C60S-04HI	4 HDMI input ports
DVI input board	DS-C60S-04DI	4 DVI input ports
4K HDMI input board	DS-C60S-02HI/4K	2 HDMI UHD input ports
4K DP input board	DS-C60S-02DPI/4K	2 DP UHD input ports
HDMI output board	DS-C60S-04HO	4 HDMI output ports
DVI output board	DS-C60S-04DO	4 DVI output ports
4K HDMI output board	DS-C60S-02HO/4K	2 HDMI UHD output ports

Specification

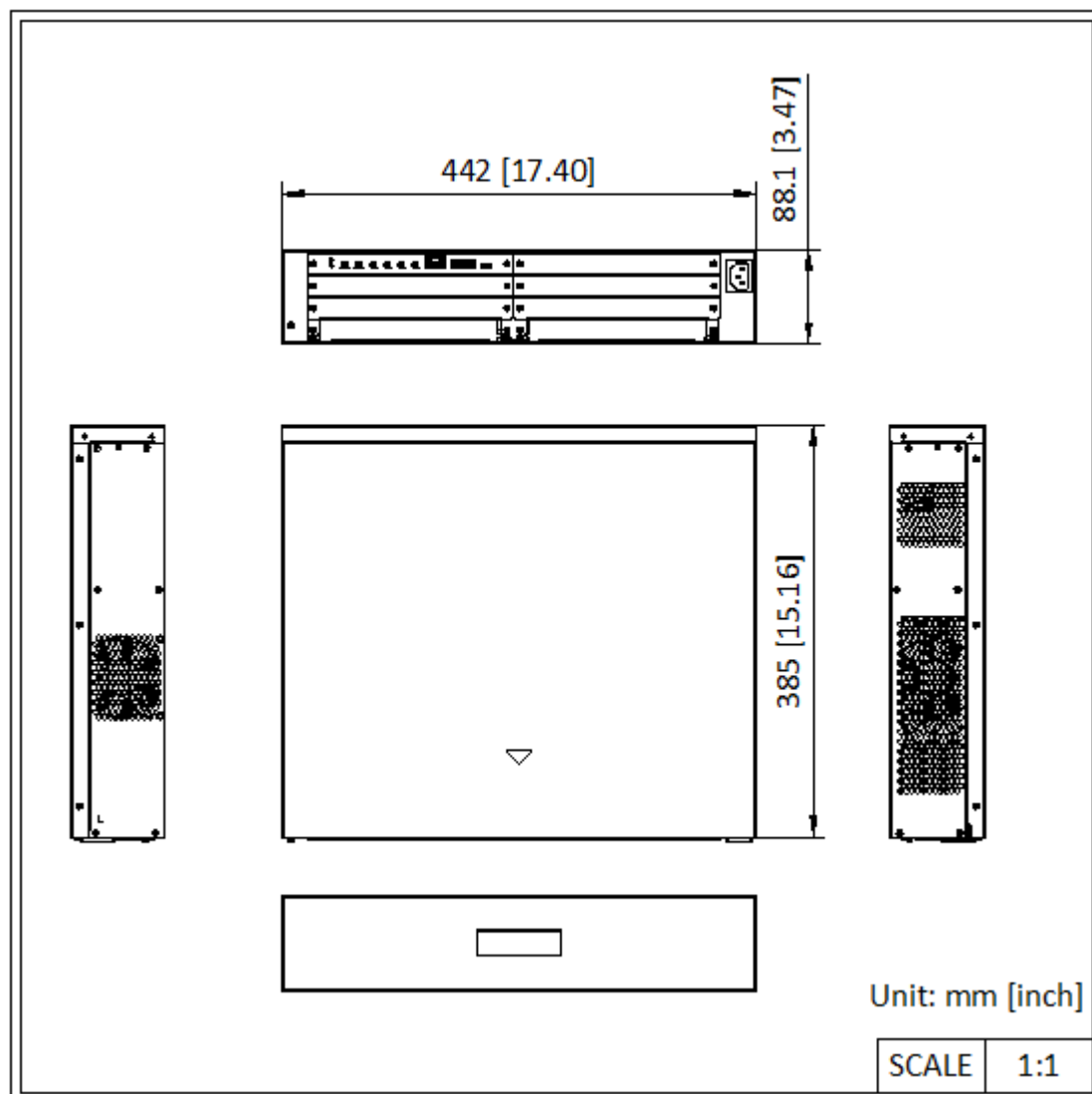
DS-C60S Series Video Wall Controller		
Model		DS-C60S-S6
Device	Power Interface	100 VAC to 240 VAC, 50/60 Hz
	Dimensions (W × H × D)	Chassis: 442 mm × 88.1 mm × 385 mm (17.40 inch × 3.47 inch × 15.16 inch) Board: 192 mm × 20.1 mm × 223.5 mm (7.56 inch × 0.79 inch × 8.80 inch)
	Chassis Height	2 U
	Main Control Board Slot	1
	Installed Main Control Boards	1
	Installed Power Supplies	1
	Power Consumption	≤ 150 W (full configuration)
Chassis	Bus Type	High speed bus
	Main Control Board Slot	1
	Service Board Slot	6
	Net Weight	≤ 7.6 kg (16.76 lb.) Full configuration, chassis net weight: 5.21 kg (11.49 lb.), net weight for each board: 0.46 kg (1.01 lb.)
Environment	Working Temperature	0 °C to 50 °C
	Working Humidity	10% to 90%
Main Control Board (DS-C60S-MCU)	Serial Interface	1 × debug serial port + 1 × RS-485 port (Phoenix contact, baud rate: 115200; valid data bit: 8 bits) + 1 × RS-232 port (Phoenix contact, baud rate: 115200; valid data bit: 8 bits)
	Audio Input Interfaces	2 × 3.5 mm input ports
	Audio Output Interfaces	4 × 3.5 mm output ports
	Control Network Port	1 × 10/100/1000 Mbps self-adaptive Ethernet port (RJ-45)
HDMI Input Board (DS-C60S-04HI)	Audio Input Interfaces	4
	Audio Input Interface Type	HDMI composite audio
	Audio Sampling Rate	32K / 48K sampling rate
	Audio Channel	Dual channels
	Video Input Interface Type	HDMI 1.4
	Video Input Interfaces	4
	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 in the range of 800 to 2560, height in the range of 600 to 2560, width × height in the range of 800 × 600 × 60 to 2048 × 1152 × 60
	Max. Video Input Resolution	1080p

DVI Input Board (DS-C60S-04DI)	Video Input Interface Type	DVI-D
	Video Input Interfaces	4
	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 in the range of 800 to 2560, height in the range of 600 to 2560, width × height in the range of 800 × 600 × 60 to 2048 × 1152 × 60
	Max. Video Input Resolution	1080p
4K HDMI Input Board (DS-C60S-02HI/4K)	Audio Input Interfaces	2
	Audio Input Interface Type	HDMI composite audio
	Audio Sampling Rate	32K / 48K sampling rate
	Audio Channel	Dual channel
	Video Input Interface Type	HDMI 2.0
	Video Input Interfaces	2
	Video Input Resolution	4096 × 2160@60 Hz, 4096 × 2160@30 Hz, 3840 × 2160@60 Hz, 3840 × 2160@30 Hz, 1920 × 1200@60 Hz, 1920 × 1080p@60 Custom resolution: width in the range of 800 to 8192, height in the range of 600 to 8192, width × height in the range of 800 × 600 × 60 to 4096 × 2160 × 60
	Max. Video Input Resolution	4K
4K DP Input Board (DS-C60S-02DPI/4K)	Audio Input Interfaces	2
	Audio Input Interface Type	DP composite audio
	Audio Sampling Rate	48K sampling rate
	Audio Channel	Dual channel
	Video Input Interface Type	DP 1.2
	Video Input Interfaces	2
	Video Input Resolution	4096 × 2160@60 Hz, 4096 × 2160@30 Hz, 3840 × 2160@60 Hz, 3840 × 2160@30 Hz, 1920 × 1200@60 Hz, 1920 × 1080p@60 Hz Custom resolution: width in the range of 800 to 8192, height in the range of 600 to 8192, width × height in the range of 800 × 600 × 60 to 4096 × 2160 × 60
	Max. Video Input Resolution	4K

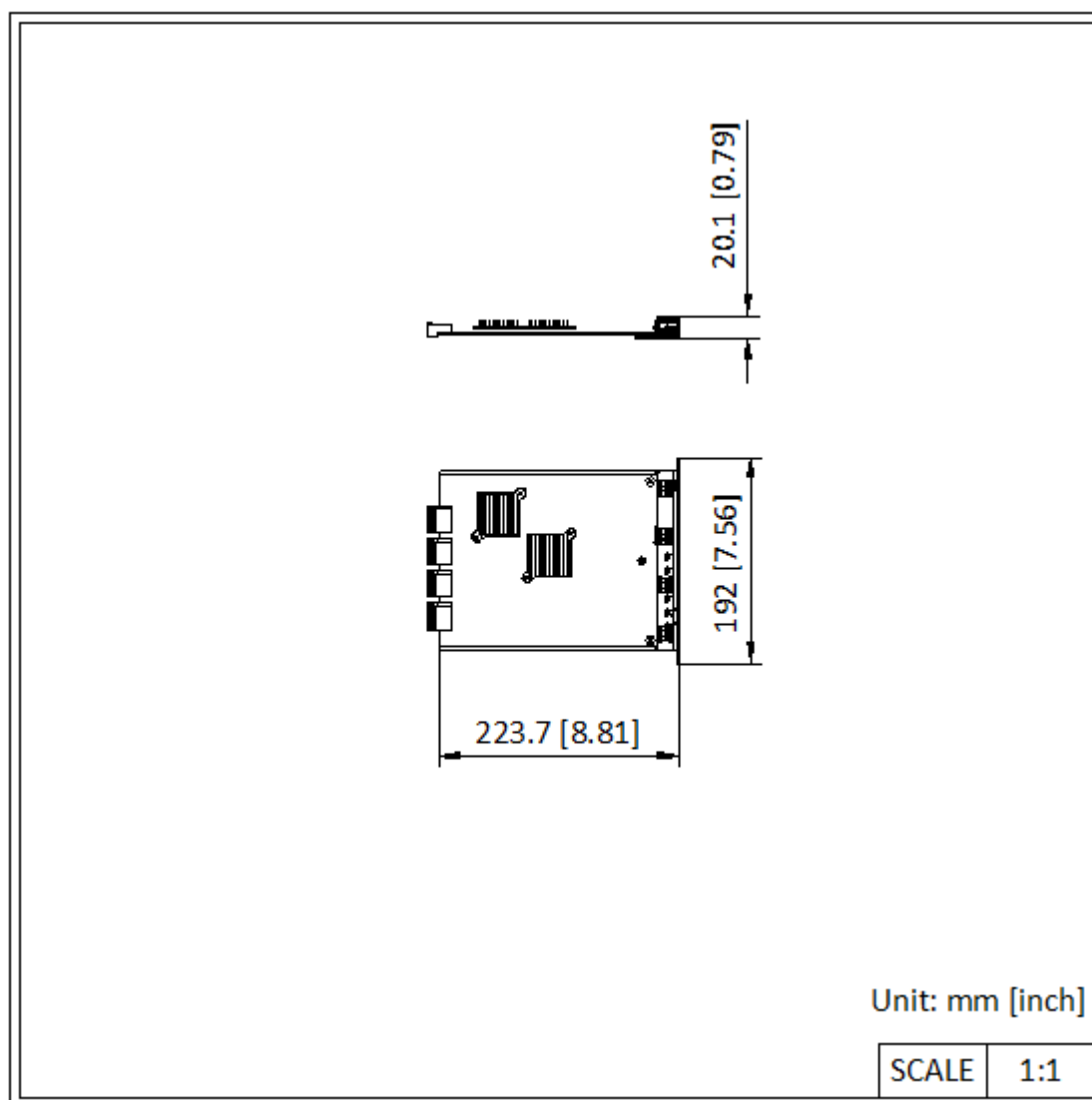
HDMI Output Board (DS-C60S-04HO)	Video Output Interface Type	HDMI 1.4
	Video Output Interfaces	4
	Video Output Resolution	1920 × 1200@60 Hz, 1600 × 1200@60 Hz, 1920 × 1080@60 Hz, 1680 × 1050@60 Hz, 1280 × 720@60 Hz, 1280 × 1024@60 Hz, 1024 × 768@60 Hz Supports LED screen, custom resolution output, 60 Hz loading output, and 2.6 MP loading with width ranging from 288 to 3840 and height ranging from 288 to 2160.
	Max. Video Output Resolution	1080p
	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.
	Audio Output Interface Type	HDMI composite audio
	Audio Output Interfaces	4
DVI Output Board (DS-C60S-04DO)	Video Output Interface Type	DVI-D
	Video Output Interfaces	4
	Video Output 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, 60 Hz loading output, and 2.6 MP loading with width ranging from 288 to 3840 and height ranging from 288 to 2160.
	Max. Video Output Resolution	1080p
	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.
4K HDMI Output Board (DS-C60S-02HO/4K)	Video Output Interface Type	HDMI 2.0
	Video Output Interfaces	2
	Video Output Resolution	4096 × 2160@60 Hz, 3840 × 2160@60 Hz, 4096 × 2160@30 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 8192 and height ranging from 288 to 4320.
	Max. Video Output Resolution	4K
	Loading Capacity for Video Output to LED	8.8 MP loading per port, width in the range of 288 to 8192, height in the range of 288 to 4320.
	Audio Output Interface Type	HDMI composite audio
	Audio Output Interfaces	2

Dimension

Chassis Dimension:



Board Dimension



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